

Call: HORIZON-CL4-2023-HUMAN-01

(A human-centred and ethical development of digital and industrial technologies)

Topic: HORIZON-CL4-2023-HUMAN-01-52**Type of Action: HORIZON-RIA****Proposal number: 101135948****Proposal acronym: PROSPECTS 5.0****Type of Model Grant Agreement: HORIZON Action Grant Budget-Based**

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Administrative forms

Proposal ID 101135948
Acronym PROSPECTS 5.0

1 - General information

Fields marked * are mandatory to fill.

Topic	HORIZON-CL4-2023-HUMAN-01-52	Type of Action	HORIZON-RIA
Call	HORIZON-CL4-2023-HUMAN-01	Type of Model Grant Agreement	HORIZON-AG
Acronym	PROSPECTS 5.0		
Proposal title	PROGRESS TOWARDS INDUSTRY 5-0: A SMART STUDY ON ANALYSIS AND IDENTIFICATION OF PRACTICES, DRIVERS, SUCCESS FACTORS AND OBSTACLES OF TRANSITIONS TOWARDS INDUSTRY 5.0.		
	Note that for technical reasons, the following characters are not accepted in the Proposal Title and will be removed: < > " &		
Duration in months	36		
Fixed keyword 1	Industrial dynamics		
Free keywords	Industry 5.0, sustainability, human centricity, resiliency, policy recommendations, collaborative tools for industry 5.0, industry 5.0 guidelines, industry 5.0 maturity model, industry 5.0 for SMEs		

Abstract *

The PROSPECTS 5.0 project aims to promote the adoption of Industry 5.0 principles, such as human centricity, sustainability, and resiliency, and facilitate the transition to Industry 5.0 for SMEs, start-ups, and scale-ups in various industries. The project intends to achieve its objectives by providing reports, guidelines, measurement tools, and a collaborative platform. To provide real-world examples, the project will analyse 14 use cases from different European Union countries and 6 different industries, covering various types of manufacturing, service providing, education, energy, aviation transport, and automotive. The selected industrial sectors are significant drivers for the adoption of Industry 5.0 and are crucial to the European economy. The use cases from these sectors will ensure a focused and effective transition to Industry 5.0 in Europe.

PROSPECTS 5.0 results are expected to encourage collaboration between different entities, including companies, universities, research centres, and government agencies, to co-create new solutions and innovations, improve the skills and mindsets of individuals regarding Industry 5.0, and study pilot projects to test, validate, and measure the impact of Industry 5.0 on various operations, employees, customers, and the environment.

Additionally, PROSPECTS 5.0 will raise awareness of Industry 5.0 through workshops, seminars/webinars, and collaborative online platforms and web applications showcasing successful case studies, best practices, challenges, and the latest trends and opportunities of this transition.

PROSPECTS5.0 is relevant to the worker Horizon Europe Cluster 4 (Digital, Industry, Space) specifically to destination 6 "A human-centred and ethical development of digital and industrial technologies since the project results will lead to a more inclusive and sustainable EU Industry, and indirectly, the project findings will facilitate the understanding of the required skills needed to support the twin transition.

Remaining characters 0

Has this proposal (or a very similar one) been submitted in the past 2 years in response to a call for proposals under any EU programme, including the current call? ☐ Yes ☒ No

Please give the proposal reference or contract number.

Previously submitted proposals should be with either 6 or 9 digits.

Administrative forms

Proposal ID **101135948**

Acronym **PROSPECTS 5.0**

Declarations

Field(s) marked * are mandatory to fill.

- 1) We declare to have the explicit consent of all applicants on their participation and on the content of this proposal. * ☒
- 2) We confirm that the information contained in this proposal is correct and complete and that none of the project activities have started before the proposal was submitted (unless explicitly authorised in the call conditions). * ☒
- 3) We declare:
- to be fully compliant with the eligibility criteria set out in the call ☒
 - not to be subject to any exclusion grounds under the [EU Financial Regulation 2018/1046](#) ☒
 - to have the financial and operational capacity to carry out the proposed project. *
- 4) We acknowledge that all communication will be made through the Funding & Tenders Portal electronic exchange system and that access and use of this system is subject to the [Funding & Tenders Portal Terms and Conditions](#). * ☒
- 5) We have read, understood and accepted the [Funding & Tenders Portal Terms & Conditions](#) and [Privacy Statement](#) that set out the conditions of use of the Portal and the scope, purposes, retention periods, etc. for the processing of personal data of all data subjects whose data we communicate for the purpose of the application, evaluation, award and subsequent management of our grant, prizes and contracts (including financial transactions and audits). * ☒
- 6) We declare that the proposal complies with ethical principles (including the highest standards of research integrity as set out in the [ALLEA European Code of Conduct for Research Integrity](#), as well as applicable international and national law, including the Charter of Fundamental Rights of the European Union and the European Convention on Human Rights and its Supplementary Protocols. [Appropriate procedures, policies and structures](#) are in place to foster responsible research practices, to prevent questionable research practices and research misconduct, and to handle allegations of breaches of the principles and standards in the Code of Conduct. * ☒
- 7) We declare that the proposal has an exclusive focus on civil applications (activities intended to be used in military application or aiming to serve military purposes cannot be funded). If the project involves dual-use items in the sense of [Regulation 2021/821](#), or other items for which authorisation is required, we confirm that we will comply with the applicable regulatory framework (e.g. obtain export/import licences before these items are used). * ☒
- 8) We confirm that the activities proposed do not
- aim at human cloning for reproductive purposes;
 - intend to modify the genetic heritage of human beings which could make such changes heritable (with the exception of research relating to cancer treatment of the gonads, which may be financed), or
 - intend to create human embryos solely for the purpose of research or for the purpose of stem cell procurement, including by means of somatic cell nuclear transfer.
 - lead to the destruction of human embryos (for example, for obtaining stem cells)
- These activities are excluded from funding. * ☒
- 9) We confirm that for activities carried out outside the Union, the same activities would have been allowed in at least one EU Member State. * ☒

The coordinator is only responsible for the information relating to their own organisation. Each applicant remains responsible for the information declared for their organisation. If the proposal is retained for EU funding, they will all be required to sign a declaration of honour.

False statements or incorrect information may lead to administrative sanctions under the EU Financial Regulation.

Administrative forms

Proposal ID **101135948**

Acronym **PROSPECTS 5.0**

2 - Participants

List of participating organisations

#	Participating Organisation Legal Name	Country	Role	Action
1	FLANDERS MAKE	BE	Coordinator	
2	ZAPADOCESKA UNIVERZITA V PLZNI	CZ	Partner	
3	INEGI - INSTITUTO DE CIENCIA E INOVACAO EM ENGENHA PT		Partner	
4	FUNDACION TECNALIA RESEARCH & INNOVATION	ES	Partner	
5	NEROSUBIANCO SRL	IT	Partner	
6	FUNDACIO EURECAT	ES	Partner	
7	UNIVERSITA DEGLI STUDI DI MODENA E REGGIO EMILIA	IT	Partner	
8	AETHON ENGINEERING SINGLE MEMBER PC	EL	Partner	
9	FORSCHUNGSINSTITUT FUR RATIONALISIERUNG VEREIN	DE	Partner	
10	OCTAVE	BE	Partner	
11	EFESTO	FR	Partner	
12	I2M UNTERNEHMENSENTWICKLUNG GMBH	AT	Partner	
13	ZEUKO SA	ES	Partner	
14	FUNDACJA PARTNERSTWA TECHNOLOGICZNEGO TECHN(PL		Partner	
15	STIRTEC GMBH	AT	Partner	
16	Hubert Schmitz GmbH	DE	Partner	
17	B.BRAUN AVITUM ITALY SPA	Italy	Partner	
18	SINTEF AS	NO	Partner	
19	INTRACT INOVASYON DANISMANLIK LIMITED SIRKETI	TR	Partner	
20	Teknorot Otomotiv Urunleri San. ve Tic. A.S.	TR	Partner	
21	LATVIJAS TEHNOLOGISKAIS CENTRS NODIBINAJUMS	LV	Partner	

Administrative forms

Proposal ID **101135948**

Acronym **PROSPECTS 5.0**

#	Participating Organisation Legal Name	Country	Role	Action
22	Knowit Objectnet AS	NO	Partner	
23	CAMELEO LESNIEWICZ GRADKOWSKA SJ	PL	Partner	
24	TRYGONS SA	EL	Partner	
25	AMF, LDA	PT	Partner	
26	ELMI SIA	LV	Partner	
27	GTW BEARINGS s.r.o.	CZ	Partner	
28	KATHOLIEKE UNIVERSITEIT LEUVEN	BE	Partner	
29	UNIVERSITEIT GENT	BE	Partner	
30	AGENCIA PER A LA COMPETITIVITAT DE LA EMPRESA	ES	Associated	
31	CONFINDUSTRIA EMILIA ROMAGNA RICERCA SCARL	IT	Associated	
32	ART-ER-SOCIETA CONSORTILE PER AZIONI	IT	Associated	
33	SMILE-DIH	IT	Associated	
34	BIC PLZEN SPOLECNOST S RUCENIM OMEZENYM	CZ	Associated	
35	Klastr MECHATRONIKA, z.s.	CZ	Associated	
36	RHEINISCH-WESTFAELISCHE TECHNISCHE HOCHSCHULE ADE		Associated	
37	LATVIJAS INFORMACIJAS TEHNOLOGIJU KLAS TERIS	LV	Associated	
38	NATIONAL CENTER FOR SCIENTIFIC RESEARCH "DEMOKRITEL		Associated	
39	SMARALD TECH SRL	RO	Partner	

Organisation data

PIC	Legal name
996435896	FLANDERS MAKE

Short name: FLANDERS MAKE

Address

Street	OUDE DIESTERSEBAAN 133
Town	LOMMEL
Postcode	3920
Country	Belgium
Webpage	www.flandersmake.be

Specific Legal Statuses

Legal person	yes
Public body	no
Non-profit	yes
International organisation	no
Secondary or Higher education establishment	no
Research organisation	yes

SME Data

Based on the below details from the Participant Registry the organisation is **not an SME** (small- and medium-sized enterprise) for the call.

SME self-declared status	07/11/2022 - no
SME self-assessment	unknown
SME validation	unknown

Administrative forms

Departments carrying out the proposed work

No department involved

Department name

Name of the department/institute carrying out the work.

☒ not applicable

☐ Same as proposing organisation's address

Street

Please enter street name and number.

Town

Please enter the name of the town.

Postcode

Area code.

Country

Please select a country

Links with other participants

Type of link	Participant

Administrative forms

Main contact person

This will be the person the EU services will contact concerning this proposal (e.g. for additional information, invitation to hearings, sending of evaluation results, convocation to start grant preparation). The data in blue is read-only. Details (name, first name and e-mail) of Main Contact persons should be edited in the step "Participants" of the submission wizard.

Title **Dr**

Gender ☒ Woman ☐ Man ☐ Non Binary

First name* **Sahar**

Last name* **Khaleghi**

E-Mail* **sahar.khaleghi@flandersmake.be**

Position in org. **EU proposal Writer**

Department **FLANDERS MAKE**

☒ Same as organisation name

☒ Same as proposing organisation's address

Street **OUDE DIESTERSEBAAN 133**

Town **LOMMEL**

Post code **3920**

Country **Belgium**

Website **https://www.flandersmake.be/en**

Phone **+32488704836**

Phone 2 **016 91 06 90**

Other contact persons

First Name	Last Name	E-mail	Phone
Ziga	Valic	ziga.valic@flandersmake.be	+XXX XXXXXXXXX
Ger	Van den Kerkhof	ger.vandenkerkhof@flandersmake.be	+XXX XXXXXXXXX

Administrative forms

Researchers involved in the proposal

Title	First Name	Last Name	Gender	Nationality	E-mail	Career Stage	Role of researcher (in the project)	Reference Identifier	Type of identifier
Dr	Sahar	Khaleghi	Woman	Iran (Islamic Rep	sahar.khaleghi@flandersmake.be	Category C Recognised	Leading	0000-0002-7462-0021	Orcid ID
Dr	Dorothy	Gors	Woman	Belgium	Dorothy.Gors@Flandersmake.be	Category C Recognised	Team member	0000-0003-3977-6941	Orcid ID
Mr	Vassilis	Zogopoulos	Man	Greece	vassilis.zogopoulos@flandersmake.be	Category C Recognised	Team member	0000-0003-1246-9597	Orcid ID
Mrs	Kurt	De Grave	Man	Belgium	kurt.degrave@flandersmake.be	Category C Recognised	Team member	0000-0001-9116-6986	Orcid ID
Dr	Maarten	Witters	Man	Belgium	maarten.witters@flandersmake.be	Category A Top grade re	Team member	0000-0001-6769-1932	Orcid ID

Administrative forms

Role of participating organisation in the project

Project management	<input checked="" type="checkbox"/>
Communication, dissemination and engagement	<input checked="" type="checkbox"/>
Provision of research and technology infrastructure	<input type="checkbox"/>
Co-definition of research and market needs	<input checked="" type="checkbox"/>
Civil society representative	<input type="checkbox"/>
Policy maker or regulator, incl. standardisation body	<input type="checkbox"/>
Research performer	<input checked="" type="checkbox"/>
Technology developer	<input type="checkbox"/>
Testing/validation of approaches and ideas	<input type="checkbox"/>
Prototyping and demonstration	<input type="checkbox"/>
IPR management incl. technology transfer	<input type="checkbox"/>
Public procurer of results	<input type="checkbox"/>
Private buyer of results	<input type="checkbox"/>
Finance provider (public or private)	<input type="checkbox"/>
Education and training	<input type="checkbox"/>
Contributions from the social sciences or/and the humanities	<input type="checkbox"/>
Other If yes, please specify: (Maximum number of characters allowed: 50)	<input type="checkbox"/>

Administrative forms

List of up to 5 publications, widely-used datasets, software, goods, services, or any other achievements relevant to the call content.

Type of achievement	Short description (Max 500 characters)
Service	FM provides a unique mobile research lab and testing ground called Make Lab that is fully equipped with cutting-edge technology. It is a fully connected infrastructure where we collaborate with companies to develop solutions for technological challenges and identify opportunities for growth and innovation. Make Lab offers: 1) Demonstrations of new Industry 4.0&5.0 technologies 2) training sessions for operators 3) Feasibility studies to assess the practicality and potential of new technologies
Service	Flanders Make offers various services in its 4 competence clusters (https://www.flandersmake.be/en/research/services), including but not limited to services on design of human-robot collaboration systems and operator-centric workcells.
Software	Guidance recommender filter: AI to improve well-being of workers by personalising the information detail level to match the experience and expertise of the worker in each specific task.
Publication	Keller, Andreas, et al. Predicting human olfactory perception from chemical features of odor molecules. Science 355.6327 (2017): 820-826. DOI: 10.1126/science.aal2014, PMID: PMC5455768, High-impact publication of an AI to predict the elusive olfactory mode of human perception and delight (pleasantness).
Software	Guidance recommender filter: AI to improve well-being of workers by personalising the information detail level to match the experience and expertise of the worker in each specific task.

List of up to 5 most relevant previous projects or activities, connected to the subject of this proposal.

Name of Project or Activity	Short description (Max 500 characters)
TRINITY - Horizon2020	The main objective of TRINITY is to create a network of multidisciplinary and synergistic local digital innovation hubs (DIHs) composed of research centers, companies, and university groups that cover a wide range of topics that can contribute to agile production: advanced robotics as the driving force and digital tools, data privacy and cyber security technologies to support the introduction of advanced robotic systems in the production processes. https://cordis.europa.eu/project/id/825196
EARASHI - HorizonEurope	EARASHI will support Start-ups and SMEs in the uptake of advanced digital eco-responsible technologies (in particular AI, data and robotics) to help workers in their daily activities and improve their working conditions (safety, health and well-being) leading to productivity increase. Through open calls, 10 beneficiaries will access to technologies and test facilities from RTOs and industrial partners, business support and mentoring. https://cordis.europa.eu/project/id/101069994
ASSISTANT - Horizon2020	ASSISTANT develops tools and solutions providing all required information to help production managers design production lines, plan production, and improve machine settings for effective and sustainable decisions that guarantee product quality and safety. https://cordis.europa.eu/project/id/101000165
ERGOEYEHAND	The project investigates solutions that reduce the ergonomic risk for operators. The following has been developed: 1) Off- and online ergonomic risk assessment methods; 2) Software to design and optimize the layout of a work cell in terms of ergonomics; 3) Control logic for adaptive collaborative robots to reduce ergonomic workload for operators working with heavy workpieces. FLANDERS MAKE ICON project
PILS SBO	Computer vision for manufacturing that can be deployed with little labeling effort. Includes a system for tracking the state of an assembly for dynamic worker guidance

Administrative forms

Description of any significant infrastructure and/or any major items of technical equipment, relevant to the proposed work.

Name of infrastructure of equipment	Short description (Max 300 characters)
<i>Make Lab</i>	<i>FM's Industry 4.0 Make Lab is a mobile research lab equipped with advanced technology. It collaborates with companies to develop solutions, identify opportunities for growth and innovation. The lab offers training, feasibility studies, and technology demonstrations for Industry 4.0&5.0.</i>

Gender Equality Plan

Does the organization have a Gender Equality Plan (GEP) covering the elements listed below?

☒ Yes ☐ No

Minimum process-related requirements (building blocks) for a GEP

- **Publication:** formal document published on the institution's website and signed by the top management
- **Dedicated resources:** commitment of human resources and gender expertise to implement it.
- **Data collection and monitoring:** sex/gender disaggregated data on personnel (and students for establishments concerned) and annual reporting based on indicators.
- **Training:** Awareness raising/trainings on gender equality and unconscious gender biases for staff and decision-makers.
- **Content-wise, recommended areas** to be **covered** and addressed via concrete measures and targets are:
 - o work-life balance and organisational culture;
 - o gender balance in leadership and decision-making;
 - o gender equality in recruitment and career progression;
 - o integration of the gender dimension into research and teaching content;
 - o measures against gender-based violence including sexual harassment.

Administrative forms

PIC	Legal name
999843894	ZAPADOCESKA UNIVERZITA V PLZNI

Short name: UNIVERSITY OF WEST BOHEMIA

Address

Street	UNIVERZITNI 8
Town	PILSEN
Postcode	301 00
Country	Czechia
Webpage	http://www.zcu.cz

Specific Legal Statuses

Legal person	yes
Public body	yes
Non-profit	yes
International organisation	no
Secondary or Higher education establishment	yes
Research organisation	yes

SME Data

Based on the below details from the Participant Registry the organisation is not an SME (small- and medium-sized enterprise) for the call.

SME self-declared status	09/07/1991 - no
SME self-assessment	unknown
SME validation	unknown

Administrative forms

Departments carrying out the proposed work

Department 1

Department name	Faculty of Mechanical Engineering	<input type="checkbox"/> not applicable
	<input type="checkbox"/> Same as proposing organisation's address	
Street	Univerzitní 22	
Town	Pilsen	
Postcode	301 00	
Country	Czechia	

Links with other participants

Type of link	Participant
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Administrative forms

Main contact person

This will be the person the EU services will contact concerning this proposal (e.g. for additional information, invitation to hearings, sending of evaluation results, convocation to start grant preparation). The data in blue is read-only. Details (name, first name and e-mail) of Main Contact persons should be edited in the step "Participants" of the submission wizard.

Title **Prof.**

Gender ☐ Woman ☒ Man ☐ Non Binary

First name* **Josef**

Last name* **Basl**

E-Mail* **basljo@fst.zcu.cz**

Position in org. **Pedagogical staff**

Department **Faculty of Mechanical Engineering**

☐ Same as organisation name

☐ Same as proposing organisation's address

Street **Univerzitní 22**

Town **Pilsen**

Post code **30101**

Country **Czechia**

Website **<https://www.zcu.cz/en/Employees/person.html?personId=16887>**

Phone **+420 377 638 426**

Phone 2 **+xxx xxxxxxxxx**

Other contact persons

First Name	Last Name	E-mail	Phone
Pavel	Raska	praska@fst.zcu.cz	+420 377 638 415
Dagmar	Vokounová Franzeová	franzeov@rek.zcu.cz	+420 377 631 240
Markéta	Tobolová	mtobolov@rek.zcu.cz	+420 377 631 241

Administrative forms

Researchers involved in the proposal

Title	First Name	Last Name	Gender	Nationality	E-mail	Career Stage	Role of researcher (in the project)	Reference Identifier	Type of identifier
Prof	Josef	Basl	Man	Czechia	basljo@fst.zcu.cz	Category A Top grade re	Team member	0000-0003-2334-8328	Orcid ID
Dr	Pavel	Raška	Man	Czechia	praska@fst.zcu.cz	Category C Recognised	Team member	0000-0003-3991-5761	Orcid ID
Dr	Milan	Edl	Man	Czechia	edl@fst.zcu.cz	Category B Senior resea	Leading	0000-0003-0761-7882	Orcid ID
Mr	Miroslav	Malaga	Man	Czechia	malaga@fst.zcu.cz	Category D First stage r	Team member	0000-0002-3011-504X	Orcid ID
Dr	Milan	Pinte	Man	Czechia	pinte@fst.zcu.cz	Category C Recognised	Team member	0000-0002-0813-7234	Orcid ID
Prof	Jan	Kovanda	Man	Czechia	kovanda@fst.zcu.cz	Category A Top grade re	Team member	0000-0001-5691-8230	Orcid ID
Dr	Tomáš	Broum	Man	Czechia	broum@fst.zcu.cz	Category C Recognised	Team member	0000-0003-2330-013X	Orcid ID

Administrative forms

Role of participating organisation in the project

Project management	<input type="checkbox"/>
Communication, dissemination and engagement	<input checked="" type="checkbox"/>
Provision of research and technology infrastructure	<input type="checkbox"/>
Co-definition of research and market needs	<input type="checkbox"/>
Civil society representative	<input type="checkbox"/>
Policy maker or regulator, incl. standardisation body	<input type="checkbox"/>
Research performer	<input type="checkbox"/>
Technology developer	<input type="checkbox"/>
Testing/validation of approaches and ideas	<input checked="" type="checkbox"/>
Prototyping and demonstration	<input type="checkbox"/>
IPR management incl. technology transfer	<input type="checkbox"/>
Public procurer of results	<input type="checkbox"/>
Private buyer of results	<input type="checkbox"/>
Finance provider (public or private)	<input type="checkbox"/>
Education and training	<input checked="" type="checkbox"/>
Contributions from the social sciences or/and the humanities	<input type="checkbox"/>
Other If yes, please specify: (Maximum number of characters allowed: 50)	<input type="checkbox"/>

Administrative forms

List of up to 5 publications, widely-used datasets, software, goods, services, or any other achievements relevant to the call content.

Type of achievement	Short description (Max 500 characters)
Publication	<p>Andrea Benešová and others, 'Design of a Business Readiness Model to Realise a Green Industry 4.0 Company', <i>International Journal of Computer Integrated Manufacturing</i>, 34.9 (2021), 920–32.</p> <p>This article examines how green initiatives are being integrated into industry 4.0, using maturity models as a basis for analysis. There has been growing interest in incorporating industry 4.0 principles into businesses, as well as achieving carbon neutrality in the near future.</p>
Publication	<p>VÁNĚ, J. KALVAS, F. BASL, J. Engineering companies and their readiness for Industry 4.0. <i>International Journal of Productivity and Performance Management</i>, 2021, ISSN: 1741-0401.</p> <p>This case study analyzed the readiness of engineering enterprises for Industry 4.0 (P4.0) in the Pilsen Region of the Czech Republic. The study focused on key individuals who influence the implementation of P4.0 in large and medium-sized engineering companies.</p>
Publication	<p>ZOUBEK, M. POÓR, P. BROUM, T. BASL, J. ŠIMON, M. Industry 4.0 Maturity Model Assessing Environmental Attributes of Manufacturing Company. <i>Applied Sciences</i>, 2021.</p> <p>This article proposes a readiness model that integrates green aspects such as carbon footprints, costs, and evidence from existing readiness models. The model includes five dimensions - logistics, maintenance, production, strategy, and IT - and six assessment levels (0-5).</p>
Publication	<p>POÓR, P. BASL, J. ŽENÍŠEK, D. Assessing the predictive maintenance readiness of enterprises in West Bohemian region. In <i>Procedia Manufacturing</i>. Netherlands: Elsevier BV, 2020. This article deals with pilot study of predictive maintenance implementation in west-bohemian region. During April 2019, a questionnaire about the utilization rate of Industry 4.0 elements was sent to representatives of companies in the region of West Bohemia, Czech Republic.</p>
Publication	<p>POÓR, P. TRSTENJAK, M. BASL, J. OPETUK, T. Maintenance ideal model in Industry 4.0 – A transformation strategy roadmap to readiness factor calculation. In <i>HED - Hradec Economic Days 2020</i>. Hradec Králové, Czech Republic: ISSN: 2464-6059. This article analyzes the readiness of companies for Industry 4.0 and proposes a maintenance model based on machinery maintenance. The article presents different approaches to maintenance and their correlation with the industrial revolutions.</p>

List of up to 5 most relevant previous projects or activities, connected to the subject of this proposal.

Name of Project or Activity	Short description (Max 500 characters)
Analysis of needs a of services to SMEs	<p>A study summarizing the needs of small and medium-sized enterprises ("SMEs") in the field of digitization in various fields of the Pilsen region of the Czech republic and identify suitable service activities and services that can be provided to SMEs to improve their digital competences and digital transformation</p> <p>RRA Regional Development Agency project 2022</p>
CHAIN REACTIONS	<p>The CHAIN REACTIONS project aims to increase the capacity of industrial businesses to innovate. The project focuses on a few key sectors based on their embedding in regional smart specialisation strategies. These include advanced manufacturing, ICT and electronics, energy and environment, health and bioeconomy. The partnership will develop practical instruments (e.g. maturity models) to measure innovation potentials and capacities. Interreg project 2019-2022</p>

Administrative forms

OptiPro4.0	<i>The project tackles complex issues through technology and know-how transfer to SMEs. Companies that fully open up and provide deep insights into their business processes will benefit the most by piloting advanced tools from universities. The project focuses on identifying and eradicating production weaknesses through self-help assistance and building cross-border industry meetings and capacity-sharing networks to increase SME visibility and efficiency. Interreg project 2017-2019</i>
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Description of any significant infrastructure and/or any major items of technical equipment, relevant to the proposed work.

Name of infrastructure of equipment	Short description (Max 300 characters)

Gender Equality Plan

Does the organization have a Gender Equality Plan (GEP) covering the elements listed below?

☒ Yes ☐ No

Minimum process-related requirements (building blocks) for a GEP

- **Publication:** formal document published on the institution's website and signed by the top management
- **Dedicated resources:** commitment of human resources and gender expertise to implement it.
- **Data collection and monitoring:** sex/gender disaggregated data on personnel (and students for establishments concerned) and annual reporting based on indicators.
- **Training:** Awareness raising/trainings on gender equality and unconscious gender biases for staff and decision-makers.
- **Content-wise, recommended areas** to be **covered** and addressed via concrete measures and targets are:
 - o work-life balance and organisational culture;
 - o gender balance in leadership and decision-making;
 - o gender equality in recruitment and career progression;
 - o integration of the gender dimension into research and teaching content;
 - o measures against gender-based violence including sexual harassment.

Administrative forms

PIC	Legal name
996840968	INEGI - INSTITUTO DE CIENCIA E INOVACAO EM ENGENHARIA MECANICA E ENGENHARIA INDUSTRIAL

Short name: INEGI

Address

Street	RUA DR ROBERTO FRIAS 400
Town	PORTO
Postcode	4200-465
Country	Portugal
Webpage	www.inegi.pt

Specific Legal Statuses

Legal person	yes
Public body	no
Non-profit	yes
International organisation	no
Secondary or Higher education establishment	no
Research organisation	yes

SME Data

Based on the below details from the Participant Registry the organisation is not an SME (small- and medium-sized enterprise) for the call.

SME self-declared status	24/11/2022 - no
SME self-assessment	12/01/2022 - yes
SME validation	31/12/2012 - yes

Administrative forms

Departments carrying out the proposed work

No department involved

Department name

Name of the department/institute carrying out the work.

☒ not applicable

☐ Same as proposing organisation's address

Street

Please enter street name and number.

Town

Please enter the name of the town.

Postcode

Area code.

Country

Please select a country

Department 2

Department name

Biomechanics and Health Unity

☐ not applicable

☒ Same as proposing organisation's address

Street

RUA DR ROBERTO FRIAS 400

Town

PORTO

Postcode

4200-465

Country

Portugal

Links with other participants

Type of link	Participant
--------------	-------------

Administrative forms

Main contact person

This will be the person the EU services will contact concerning this proposal (e.g. for additional information, invitation to hearings, sending of evaluation results, convocation to start grant preparation). The data in blue is read-only. Details (name, first name and e-mail) of Main Contact persons should be edited in the step "Participants" of the submission wizard.

Title **Dr**

Gender ☒ Woman ☐ Man ☐ Non Binary

First name* **Nilza**

Last name* **Ramião**

E-Mail* **nramiao@inegi.up.pt**

Position in org. **Project Management**

Department **INEGI - INSTITUTO DE CIENCIA E INOVACAO EM ENGENHARIA MECANICA E ENGENH** ☒ Same as organisation name

☒ Same as proposing organisation's address

Street **RUA DR ROBERTO FRIAS 400**

Town **PORTO**

Post code **4200-465**

Country **Portugal**

Website **https://www.inegi.pt/pt/**

Phone **+351 914 119 446**

Phone 2 **+XXX XXXXXXXXXX**

Administrative forms

Researchers involved in the proposal

Title	First Name	Last Name	Gender	Nationality	E-mail	Career Stage	Role of researcher (in the project)	Reference Identifier	Type of identifier
Prof	Joana	Guedes	Woman	Portugal	jccg@fe.up.pt	Category B Senior resea	Team member	0000-0003-2367-2187	Orcid ID
Prof	Mário	Vaz	Man	Portugal	gmavaz@inegi.up.pt	Category A Top grade re	Team member	0000-0002-6347-9608	Orcid ID
Prof	João	Santos Batista	Man	Portugal	jsbap@fe.up.pt	Category A Top grade re	Team member	0000-0002-8524-5503	Orcid ID
Dr	Joana	Santos	Woman	Portugal	jasduarte@fe.up.pt	Category C Recognised	Team member	0000-0002-5856-5317	Orcid ID

Administrative forms

Role of participating organisation in the project

Project management	<input type="checkbox"/>
Communication, dissemination and engagement	<input checked="" type="checkbox"/>
Provision of research and technology infrastructure	<input checked="" type="checkbox"/>
Co-definition of research and market needs	<input type="checkbox"/>
Civil society representative	<input type="checkbox"/>
Policy maker or regulator, incl. standardisation body	<input type="checkbox"/>
Research performer	<input checked="" type="checkbox"/>
Technology developer	<input checked="" type="checkbox"/>
Testing/validation of approaches and ideas	<input checked="" type="checkbox"/>
Prototyping and demonstration	<input type="checkbox"/>
IPR management incl. technology transfer	<input type="checkbox"/>
Public procurer of results	<input type="checkbox"/>
Private buyer of results	<input type="checkbox"/>
Finance provider (public or private)	<input type="checkbox"/>
Education and training	<input checked="" type="checkbox"/>
Contributions from the social sciences or/and the humanities	<input type="checkbox"/>
Other If yes, please specify: (Maximum number of characters allowed: 50)	<input type="checkbox"/>

Administrative forms

List of up to 5 publications, widely-used datasets, software, goods, services, or any other achievements relevant to the call content.

Type of achievement	Short description (Max 500 characters)
Publication	<i>H. Pedrosa and JC Guedes, Characterisation of Accidents at Work in the Manufacturing Industry: In the Pursuit of Their Prevention. Studies in Systems, Decision and Control Volume 449, Pages 31 - 40 2023</i>
Publication	<i>S. Yska, D Bustos, and JC Guedes, Machine Learning Applications for Continuous Improvement in Integrated Management Systems: A Short Review. Studies in Systems, Decision and Control Volume 449, Pages 541 - 551 2023</i>
Publication	<i>AS Rosado, JS Batista, MNH Guilherme, and JC Guedes, Economic Impact of Work-Related Musculoskeletal Disorders—A Systematic Review. Studies in Systems, Decision and Control Volume 449, Pages 599 - 613 2023</i>
Publication	<i>D Bustos, F Cardoso, M Rios, M Vaz Machine Learning Approach to Model Physical Fatigue during Incremental Exercise among Firefighters. Sensors Open Access Volume 23, Issue 1 January 2023 Article number 194</i>
Publication	<i>J Duarte, J C Branco, F Rodrigues, JS Batista, Environmental and Occupational Safety and Hygiene KPI in the Mining Industry—A Short Review. Studies in Systems, Decision and Control Volume 449, Pages 517 - 528 2023</i>

List of up to 5 most relevant previous projects or activities, connected to the subject of this proposal.

Name of Project or Activity	Short description (Max 500 characters)
<i>EARASHI – Grant agreement ID: 101069994</i>	<i>EARASHI bring 4.0 technologies to industry, in an effort to improve health and safety at work and avoid accidents with manufacturing equipment's, with a focus on I5.0.</i>
<i>No-Stress- number 23472</i>	<i>No Stress aims to contribute by finding the causes of stress and the most stressful points at production lines from physical, physiological and psychological perspectives and by integrating real time monitoring of ergonomic/motion data. This theme are highlighted by EU and I5.0.</i>
<i>BioShoes4All- number 02/C12-101/2021</i>	<i>Project BioShoes4All is focused on developing sustainable solutions for the footwear industry, using renewable and biodegradable materials. It also seeks to promote circular economy principles and reduce the environmental impact of the industry. These goals align with the values and principles of Industry 5.0, which emphasizes the importance of sustainability and social responsibility in industrial development.</i>

Description of any significant infrastructure and/or any major items of technical equipment, relevant to the proposed work.

Name of infrastructure of equipment	Short description (Max 300 characters)
<i>ActiGraph wGT3X-BT</i>	<i>Actigraph equipment is an important tool in Industry 5.0 to monitor human performance and improve efficiency and productivity in the workplace. actigraphs, companies can monitor the physical activity of workers in real-time and identify activity patterns. This can help</i>
<i>Movement Analysis (Xsens)</i>	<i>Xsens can be used to capture and analyze real-time human motion data, providing valuable insights into performance, efficiency, and safety.</i>

Gender Equality Plan

Does the organization have a Gender Equality Plan (GEP) covering the elements listed below?

☒ Yes ☐ No

Minimum process-related requirements (building blocks) for a GEP

- **Publication:** formal document published on the institution's website and signed by the top management
- **Dedicated resources:** commitment of human resources and gender expertise to implement it.
- **Data collection and monitoring:** sex/gender disaggregated data on personnel (and students for establishments concerned) and annual reporting based on indicators.
- **Training:** Awareness raising/trainings on gender equality and unconscious gender biases for staff and decision-makers.
- **Content-wise, recommended areas** to be **covered** and addressed via concrete measures and targets are:
 - o work-life balance and organisational culture;
 - o gender balance in leadership and decision-making;
 - o gender equality in recruitment and career progression;
 - o integration of the gender dimension into research and teaching content;
 - o measures against gender-based violence including sexual harassment.

Administrative forms

PIC	Legal name
999604110	FUNDACION TECNALIA RESEARCH & INNOVATION

Short name: TECNALIA

Address

Street	PARQUE CIENTIFICO Y TECNOLOGICO DE BIZKAI
Town	DERIO (BIZKAIA)
Postcode	48160
Country	Spain
Webpage	www.tecnalia.com

Specific Legal Statuses

Legal person	yes
Public body	no
Non-profit	yes
International organisation	no
Secondary or Higher education establishment	no
Research organisation	yes

SME Data

Based on the below details from the Participant Registry the organisation is not an SME (small- and medium-sized enterprise) for the call.

SME self-declared status	18/11/2021 - no
SME self-assessment	unknown
SME validation	09/10/2008 - no

Administrative forms

Departments carrying out the proposed work

Department 1

Department name	Policies for Innovation and Technology	<input type="checkbox"/> not applicable
	<input type="checkbox"/> Same as proposing organisation's address	
Street	Laida Bidea, Edif 204	
Town	Zamudio	
Postcode	e_48160	
Country	Spain	

Links with other participants

Type of link	Participant
--------------	-------------

Administrative forms

Main contact person

This will be the person the EU services will contact concerning this proposal (e.g. for additional information, invitation to hearings, sending of evaluation results, convocation to start grant preparation). The data in blue is read-only. Details (name, first name and e-mail) of Main Contact persons should be edited in the step "Participants" of the submission wizard.

TitleMrs

Gender

WomanManNon Binary

First name*Virginia

Last name*Castaños

E-Mail*virginia.castanos@tecnalia.com

Position in org.Project Manager

DepartmentPolicies for Innovation and Technology

Same as organisation name

Same as proposing organisation's address

StreetEdif. 204

TownZamudioPost codeE-48170

CountrySpain

Websitetecnalia.com

Phone+34 658735615Phone 2+34 946430850

Other contact persons

First Name	Last Name	E-mail	Phone
Izaskun	Jimenez	izaskun.jimenez@tecnalia.com	+34667115964
Programas	TECNALIA	programas@tecnalia.com	+34 946430850
Jone	Echazarra	jone.echazarra@tecnalia.com	+34 946430850

Administrative forms

Researchers involved in the proposal

Title	First Name	Last Name	Gender	Nationality	E-mail	Career Stage	Role of researcher (in the project)	Reference Identifier	Type of identifier
Mrs	Paula	Morella	Woman	Spain	paula.morella@tecnalia.com	Category D First stage r	Team member		
Mr	Ignacio	Gutierrez	Man	Spain	ignacio.gutierrez@tecnalia.com	Category D First stage r	Team member		
Mrs	Jone	Echazarra	Woman	Spain	jone.echazarra@tecnalia.com	Category B Senior resea	Team member		
Mrs	Izaskun	Jimenez	Woman	Spain	izaskun.jimenez@tecnalia.com	Category B Senior resea	Team member		
Mrs	Virginia	Castanos	Woman	Spain	virginia.castanos@tecnalia.com	Category B Senior resea	Team member		

Administrative forms

Role of participating organisation in the project

Project management	<input type="checkbox"/>
Communication, dissemination and engagement	<input type="checkbox"/>
Provision of research and technology infrastructure	<input type="checkbox"/>
Co-definition of research and market needs	<input checked="" type="checkbox"/>
Civil society representative	<input type="checkbox"/>
Policy maker or regulator, incl. standardisation body	<input type="checkbox"/>
Research performer	<input checked="" type="checkbox"/>
Technology developer	<input type="checkbox"/>
Testing/validation of approaches and ideas	<input checked="" type="checkbox"/>
Prototyping and demonstration	<input type="checkbox"/>
IPR management incl. technology transfer	<input type="checkbox"/>
Public procurer of results	<input type="checkbox"/>
Private buyer of results	<input type="checkbox"/>
Finance provider (public or private)	<input type="checkbox"/>
Education and training	<input type="checkbox"/>
Contributions from the social sciences or/and the humanities	<input type="checkbox"/>
Other If yes, please specify: (Maximum number of characters allowed: 50)	<input type="checkbox"/>

Administrative forms

List of up to 5 publications, widely-used datasets, software, goods, services, or any other achievements relevant to the call content.

Type of achievement	Short description (Max 500 characters)

List of up to 5 most relevant previous projects or activities, connected to the subject of this proposal.

Name of Project or Activity	Short description (Max 500 characters)
<i>Circular TwAln- N°Grant 101058585</i>	<i>AI Platform for Integrated Sustainable and Circular Manufacturing</i>
<i>ARISE- N°Grant 101092312</i>	<i>Artificial Intelligence in Manufacturing for Sustainable Applications at SMEs</i>
<i>CONVERGING-N°Grant: 101058521</i>	<i>Social industrial collaborative environments integrating AI, Big Data and Robotics for smart manufacturing</i>
<i>MEGASKILLS- N°Grant 101094275</i>	<i>METHodology of Psycho-pedagogical, Big Data and Commercial Video GAMES procedures for the European SKILLS Agenda Implementation</i>

Description of any significant infrastructure and/or any major items of technical equipment, relevant to the proposed work.

Name of infrastructure of equipment	Short description (Max 300 characters)

Gender Equality Plan

Does the organization have a Gender Equality Plan (GEP) covering the elements listed below?

☒ Yes ☐ No

Minimum process-related requirements (building blocks) for a GEP

- **Publication:** formal document published on the institution's website and signed by the top management
- **Dedicated resources:** commitment of human resources and gender expertise to implement it.
- **Data collection and monitoring:** sex/gender disaggregated data on personnel (and students for establishments concerned) and annual reporting based on indicators.
- **Training:** Awareness raising/trainings on gender equality and unconscious gender biases for staff and decision-makers.
- **Content-wise, recommended areas** to be **covered** and addressed via concrete measures and targets are:
 - o work-life balance and organisational culture;
 - o gender balance in leadership and decision-making;
 - o gender equality in recruitment and career progression;
 - o integration of the gender dimension into research and teaching content;
 - o measures against gender-based violence including sexual harassment.

Administrative forms

PIC	Legal name
944289569	NEROSUBIANCO SRL

Short name: NEROSUBIANCO SRL

Address

Street	VIA DELLA CONCILIAZIONE 15
Town	MANTOVA
Postcode	46100
Country	Italy
Webpage	http://www.nsbproject.com/en/

Specific Legal Statuses

Legal person	yes
Public body	no
Non-profit	no
International organisation	no
Secondary or Higher education establishment	no
Research organisation	no

SME Data

Based on the below details from the Participant Registry the organisation is an SME (small- and medium-sized enterprise) for the call.

SME self-declared status	31/12/2021 - yes
SME self-assessment	31/12/2021 - yes
SME validation	unknown

Administrative forms

Departments carrying out the proposed work

Department 1

Department name	Nerosubianco Venezia	<input type="checkbox"/> not applicable
	<input type="checkbox"/> Same as proposing organisation's address	
Street	Viale Garibaldi 46/B	
Town	Mestre Venezia	
Postcode	30174	
Country	Italy	

Links with other participants

Type of link	Participant
--------------	-------------

Administrative forms

Main contact person

This will be the person the EU services will contact concerning this proposal (e.g. for additional information, invitation to hearings, sending of evaluation results, convocation to start grant preparation). The data in blue is read-only. Details (name, first name and e-mail) of Main Contact persons should be edited in the step "Participants" of the submission wizard.

Title **Mr**

Gender ☐ Woman ☒ Man ☐ Non Binary

First name* **Andrea**

Last name* **Jester**

E-Mail* **a.jester@nsbproject.com**

Position in org. **Director**

Department **Nerosubianco Venezia**

☐ Same as organisation name

☐ Same as proposing organisation's address

Street **Viale Garibaldi 46/B**

Town **Mestre Venezia**

Post code **30174**

Country **Italy**

Website **www.nsbproject.com**

Phone **+39 3429963215**

Phone 2 **+XXX XXXXXXXXXX**

Administrative forms

Researchers involved in the proposal

Title	First Name	Last Name	Gender	Nationality	E-mail	Career Stage	Role of researcher (in the project)	Reference Identifier	Type of identifier
Mr	Andrea	Jester	Man	Italy	a.jester@nsbproject.com	Category D First stage r	Leading		
Mr	Michele	Milesi	Man	Italy	m.milesi@nsbproject.com	Category D First stage r	Team member		

Administrative forms

Role of participating organisation in the project

Project management	<input type="checkbox"/>
Communication, dissemination and engagement	<input checked="" type="checkbox"/>
Provision of research and technology infrastructure	<input type="checkbox"/>
Co-definition of research and market needs	<input checked="" type="checkbox"/>
Civil society representative	<input type="checkbox"/>
Policy maker or regulator, incl. standardisation body	<input type="checkbox"/>
Research performer	<input type="checkbox"/>
Technology developer	<input type="checkbox"/>
Testing/validation of approaches and ideas	<input checked="" type="checkbox"/>
Prototyping and demonstration	<input type="checkbox"/>
IPR management incl. technology transfer	<input type="checkbox"/>
Public procurer of results	<input type="checkbox"/>
Private buyer of results	<input type="checkbox"/>
Finance provider (public or private)	<input type="checkbox"/>
Education and training	<input type="checkbox"/>
Contributions from the social sciences or/and the humanities	<input type="checkbox"/>
Other If yes, please specify: (Maximum number of characters allowed: 50)	<input type="checkbox"/>

Administrative forms

List of up to 5 publications, widely-used datasets, software, goods, services, or any other achievements relevant to the call content.

Type of achievement	Short description (Max 500 characters)
Service	<i>DITA ATLAS - Digital Industry Training Atlas providing visibility and connections to Industry 4.0 training providers</i>
Publication	<i>An analysis of drivers and barriers for the uptake of digital platforms in europe - Position Paper, May 2022 (OpenDei Project)</i>

List of up to 5 most relevant previous projects or activities, connected to the subject of this proposal.

Name of Project or Activity	Short description (Max 500 characters)
<i>DITA - Digital Industry Training Atlas</i>	<i>The project, funded under the Erasmus Plus KA2 Programme, aimed at identifying and connecting training providers and programmes focused on digital industry & 12 specific technology domains</i>
<i>Change2Twin</i>	<i>A European project which supports manufacturing SMEs in their digitalization process by providing Digital Twin solutions. We have been supporting SMEs in participating at the Open Calls and understanding the principles of digital twins enabling technologies</i>
<i>OpenDei</i>	<i>OPEN DEI project focuses on "Platforms and Pilots" to support the implementation of next generation digital platforms in four basic industrial domains: manufacturing, agriculture, energy and health. We have been involved in drafting the position paper on strengths and weaknesses of digital platforms</i>

Description of any significant infrastructure and/or any major items of technical equipment, relevant to the proposed work.

Name of infrastructure of equipment	Short description (Max 300 characters)

Gender Equality Plan

Does the organization have a Gender Equality Plan (GEP) covering the elements listed below?

☐ Yes ☒ No

Minimum process-related requirements (building blocks) for a GEP

- **Publication:** formal document published on the institution's website and signed by the top management
- **Dedicated resources:** commitment of human resources and gender expertise to implement it.
- **Data collection and monitoring:** sex/gender disaggregated data on personnel (and students for establishments concerned) and annual reporting based on indicators.
- **Training:** Awareness raising/trainings on gender equality and unconscious gender biases for staff and decision-makers.
- **Content-wise, recommended areas** to be **covered** and addressed via concrete measures and targets are:
 - o work-life balance and organisational culture;
 - o gender balance in leadership and decision-making;
 - o gender equality in recruitment and career progression;
 - o integration of the gender dimension into research and teaching content;
 - o measures against gender-based violence including sexual harassment.

Administrative forms

PIC	Legal name
928030235	FUNDACIO EURECAT

Short name: EURECAT

Address

Street	AVENIDA UNIVERSITAT AUTONOMA 23
Town	CERDANYOLA DEL VALLES (BARCELONA)
Postcode	08290
Country	Spain
Webpage	www.eurecat.org/

Specific Legal Statuses

Legal person	yes
Public body	no
Non-profit	yes
International organisation	no
Secondary or Higher education establishment	no
Research organisation	yes

SME Data

Based on the below details from the Participant Registry the organisation is not an SME (small- and medium-sized enterprise) for the call.

SME self-declared status	04/05/2015 - no
SME self-assessment	unknown
SME validation	unknown

Administrative forms

Departments carrying out the proposed work

Department 1

Department name	Consulting	<input type="checkbox"/> not applicable
	<input checked="" type="checkbox"/> Same as proposing organisation's address	
Street	AVENIDA UNIVERSITAT AUTONOMA 23	
Town	CERDANYOLA DEL VALLES (BARCELONA)	
Postcode	08290	
Country	Spain	

Links with other participants

Type of link	Participant
--------------	-------------

Administrative forms

Main contact person

This will be the person the EU services will contact concerning this proposal (e.g. for additional information, invitation to hearings, sending of evaluation results, convocation to start grant preparation). The data in blue is read-only. Details (name, first name and e-mail) of Main Contact persons should be edited in the step "Participants" of the submission wizard.

Title

Ms

Gender

☒ Woman

☐ Man

☐ Non Binary

First name*

Circe

Last name*

Serra Vallmitjana

E-Mail*

circe.serra@eurecat.org

Position in org.

Innovation consultant

Department

Consulting

☐ Same as organisation name

☒ Same as proposing organisation's address

Street

AVENIDA UNIVERSITAT AUTONOMA 23

Town

CERDANYOLA DEL VALLES (BARCELONA)

Post code

08290

Country

Spain

Website

Please enter website

Phone

+34932381400

Phone 2

+XXX XXXXXXXXXX

Other contact persons

First Name	Last Name	E-mail	Phone
Laura	Arribas	laura.arribas@eurecat.org	+34935944700
Marina	Ordorika	marina.ordorika@eurecat.org	+34690223770
Fanny	Breuil Aymami	fanny.breuil@eurecat.org	+34937419100

Administrative forms

Researchers involved in the proposal

Title	First Name	Last Name	Gender	Nationality	E-mail	Career Stage	Role of researcher (in the project)	Reference Identifier	Type of identifier

Administrative forms

Role of participating organisation in the project

Project management	<input type="checkbox"/>
Communication, dissemination and engagement	<input type="checkbox"/>
Provision of research and technology infrastructure	<input type="checkbox"/>
Co-definition of research and market needs	<input type="checkbox"/>
Civil society representative	<input type="checkbox"/>
Policy maker or regulator, incl. standardisation body	<input type="checkbox"/>
Research performer	<input checked="" type="checkbox"/>
Technology developer	<input type="checkbox"/>
Testing/validation of approaches and ideas	<input type="checkbox"/>
Prototyping and demonstration	<input type="checkbox"/>
IPR management incl. technology transfer	<input type="checkbox"/>
Public procurer of results	<input type="checkbox"/>
Private buyer of results	<input type="checkbox"/>
Finance provider (public or private)	<input type="checkbox"/>
Education and training	<input type="checkbox"/>
Contributions from the social sciences or/and the humanities	<input type="checkbox"/>
Other If yes, please specify: (Maximum number of characters allowed: 50)	<input type="checkbox"/>

Administrative forms

List of up to 5 publications, widely-used datasets, software, goods, services, or any other achievements relevant to the call content.

Type of achievement	Short description (Max 500 characters)

List of up to 5 most relevant previous projects or activities, connected to the subject of this proposal.

Name of Project or Activity	Short description (Max 500 characters)
<i>StepUP (H2020-LC-SC3-EE-2018)</i>	<i>StepUP project is developing affordable solutions and technologies aimed at transforming the energy renovation market and making the decarbonisation of existing buildings a reliable, attractive and sustainable investment. The project will do so by developing a new process for deep energy renovation with fast design to operation feedback loops. This will reduce the performance gap and optimise investments, while scaling up promising Plug&Play technologies to minimise disruption.</i>
<i>Skills Match-LC-00822001 (OKT2017)</i>	<i>SkillsMatch develops an assessment and learning technology with the objective of helping users to adapt their professional skills to the labor market. The solution will integrate and enhance the development of Non-Cognitive Skills (NC), personality traits, attitudes or motivations that can be learned throughout life that can be of great value in the workplace. During the project, the partners will develop a technology platform to assess such skills and recommend actions to users to close the gap.</i>
<i>Digit-T 2017-1-UK01-KA202-036807</i>	<i>The manufacturing industry is currently witnessing a transformation as it increasingly moves towards Digital Manufacturing. However, many people and organisations, in particular SMEs, struggle to access clear and useful information about Digital Manufacturing. Digit-T project aims to address this and has created a free online training programme aimed at helping users understand what it is, the associated terminology, the expected benefits, and how an organisation can start adopting it.</i>
<i>ADeAPTIVE 2017-1-ES01-KA203-038266</i>	<i>Development of adaptive methodologies for e-Learning applications and digital learning support tools to improve the efficiency of student training processes.</i> <i>The ADeAPTIVE project implements pilots that measure the learning adaptability of different groups of students in entrepreneurship, applied computing, art and globalization or zooarchaeology, among others.</i>
<i>YNSPEED – 2019-3-RO01-KA205-07798</i>	<i>Through YNSPEED (Youth new personal & employable skills development) project we will address three hot topic of the nowadays digital era such us: fake news, artificial intelligence and education for a sustainable development plus a continuous interesting and useful topic as learning English, this time by using technologies. Through the project will be implemented a MOOC platform for courses addressing (critical) digital and media literacy (Fake News), Artificial Intelligence, Sustainable Develop</i>

Description of any significant infrastructure and/or any major items of technical equipment, relevant to the proposed work.

Name of infrastructure of equipment	Short description (Max 300 characters)

Gender Equality Plan

Does the organization have a Gender Equality Plan (GEP) covering the elements listed below?

☒ Yes ☐ No

Minimum process-related requirements (building blocks) for a GEP

- **Publication:** formal document published on the institution's website and signed by the top management
- **Dedicated resources:** commitment of human resources and gender expertise to implement it.
- **Data collection and monitoring:** sex/gender disaggregated data on personnel (and students for establishments concerned) and annual reporting based on indicators.
- **Training:** Awareness raising/trainings on gender equality and unconscious gender biases for staff and decision-makers.
- **Content-wise, recommended areas** to be **covered** and addressed via concrete measures and targets are:
 - o work-life balance and organisational culture;
 - o gender balance in leadership and decision-making;
 - o gender equality in recruitment and career progression;
 - o integration of the gender dimension into research and teaching content;
 - o measures against gender-based violence including sexual harassment.

Administrative forms

PIC	Legal name
999840887	UNIVERSITA DEGLI STUDI DI MODENA E REGGIO EMILIA

Short name: UNIMORE

Address

Street	VIA UNIVERSITA 4
Town	MODENA
Postcode	41121
Country	Italy
Webpage	www.unimore.it

Specific Legal Statuses

Legal person	yes
Public body	yes
Non-profit	yes
International organisation	no
Secondary or Higher education establishment	yes
Research organisation	yes

SME Data

Based on the below details from the Participant Registry the organisation is not an SME (small- and medium-sized enterprise) for the call.

SME self-declared status	14/01/2022 - no
SME self-assessment	unknown
SME validation	unknown

Administrative forms

Departments carrying out the proposed work

Department 1

Department name	<input type="text" value="DISMI - Dipartimento di Scienze e Metodi dell'Ingegneria"/>	<input type="checkbox"/> not applicable
	<input type="checkbox"/> Same as proposing organisation's address	
Street	<input type="text" value="Via Amendola 2"/>	
Town	<input type="text" value="Reggio Emilia"/>	
Postcode	<input type="text" value="42122"/>	
Country	<input type="text" value="Italy"/>	

Department 2

Department name	<input enzo="" ferrari""="" type="text" value="DIEF - Dipartimento di Ingegneria "/>	<input type="checkbox"/> not applicable
	<input type="checkbox"/> Same as proposing organisation's address	
Street	<input type="text" value="Via P. Vivarelli, 10"/>	
Town	<input type="text" value="Modena"/>	
Postcode	<input type="text" value="41125"/>	
Country	<input type="text" value="Italy"/>	

Links with other participants

Type of link	Participant
--------------	-------------

Administrative forms

Main contact person

This will be the person the EU services will contact concerning this proposal (e.g. for additional information, invitation to hearings, sending of evaluation results, convocation to start grant preparation). The data in blue is read-only. Details (name, first name and e-mail) of Main Contact persons should be edited in the step "Participants" of the submission wizard.

Title Ms

Gender ☒ Woman ☐ Man ☐ Non Binary

First name* **Michela**

Last name* **Apruzzese**

E-Mail* **michela.apruzzese@icoor.it**

Position in org. Technologist

Department DISMI - Dipartimento di Scienze e Metodi dell'Ingegneria

☐ Same as organisation name

☐ Same as proposing organisation's address

Street Via Amendola 2

Town Reggio Emilia

Post code 42122

Country Italy

Website Please enter website

Phone +393405848775

Phone 2 +XXX XXXXXXXXXX

Other contact persons

First Name	Last Name	E-mail	Phone
Barbara	Rebecchi	barbara.rebecchi@unimore.it	+XXX XXXXXXXXXX
Mauro	Dell'Amico	dellamico@icoor.it	+XXX XXXXXXXXXX
Alberto	Vernano	alberto.vergnano@unimore.it	+XXX XXXXXXXXXX

Administrative forms

Researchers involved in the proposal

Title	First Name	Last Name	Gender	Nationality	E-mail	Career Stage	Role of researcher (in the project)	Reference Identifier	Type of identifier
Prof	Mauro	Dell'Amico	Man	Italy	mauro.dellamico@unimore.it	Category A Top grade re	Leading	0000-0002-3283-6131	Orcid ID
Prof	Alberto	Vergnano	Man	Italy	alberto.vergnano@unimore.it	Category B Senior resea	Leading	0000-0003-0999-8869	Orcid ID
Mrs	Giulia	Renzi	Woman	Italy	giulia.renzi@unimore.it	Category D First stage r	Team member	0000-0003-4001-3714	Orcid ID

Administrative forms

Role of participating organisation in the project

Project management	<input type="checkbox"/>
Communication, dissemination and engagement	<input type="checkbox"/>
Provision of research and technology infrastructure	<input checked="" type="checkbox"/>
Co-definition of research and market needs	<input checked="" type="checkbox"/>
Civil society representative	<input type="checkbox"/>
Policy maker or regulator, incl. standardisation body	<input type="checkbox"/>
Research performer	<input checked="" type="checkbox"/>
Technology developer	<input type="checkbox"/>
Testing/validation of approaches and ideas	<input type="checkbox"/>
Prototyping and demonstration	<input type="checkbox"/>
IPR management incl. technology transfer	<input type="checkbox"/>
Public procurer of results	<input type="checkbox"/>
Private buyer of results	<input type="checkbox"/>
Finance provider (public or private)	<input type="checkbox"/>
Education and training	<input type="checkbox"/>
Contributions from the social sciences or/and the humanities	<input checked="" type="checkbox"/>
Other If yes, please specify: (Maximum number of characters allowed: 50)	<input type="checkbox"/>

Administrative forms

List of up to 5 publications, widely-used datasets, software, goods, services, or any other achievements relevant to the call content.

Type of achievement	Short description (Max 500 characters)
Publication	A. Corsini, S. Calderara and M. Dell'Amico, "Learning the Quality of Machine Permutations in Job Shop Scheduling," in IEEE Access, vol. 10, pp. 99541-99552, 2022, doi: 10.1109/ACCESS.2022.3207559.
Publication	N. S. Hadjidimitriou, M. Lippi, M. Dell'Amico and A. Skiera, "Machine Learning for Severity Classification of Accidents Involving Powered Two Wheelers," in IEEE Transactions on Intelligent Transportation Systems, vol. 21, no. 10, pp. 4308-4317, Oct. 2020, doi: 10.1109/TITS.2019.2939624.
Publication	M. Dell'Amico, R. Montemanni, S. Novellani, Pickup and delivery with lockers, Transportation Research Part C: Emerging Technologies, Volume 148, 2023, 104022, ISSN 0968-090X, https://doi.org/10.1016/j.trc.2023.104022 .
Publication	A method for yield and cycle time improvements in Al alloy casting with enhanced conductivity steel for die construction, Alberto Vergnano, Emanuele Salvati, Andrea Magistrelli, Edoardo Brambilla, Paolo Veronesi, Francesco Leali, Manufacturing Rev. 9 18 (2022), DOI: 10.1051/mfreview/2022017
Publication	Vergnano, A., Tripi, F., Toni, R. et al. Visual motor coordination capabilities of future car drivers in relation to the practised physical activity. Hum.-Intell. Syst. Integr. 3, 37–54 (2021). https://doi.org/10.1007/s42454-020-00022-y

List of up to 5 most relevant previous projects or activities, connected to the subject of this proposal.

Name of Project or Activity	Short description (Max 500 characters)
5G-LOGINNOV	5G-LOGINNOV main aim is to design and innovative framework addressing integration and validation of CAD/CAM technologies related to the industry 4.0 and ports domains by creating new opportunities for LOGistics value chain INNOVation
SINFONICA	SINFONICA aims to develop functional, efficient, and innovative strategies, methods and tools to engage CCAM users, providers and other stakeholders (i.e. citizens, including vulnerable users, transport operators, public administrations, service providers, researchers, vehicle and technology suppliers) to collect, understand and structure in a manageable and exploitable way their needs, desires, and concerns related to CCAM.
SUCCESS	SUCCESS is one of the few projects focusing on improving freight transport for the construction sector, and more specifically on: 1. The construction supply chain, collecting real data from four pilot construction sites and analysing them in order to measure the potential advantages of the adoption of new practices; 2. The Construction Consolidation Centres (CCCs), measuring their potential impact and finding a viable business model for their replication in other contexts.
SYMPLEXITY	SYMPLEXITY is closing the gap between the highly automated production processes and the manual polishing of complex geometries by creating a safe environment of collaboration between robots and the human workers so that cooperative finishing becomes possible. To ensure relevance to European industry and practical use of the proposed objectives, SYMPLEXITY is strongly driven by end-users from different markets who are involved in the project.
FENIX	FENIX will develop the first European federated architecture for data sharing serving the European logistics community of shippers, logistics service providers, mobility infrastructure providers, cities, and authorities in order to offer interoperability between any individual existing and future platforms.

Administrative forms

Description of any significant infrastructure and/or any major items of technical equipment, relevant to the proposed work.

Name of infrastructure of equipment	Short description (Max 300 characters)

Gender Equality Plan

Does the organization have a Gender Equality Plan (GEP) covering the elements listed below?

☒ Yes ☐ No

Minimum process-related requirements (building blocks) for a GEP

- **Publication:** formal document published on the institution's website and signed by the top management
- **Dedicated resources:** commitment of human resources and gender expertise to implement it.
- **Data collection and monitoring:** sex/gender disaggregated data on personnel (and students for establishments concerned) and annual reporting based on indicators.
- **Training:** Awareness raising/trainings on gender equality and unconscious gender biases for staff and decision-makers.
- **Content-wise, recommended areas** to be **covered** and addressed via concrete measures and targets are:
 - o work-life balance and organisational culture;
 - o gender balance in leadership and decision-making;
 - o gender equality in recruitment and career progression;
 - o integration of the gender dimension into research and teaching content;
 - o measures against gender-based violence including sexual harassment.

Administrative forms

PIC	Legal name
918590292	AETHON ENGINEERING SINGLE MEMBER PC

Short name: AETHON ENGINEERING

Address

Street	EMMANOUIL BENAKI 25
Town	ATHENS
Postcode	106 78
Country	Greece
Webpage	www.aethon.gr

Specific Legal Statuses

Legal person	yes
Public body	no
Non-profit	no
International organisation	no
Secondary or Higher education establishment	no
Research organisation	no

SME Data

Based on the below details from the Participant Registry the organisation is an SME (small- and medium-sized enterprise) for the call.

SME self-declared status	31/12/2019 - yes
SME self-assessment	31/12/2019 - yes
SME validation	unknown

Administrative forms

Departments carrying out the proposed work

No department involved

Department name

Name of the department/institute carrying out the work.

☒ not applicable

☐ Same as proposing organisation's address

Street

Please enter street name and number.

Town

Please enter the name of the town.

Postcode

Area code.

Country

Please select a country

Links with other participants

Type of link	Participant
--------------	-------------

Administrative forms

Main contact person

This will be the person the EU services will contact concerning this proposal (e.g. for additional information, invitation to hearings, sending of evaluation results, convocation to start grant preparation). The data in blue is read-only. Details (name, first name and e-mail) of Main Contact persons should be edited in the step "Participants" of the submission wizard.

Title **Mr**

Gender ☐ Woman ☒ Man ☐ Non Binary

First name* **Alexandros**

Last name* **Papacharalampous**

E-Mail* **a.papacharalampous@aethon.gr**

Position in org. **CEO-CTO**

Department **AETHON ENGINEERING SINGLE MEMBER PC**

☒ Same as organisation name

☒ Same as proposing organisation's address

Street **EMMANOUIL BENAKI 25**

Town **ATHENS**

Post code **106 78**

Country **Greece**

Website **www.aethon.gr**

Phone **+302103801139**

Phone 2 **+306987301201**

Other contact persons

First Name	Last Name	E-mail	Phone
Giorgos	Diafas	g.diafas@aethon.gr	+306945196433

Administrative forms

Researchers involved in the proposal

Title	First Name	Last Name	Gender	Nationality	E-mail	Career Stage	Role of researcher (in the project)	Reference Identifier	Type of identifier

Administrative forms

Role of participating organisation in the project

Project management	<input type="checkbox"/>
Communication, dissemination and engagement	<input type="checkbox"/>
Provision of research and technology infrastructure	<input type="checkbox"/>
Co-definition of research and market needs	<input checked="" type="checkbox"/>
Civil society representative	<input type="checkbox"/>
Policy maker or regulator, incl. standardisation body	<input type="checkbox"/>
Research performer	<input checked="" type="checkbox"/>
Technology developer	<input type="checkbox"/>
Testing/validation of approaches and ideas	<input checked="" type="checkbox"/>
Prototyping and demonstration	<input type="checkbox"/>
IPR management incl. technology transfer	<input type="checkbox"/>
Public procurer of results	<input type="checkbox"/>
Private buyer of results	<input type="checkbox"/>
Finance provider (public or private)	<input type="checkbox"/>
Education and training	<input type="checkbox"/>
Contributions from the social sciences or/and the humanities	<input type="checkbox"/>
Other If yes, please specify: (Maximum number of characters allowed: 50)	<input type="checkbox"/>

Administrative forms

List of up to 5 publications, widely-used datasets, software, goods, services, or any other achievements relevant to the call content.

Type of achievement	Short description (Max 500 characters)
Software	<i>TransiTool is a data management and analytics software tool that makes handling of data easier for the Transport Service Provider and more available for the passengers. TransiTool ensures data standardisation and interoperability through a series of managers, tools, analytics services and APIs.</i>
Software	<i>Virtual Lab (developed within the MobiDataLab project): a digital version of a Living Lab that contains various functionalities that support discussion and promotion of solutions throughout their inception life cycle, from challenge to idea to a prototype.</i>
Publication	<i>G. Di Pasquale, V. Degeler, A. Papacharalampous, E. Mantouka, J.L. Larriba, Multimodal travel companion enabled by Artificial Intelligence, 25th ITS World Congress, 2018</i>
Publication	<i>Papacharalampous, A.E., Cats, O., Lankhaar, J.W., Daamen, W. and, H. Van Lint, Multimodal Data Fusion for Big Events, Transportation Research Board 95th Annual Meeting, Washington D.C., United States of America, 10-14 January, Transportation Research Board, 2016.</i>

List of up to 5 most relevant previous projects or activities, connected to the subject of this proposal.

Name of Project or Activity	Short description (Max 500 characters)
<i>MobiDataLab</i>	<i>The overall objective of MobiDataLab is to propose to the mobility stakeholders (transport organising authorities, operators, industry, innovators) a replicable methodology and sustainable tools that foster the development of a data sharing culture in Europe and beyond.</i>
<i>SYN+AIR</i>	<i>Collaboration is a concept that carries heavy weight when discussing multimodal trips of passengers. For Transport Service Providers (TSPs), it is a method to facilitate a door-to-door (D2D) journey. For SYN+AIR, collaboration among modes relates to data sharing among TSPs in the scope of facilitating a seamless D2D journey. The main objective of SYN+AIR is to generate common goals for TSPs that will justify data sharing, facilitating the user to execute a seamless D2D journey.</i>
<i>Shift2MaaS</i>	<i>Shift2MaaS has demonstrated the benefits of IP4 through pilot demonstrators of shared mobility services and seamless passenger experience.</i>
<i>IP4MaaS</i>	<i>IP4MaaS will assist IP4 projects, that have created a wide array of technologies that tackles carious aspects of traveler experience, to demonstrate the technologies at an unprecedented level: 6 different locations in Europe including more than 10 transport operators (Public Transport and Mobility-as-a-Service), authorities and agencies.</i>
<i>My-TRAC</i>	<i>My-TRAC project has delivered an innovative application for seamless transport and an ecosystem of models and algorithms for Public Transport – PT user choice simulation, data analytics and affective computing.</i>

Description of any significant infrastructure and/or any major items of technical equipment, relevant to the proposed work.

Name of infrastructure of equipment	Short description (Max 300 characters)
<i>TransiTool (Software)</i>	<i>TransiTool is a data management and analytics software tool that makes handling of data easier for the Transport Service Provider and more available for the passengers. TransiTool ensures data standardisation and interoperability through a series of managers, tools, analytics services and APIs.</i>
<i>Virtual Lab (Software)</i>	<i>Virtual Lab (developed within the MobiDataLab project): a digital version of a Living Lab that contains various functionalities that support discussion and promotion of solutions throughout their inception life cycle, from challenge to idea to a prototype.</i>

Gender Equality Plan

Does the organization have a Gender Equality Plan (GEP) covering the elements listed below?

☐ Yes ☒ No

Minimum process-related requirements (building blocks) for a GEP

- **Publication:** formal document published on the institution's website and signed by the top management
- **Dedicated resources:** commitment of human resources and gender expertise to implement it.
- **Data collection and monitoring:** sex/gender disaggregated data on personnel (and students for establishments concerned) and annual reporting based on indicators.
- **Training:** Awareness raising/trainings on gender equality and unconscious gender biases for staff and decision-makers.
- **Content-wise, recommended areas** to be **covered** and addressed via concrete measures and targets are:
 - o work-life balance and organisational culture;
 - o gender balance in leadership and decision-making;
 - o gender equality in recruitment and career progression;
 - o integration of the gender dimension into research and teaching content;
 - o measures against gender-based violence including sexual harassment.

Administrative forms

PIC	Legal name
999591112	FORSCHUNGSINSTITUT FUR RATIONALISIERUNG VEREIN

Short name: FIR

Address

Street	CAMPUS BOULEVARD 55
Town	AACHEN
Postcode	52074
Country	Germany
Webpage	http://www.fir.rwth-aachen.de

Specific Legal Statuses

Legal person	yes
Public body	no
Non-profit	yes
International organisation	no
Secondary or Higher education establishment	no
Research organisation	yes

SME Data

Based on the below details from the Participant Registry the organisation is not an SME (small- and medium-sized enterprise) for the call.

SME self-declared status	01/01/1900 - no
SME self-assessment	unknown
SME validation	unknown

Administrative forms

Departments carrying out the proposed work

Department 1

Department name

Information Management

☐ not applicable

☒ Same as proposing organisation's address

Street

CAMPUS BOULEVARD 55

Town

AACHEN

Postcode

52074

Country

Germany

Department 2

Department name

Business Transformation

☐ not applicable

☒ Same as proposing organisation's address

Street

CAMPUS BOULEVARD 55

Town

AACHEN

Postcode

52074

Country

Germany

Links with other participants

Type of link	Participant
--------------	-------------

Administrative forms

Main contact person

This will be the person the EU services will contact concerning this proposal (e.g. for additional information, invitation to hearings, sending of evaluation results, convocation to start grant preparation). The data in blue is read-only. Details (name, first name and e-mail) of Main Contact persons should be edited in the step "Participants" of the submission wizard.

TitleMrs

Gender

Woman

Man

Non Binary

First name*Stephanie

Last name*Harfensteller

E-Mail*stephanie.harfensteller@fir.rwth-aachen.de

Position in org.EU Research Coordinator

DepartmentFORSCHUNGSINSTITUT FUR RATIONALISIERUNG VEREIN

Same as organisation name

Same as proposing organisation's address

StreetCAMPUS BOULEVARD 55

TownAACHEN

Post code52074

CountryGermany

Websitewww.fir.rwth-aachen.de

Phone+4924147705160

Phone 2+XXX XXXXXXXXXX

Other contact persons

First Name	Last Name	E-mail	Phone
Sebastian	Kremer	sebastian.kremer@fir.rwth-aachen.de	+4924147705515
Justa	Hujer	justa.hujer@fir.rwth-aachen.de	+XXX XXXXXXXXXX
Max-Ferdinand	Stroh	max-ferdinand.stroh@fir.rwth-aachen.de	+XXX XXXXXXXXXX
Cansu	Kanak	cansu.kanak@fir.rwth-aachen.de	+XXX XXXXXXXXXX
Clara	Herkenrath	clara.herkenrath@fir.rwth-aachen.de	+XXX XXXXXXXXXX

Administrative forms

Researchers involved in the proposal

Title	First Name	Last Name	Gender	Nationality	E-mail	Career Stage	Role of researcher (in the project)	Reference Identifier	Type of identifier
Prof	Wolfgang	Boos	Man	Germany	wolfgang.boos@fir.rwth-aachen.de	Category A Top grade re	Leading		
Dr	Max-Ferdinand	Stroh	Man	Germany	Max-Ferdinand.Stroh@fir.rwth-aachen.de	Category C Recognised	Leading		
Mr	Sebastian	Kremer	Man	Germany	sebastian.kremer@fir.rwth-aachen.de	Category D First stage r	Team member		
Mrs	Cansu	Kanak	Woman	Germany	cansu.kanak@fir.rwth-aachen.de	Category D First stage r	Team member		
Mrs	Clara	Herkenrath	Woman	Germany	clara.herkenrath@fir.rwth-aachen.de	Category D First stage r	Team member		

Administrative forms

Role of participating organisation in the project

Project management	<input type="checkbox"/>
Communication, dissemination and engagement	<input checked="" type="checkbox"/>
Provision of research and technology infrastructure	<input type="checkbox"/>
Co-definition of research and market needs	<input checked="" type="checkbox"/>
Civil society representative	<input type="checkbox"/>
Policy maker or regulator, incl. standardisation body	<input type="checkbox"/>
Research performer	<input checked="" type="checkbox"/>
Technology developer	<input type="checkbox"/>
Testing/validation of approaches and ideas	<input checked="" type="checkbox"/>
Prototyping and demonstration	<input checked="" type="checkbox"/>
IPR management incl. technology transfer	<input type="checkbox"/>
Public procurer of results	<input type="checkbox"/>
Private buyer of results	<input type="checkbox"/>
Finance provider (public or private)	<input type="checkbox"/>
Education and training	<input type="checkbox"/>
Contributions from the social sciences or/and the humanities	<input type="checkbox"/>
Other If yes, please specify: (Maximum number of characters allowed: 50)	<input type="checkbox"/>

Administrative forms

List of up to 5 publications, widely-used datasets, software, goods, services, or any other achievements relevant to the call content.

Type of achievement	Short description (Max 500 characters)
Publication	<i>The research project SewGuide produced two public seminars addressing SMEs situated in industry based on handcrafts. The seminars addressed methodologies in digitally mapping worker-focused handcraft, while discussing industry 4.0 measures in respect to worker acceptance and effectiveness of supporting the worker. The goal of the seminars was to present the applicability of digital technologies in manual labor and to raise awareness of developing solutions towards benefits for the worker.</i>
Publication	<i>The goal of the study Industry 4.0 Maturity Index (in corporation with acatech) is determining the current Industrie 4.0 maturity level of a company. A major component is the identification of actions to enable businesses to take full advantage of the economic benefits of I4.0 and digitization. Through the examination and evaluation of existing processes and the subsequent derivation of fields of action, companies receive a specific and practical guideline for shaping the digital transformation.</i>
Publication	<i>The paper "Understanding the Organizational Impact of Robotic Process Automation: A Socio-Technical Perspective" (DOI:10.1007/978-3-031-14844-6_9) discusses the increasing interest and use of Robotic Process Automation (RPA) to automate administrative processes and improve operational efficiency. A socio-technical framework is proposed in which, three critical success factors for RPA implementation in SMEs were identified. The paper addresses the humancentric perspective in digitalization.</i>
Publication	<i>The paper "Development of an Instrument for Measuring the Human Dimensions of Digital Leaders" (DOI: 10.1080/08956308.2022.2048588) shows that digital transformation requires a strong focus on the human qualities of leaders. The authors developed a Digital Leadership Scale which focuses on self-assessment for successful leadership in digital transformation. Overall, the results show especially human-centric factors are the most important factors for the success of digital transformations.</i>

List of up to 5 most relevant previous projects or activities, connected to the subject of this proposal.

Name of Project or Activity	Short description (Max 500 characters)
<i>SewGuide (KMU-innovativ, 02K19K013)</i>	<i>The goal of the research project SewGuide was to address the perspectively declining numbers of sewing experts by incorporating digital technologies in the handcraft to support experts in the training of beginners and conserve both craft and processual knowledge. The development phase was aligned with the needs and restrictions of workers and resulted in two digitalised sewing machines accompanied by a digital learning platform, which in testing promised both acceptance and effectiveness.</i>
<i>AKzentE4.0 (02L19C403)</i>	<i>AKzentE4.0 aims to introduce and implement Industry 4.0 concepts and technologies in SMEs in the Aachen region in a way that is appropriate for the human factor. The project is dedicated to the question of how companies can master the comprehensive regulations of occupational safety and ergonomics. FIR is concerned with healthy work design within the project AKzentE4.0, which addresses the humane introduction and implementation of Industry 4.0 concepts and technologies in SMEs.</i>
<i>SITRA 4.0 (01FI16012)</i>	<i>As result of the SiTra 4.0 project, a framework was developed to establish a preventive, participative and communicative safety culture as key success factor for the implementation of Industrie 4.0 in small and medium-sized enterprises (SMEs). The framework supports organizations in identifying resources and barriers, developing a customized safety culture and taking concrete measures to establish it.</i>
<i>I4.0-Maturity-Index (Acatech)</i>	<i>This research project focused on the creation of an Industry 4.0 maturity model. The maturity model enables companies to record their respective status in the implementation of Industry 4.0. Direct action measures are generated from the recording, which is presented in an individual implementation roadmap.</i>

Administrative forms

RPAcceptance (21512 N)	Employee acceptance of automated software is critical to the successful application of RPA. The barriers and facilitators of such acceptance must be identified and addressed. The research project focuses on the development of an acceptance model between human and RPA software, which includes all relevant influencing factors and integrates them into a training concept for the continuous increase of the acceptance of RPA.
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Description of any significant infrastructure and/or any major items of technical equipment, relevant to the proposed work.

Name of infrastructure of equipment	Short description (Max 300 characters)

Gender Equality Plan

Does the organization have a Gender Equality Plan (GEP) covering the elements listed below?

☒ Yes ☐ No

Minimum process-related requirements (building blocks) for a GEP

- **Publication:** formal document published on the institution's website and signed by the top management
- **Dedicated resources:** commitment of human resources and gender expertise to implement it.
- **Data collection and monitoring:** sex/gender disaggregated data on personnel (and students for establishments concerned) and annual reporting based on indicators.
- **Training:** Awareness raising/trainings on gender equality and unconscious gender biases for staff and decision-makers.
- **Content-wise, recommended areas** to be **covered** and addressed via concrete measures and targets are:
 - o work-life balance and organisational culture;
 - o gender balance in leadership and decision-making;
 - o gender equality in recruitment and career progression;
 - o integration of the gender dimension into research and teaching content;
 - o measures against gender-based violence including sexual harassment.

Administrative forms

PIC	Legal name
889863936	OCTAVE

Short name: OCTAVE

Address

Street	RUE DU PEUPLIER 8
Town	BRUSSELS
Postcode	1000
Country	Belgium
Webpage	https://www.octave.brussels/

Specific Legal Statuses

Legal person	yes
Public body	no
Non-profit	no
International organisation	no
Secondary or Higher education establishment	no
Research organisation	no

SME Data

Based on the below details from the Participant Registry the organisation is an SME (small- and medium-sized enterprise) for the call.

SME self-declared status	03/08/2021 - yes
SME self-assessment	unknown
SME validation	31/12/2021 - yes

Administrative forms

Departments carrying out the proposed work

Department 1

Department name	<div>R&D</div>	<input type="checkbox"/> not applicable
	<input type="checkbox"/> Same as proposing organisation's address	
Street	<div>Zandvoortstraat 12A</div>	
Town	<div>Mechelen</div>	
Postcode	<div>2800</div>	
Country	<div>Belgium</div>	

Links with other participants

Type of link	Participant
--------------	-------------

Administrative forms

Main contact person

This will be the person the EU services will contact concerning this proposal (e.g. for additional information, invitation to hearings, sending of evaluation results, convocation to start grant preparation). The data in blue is read-only. Details (name, first name and e-mail) of Main Contact persons should be edited in the step "Participants" of the submission wizard.

Title Dr

Gender ☐ Woman ☒ Man ☐ Non Binary

First name* **Mahdi**

Last name* **Soltani**

E-Mail* **mahdi.soltani@octave.energy**

Position in org. Electrical design engineer

Department R&D

☐ Same as organisation name

☐ Same as proposing organisation's address

Street Zandvoortstraat 12A

Town Mechelen

Post code 2800

Country Belgium

Website https://octave.energy/

Phone +32485482620

Phone 2 +32494352835

Other contact persons

First Name	Last Name	E-mail	Phone
Jonas	Engels	jonas.engels@octave.energy	+32494352835

Administrative forms

Researchers involved in the proposal

Title	First Name	Last Name	Gender	Nationality	E-mail	Career Stage	Role of researcher (in the project)	Reference Identifier	Type of identifier
Dr	Jonas	Engels	Man	Belgium	jonas.engels@octave.energy	Category B Senior research	Leading	0000-0001-5217-8730	Orcid ID
Dr	Mahdi	Soltani	Man	Iran (Islamic Rep	mahdi.soltani@octave.energy	Category B Senior research	Team member	0000-0001-5159-5620	Orcid ID

Administrative forms

Role of participating organisation in the project

Project management	<input checked="" type="checkbox"/>
Communication, dissemination and engagement	<input type="checkbox"/>
Provision of research and technology infrastructure	<input type="checkbox"/>
Co-definition of research and market needs	<input type="checkbox"/>
Civil society representative	<input type="checkbox"/>
Policy maker or regulator, incl. standardisation body	<input type="checkbox"/>
Research performer	<input type="checkbox"/>
Technology developer	<input checked="" type="checkbox"/>
Testing/validation of approaches and ideas	<input checked="" type="checkbox"/>
Prototyping and demonstration	<input checked="" type="checkbox"/>
IPR management incl. technology transfer	<input type="checkbox"/>
Public procurer of results	<input type="checkbox"/>
Private buyer of results	<input type="checkbox"/>
Finance provider (public or private)	<input type="checkbox"/>
Education and training	<input type="checkbox"/>
Contributions from the social sciences or/and the humanities	<input type="checkbox"/>
Other If yes, please specify: (Maximum number of characters allowed: 50)	<input type="checkbox"/>

Administrative forms

List of up to 5 publications, widely-used datasets, software, goods, services, or any other achievements relevant to the call content.

Type of achievement	Short description (Max 500 characters)
Good	Second-life Battery cabinet 111kWh – 50kW/92kW second-life battery energy storage system.
Other achievement	PAT2608599BE00 – Method for Determining a Power Setpoint in a Battery Energy Storage System.
Publication	Engels, J., Claessens, B., & Deconinck, G. (2017). Combined stochastic optimization of frequency control and self-consumption with a battery. <i>IEEE Transactions on Smart Grid</i> , 10(2), 1971-1981. Doi: 10.1109/TSG.2017.2785040
Publication	Engels, J., Claessens, B., & Deconinck, G. (2019). Techno-economic analysis and optimal control of battery storage for frequency control services, applied to the German market. <i>Applied Energy</i> , 242, 1036-1049. Doi: 10.1016/j.apenergy.2019.03.128
Publication	Soltani, M.; Ronsmans, J.; Kakihara, S.; Jaguemont, J.; Van den Bossche, P.; Van Mierlo, J.; Omar, N. Hybrid Battery/Lithium-Ion Capacitor Energy Storage System for a Pure Electric Bus for an Urban Transportation Application. <i>Appl. Sci.</i> 2018, 8, 1176. DOI: 10.3390/app8071176

List of up to 5 most relevant previous projects or activities, connected to the subject of this proposal.

Name of Project or Activity	Short description (Max 500 characters)
iBEMS-SeLiBat: Integrated battery and energy manag	The project will develop Octave's integrated battery and energy management system for second-life batteries. This novel technology relies on a deep integration of the battery management system and the energy management system. It makes the raw battery cell measurements available for optimisation of the battery system's charging strategy. The data are sent to Octave's battery cloud, where it is used in advanced machine learning methods and digital twins of the cells are created to extract useful
Innoviris: Technical feasibility of using a predic	The project aimed to demonstrate the feasibility of using a Battery Energy Storage System (BESS) to provide balancing services via arbitrage on the imbalance market organized by the transmission system operator Elia in Belgium.
BEBAT: Battpack second-life battery energy storage	https://www.bebat.be/fr/blog/un-bon-demarrage-vers-un-avenir-durable-pour-2-projets-concernant-les-batteries The project consisted developing and implementing a modular battery energy storage rack system that can host battery modules delivered by the partner BEBAT.
Be.Circular: Circular Energy Community Storage in	https://www.circulareconomy.brussels/edition-2021/ The goal of the project is to investigate the business cases opportunities for batteries that arise from energy communities and install a circular battery energy storage system prototype within an energy community in Brussels.
STEPS - Storage of Energy & Power Systems in NWE	https://www.nweurope.eu/projects/project-search/steps-storage-of-energy-power-systems-in-nwe/ The goal of the project was threefold: (i) perform tests on second-life battery modules to identify their state of health and obtain high level characteristics; (ii) investigate certifications required for 2nd life battery systems; and (iii) deploy a demonstrator of 60 kWh. Partners are the Ghent University (Belgium), University of Twente (The Netherlands), Flux50 and Terranova (a large solar f

Administrative forms

Description of any significant infrastructure and/or any major items of technical equipment, relevant to the proposed work.

Name of infrastructure of equipment	Short description (Max 300 characters)

Gender Equality Plan

Does the organization have a Gender Equality Plan (GEP) covering the elements listed below?

☐ Yes

☒ No

Minimum process-related requirements (building blocks) for a GEP

- **Publication:** formal document published on the institution's website and signed by the top management
- **Dedicated resources:** commitment of human resources and gender expertise to implement it.
- **Data collection and monitoring:** sex/gender disaggregated data on personnel (and students for establishments concerned) and annual reporting based on indicators.
- **Training:** Awareness raising/trainings on gender equality and unconscious gender biases for staff and decision-makers.
- **Content-wise, recommended areas** to be **covered** and addressed via concrete measures and targets are:
 - o work-life balance and organisational culture;
 - o gender balance in leadership and decision-making;
 - o gender equality in recruitment and career progression;
 - o integration of the gender dimension into research and teaching content;
 - o measures against gender-based violence including sexual harassment.

Administrative forms

PIC	Legal name
952417490	EFESTO

Short name: EFESTO

Address

Street	55 AVENUE MARCEAU
Town	PARIS
Postcode	75116
Country	France
Webpage	www.efesto.fr

Specific Legal Statuses

Legal person	yes
Public body	no
Non-profit	no
International organisation	no
Secondary or Higher education establishment	no
Research organisation	no

SME Data

Based on the below details from the Participant Registry the organisation is an SME (small- and medium-sized enterprise) for the call.

SME self-declared status	31/12/2019 - yes
SME self-assessment	31/12/2019 - yes
SME validation	unknown

Administrative forms

Departments carrying out the proposed work

Department 1

Department name	R&D	<input type="checkbox"/> not applicable
	<input checked="" type="checkbox"/> Same as proposing organisation's address	
Street	55 AVENUE MARCEAU	
Town	PARIS	
Postcode	75116	
Country	France	

Links with other participants

Type of link	Participant
--------------	-------------

Administrative forms

Main contact person

This will be the person the EU services will contact concerning this proposal (e.g. for additional information, invitation to hearings, sending of evaluation results, convocation to start grant preparation). The data in blue is read-only. Details (name, first name and e-mail) of Main Contact persons should be edited in the step "Participants" of the submission wizard.

Title

Mr

Gender

☐ Woman

☒ Man

☐ Non Binary

First name*

Luca

Last name*

Morfino

E-Mail*

I.morfino@efestoenergy.com

Position in org.

CEO

Department

EFESTO

☒ Same as organisation name

☒ Same as proposing organisation's address

Street

55 AVENUE MARCEAU

Town

PARIS

Post code

75116

Country

France

Website

https://efesto.fr/

Phone

+XXX XXXXXXXXXX

Phone 2

+XXX XXXXXXXXXX

Other contact persons

First Name	Last Name	E-mail	Phone
Francesco	Tamburini	f.tamburini@efestoenergy.com	+39-3298394218

Administrative forms

Researchers involved in the proposal

Title	First Name	Last Name	Gender	Nationality	E-mail	Career Stage	Role of researcher (in the project)	Reference Identifier	Type of identifier
Dr	Giovanni	Bonotto	Man	Italy	g.bonotto@efestoenergy.com	Category B Senior research	Team member	R2	Researcher ID
Dr	Tommaso	Lambert	Man	Italy	t.lambert@efestoenergy.com	Category B Senior research	Team member	R2	Researcher ID
Dr	Luca	Morfinio	Man	Italy	l.morfinio@efestoenergy.com	Category A Top grade research	Leading	R1	Researcher ID
Dr	Paolo	Morfinio	Man	Italy	p.morfinio@efestoenergy.com	Category A Top grade research	Team member	R1	Researcher ID
Dr	Francesco	Tamburini	Man	Italy	f.tamburini@efestoenergy.com	Category A Top grade research	Team member	R1	Researcher ID

Administrative forms

Role of participating organisation in the project

Project management	<input checked="" type="checkbox"/>
Communication, dissemination and engagement	<input checked="" type="checkbox"/>
Provision of research and technology infrastructure	<input checked="" type="checkbox"/>
Co-definition of research and market needs	<input checked="" type="checkbox"/>
Civil society representative	<input type="checkbox"/>
Policy maker or regulator, incl. standardisation body	<input type="checkbox"/>
Research performer	<input checked="" type="checkbox"/>
Technology developer	<input checked="" type="checkbox"/>
Testing/validation of approaches and ideas	<input checked="" type="checkbox"/>
Prototyping and demonstration	<input checked="" type="checkbox"/>
IPR management incl. technology transfer	<input type="checkbox"/>
Public procurer of results	<input type="checkbox"/>
Private buyer of results	<input type="checkbox"/>
Finance provider (public or private)	<input checked="" type="checkbox"/>
Education and training	<input type="checkbox"/>
Contributions from the social sciences or/and the humanities	<input type="checkbox"/>
Other If yes, please specify: (Maximum number of characters allowed: 50)	<input type="checkbox"/>

Administrative forms

List of up to 5 publications, widely-used datasets, software, goods, services, or any other achievements relevant to the call content.

Type of achievement	Short description (Max 500 characters)
Publication	Article titled: <i>Lightplane Electric Power Pure or Hybrid?</i> By Dan Johnson, June 23, 2015 (source http://www.bydanjohnson.com/?b=8&m=1&i=3)
Publication	Article titled: <i>Euro/Israeli hybrid Powers Neat Italian ULM</i> by DEAN SIGLER on 06/21/2015 (source http://blog.cafefoundation.org/euroisraeli-hybrid-powers-neat-italian-ulm/)
Publication	Article: <i>A new hybrid propulsion system has been designed by Ashot Ashkelon, Efesto and CFM Air as an add-on kit for Rotax engines.</i> (Source http://defencetalk.net/threads/paris-airshow-2015-photos-news-and-videos.5642/page-2).
Publication	Article titled : <i>EICMA 2018:</i> https://www.moto.it/elettrico/moto/eicma-2018-efesto-ibexquattro70-ibrida-da-225-cv.html
Publication	<i>Moto ibride? ecco la Efesto IBEX Quattro70: doppio motore per un totale di 225 CV:</i> https://auto.hwupgrade.it/news/tecnologia/moto-ibride-ecco-la-efesto-ibex-quattro70-doppiomotore-per-un-totale-di-225-cv_79122.html

List of up to 5 most relevant previous projects or activities, connected to the subject of this proposal.

Name of Project or Activity	Short description (Max 500 characters)
MMTECH	H2020 Project MMTECH (Partner) New aerospace advanced cost effective materials and rapid manufacturing technologies
Blue-spark	H2020 Fast Track Blu-Spark hybrid airplane (partner) https://www.blu-spark.eu/
Hybrid boat	Efesto presents the new Hybrid Power Unit by Diesel International 20 Nov 2018 10:40 UTC https://www.powerboat-world.com/news/212364/Efesto-presents-the-new-Hybrid-Power-Unit
Hybrid motorcycle	Maxxi Moto article: https://www.maxxmoto.be/nieuws/gespot-op-de-eicma-hybridemotorfiets/ .
Hybrid motorcycle 2	https://www.topspeed.com/motorcycles/motorcycle-news/efesto-is-developing-a-300-hpducati-1299-panigale-powered-by-a-hybrid-powertrain-ar187109.html

Description of any significant infrastructure and/or any major items of technical equipment, relevant to the proposed work.

Name of infrastructure of equipment	Short description (Max 300 characters)
Laboratory and research center	Laboratory and research centre for testing and development research available for all activities related to the project. Test bench back to back with torsimeter and inverters to carry simulations and test of different functioning modes of the electric motors/generators
Design Facility	Internal structure for the design and calculation of any components related to the vehicle using different software dedicated to the different components design (catia,femap,matlab,viewlab,gt power etc..)
Purchasing department	Internal structure and organisation for the purchase of the material realized by experienced peoples

Gender Equality Plan

Does the organization have a Gender Equality Plan (GEP) covering the elements listed below?

☐ Yes ☒ No

Minimum process-related requirements (building blocks) for a GEP

- **Publication:** formal document published on the institution's website and signed by the top management
- **Dedicated resources:** commitment of human resources and gender expertise to implement it.
- **Data collection and monitoring:** sex/gender disaggregated data on personnel (and students for establishments concerned) and annual reporting based on indicators.
- **Training:** Awareness raising/trainings on gender equality and unconscious gender biases for staff and decision-makers.
- **Content-wise, recommended areas** to be **covered** and addressed via concrete measures and targets are:
 - o work-life balance and organisational culture;
 - o gender balance in leadership and decision-making;
 - o gender equality in recruitment and career progression;
 - o integration of the gender dimension into research and teaching content;
 - o measures against gender-based violence including sexual harassment.

Administrative forms

PIC	Legal name
929421118	I2M UNTERNEHMENSENTWICKLUNG GMBH

Short name: I2M

Address

Street	HANGWEG 27
Town	GRAZ
Postcode	8052
Country	Austria
Webpage	www.i2m.at

Specific Legal Statuses

Legal person	yes
Public body	no
Non-profit	no
International organisation	no
Secondary or Higher education establishment	no
Research organisation	no

SME Data

Based on the below details from the Participant Registry the organisation is an SME (small- and medium-sized enterprise) for the call.

SME self-declared status	31/12/2016 - yes
SME self-assessment	31/12/2016 - yes
SME validation	unknown

Administrative forms

Departments carrying out the proposed work

No department involved

Department name

Name of the department/institute carrying out the work.

☒ not applicable

☐ Same as proposing organisation's address

Street

Please enter street name and number.

Town

Please enter the name of the town.

Postcode

Area code.

Country

Please select a country

Links with other participants

Type of link	Participant
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Administrative forms

Main contact person

This will be the person the EU services will contact concerning this proposal (e.g. for additional information, invitation to hearings, sending of evaluation results, convocation to start grant preparation). The data in blue is read-only. Details (name, first name and e-mail) of Main Contact persons should be edited in the step "Participants" of the submission wizard.

Title

Gender

☐

Woman

☐

Man

☐

Non Binary

First name* **Ursula**

Last name* **Ofenheimer**

E-Mail* **ursula.ofenheimer@i2m.at**

Position in org. Please indicate the position of the person.

Department *Name of the department/institute carrying out the work.*

☐

Same as organisation name

☐ Same as proposing organisation's address

Street *Please enter street name and number.*

Town *Please enter the name of the town.*

Post code *Area code.*

Country *Please select a country*

Website *Please enter website*

Phone *+XXX XXXXXXXXXX*

Phone 2 *+XXX XXXXXXXXXX*

Other contact persons

First Name	Last Name	E-mail	Phone
Aldo	Ofenheimer	aldo.ofenheimer@i2m.at	+XXX XXXXXXXXXX

Administrative forms

Researchers involved in the proposal

Title	First Name	Last Name	Gender	Nationality	E-mail	Career Stage	Role of researcher (in the project)	Reference Identifier	Type of identifier
Prof	Peter	Dietmaier	Man	Austria	peter.dietmaier@i2m.at	Category B Senior resea	Team member		

Administrative forms

Role of participating organisation in the project

Project management	<input type="checkbox"/>
Communication, dissemination and engagement	<input checked="" type="checkbox"/>
Provision of research and technology infrastructure	<input type="checkbox"/>
Co-definition of research and market needs	<input type="checkbox"/>
Civil society representative	<input type="checkbox"/>
Policy maker or regulator, incl. standardisation body	<input type="checkbox"/>
Research performer	<input type="checkbox"/>
Technology developer	<input checked="" type="checkbox"/>
Testing/validation of approaches and ideas	<input type="checkbox"/>
Prototyping and demonstration	<input checked="" type="checkbox"/>
IPR management incl. technology transfer	<input type="checkbox"/>
Public procurer of results	<input type="checkbox"/>
Private buyer of results	<input type="checkbox"/>
Finance provider (public or private)	<input type="checkbox"/>
Education and training	<input type="checkbox"/>
Contributions from the social sciences or/and the humanities	<input type="checkbox"/>
Other If yes, please specify: (Maximum number of characters allowed: 50)	<input type="checkbox"/>

Administrative forms

List of up to 5 publications, widely-used datasets, software, goods, services, or any other achievements relevant to the call content.

Type of achievement	Short description (Max 500 characters)
Service	Data acquisition optimization
Service	AI Solution Design & Quality Management
Service	AI training design & quality control
Service	AI application engineering

List of up to 5 most relevant previous projects or activities, connected to the subject of this proposal.

Name of Project or Activity	Short description (Max 500 characters)

Description of any significant infrastructure and/or any major items of technical equipment, relevant to the proposed work.

Name of infrastructure of equipment	Short description (Max 300 characters)

Gender Equality Plan

Does the organization have a Gender Equality Plan (GEP) covering the elements listed below?

☐ Yes ☒ No

Minimum process-related requirements (building blocks) for a GEP

- **Publication:** formal document published on the institution's website and signed by the top management
- **Dedicated resources:** commitment of human resources and gender expertise to implement it.
- **Data collection and monitoring:** sex/gender disaggregated data on personnel (and students for establishments concerned) and annual reporting based on indicators.
- **Training:** Awareness raising/trainings on gender equality and unconscious gender biases for staff and decision-makers.
- **Content-wise, recommended areas** to be **covered** and addressed via concrete measures and targets are:
 - o work-life balance and organisational culture;
 - o gender balance in leadership and decision-making;
 - o gender equality in recruitment and career progression;
 - o integration of the gender dimension into research and teaching content;
 - o measures against gender-based violence including sexual harassment.

Administrative forms

PIC	Legal name
883189366	ZEUKO SA

Short name: ZEUKO SA

Address

Street	Parque Tecnologico Edificio 207 B
Town	Zamudio
Postcode	48170
Country	Spain
Webpage	www.zeuko.com

Specific Legal Statuses

Legal person	yes
Public body	no
Non-profit	no
International organisation	no
Secondary or Higher education establishment	no
Research organisation	no

SME Data

Based on the below details from the Participant Registry the organisation is an SME (small- and medium-sized enterprise) for the call.

SME self-declared status	31/12/2022 - yes
SME self-assessment	31/12/2022 - yes
SME validation	unknown

Administrative forms

Departments carrying out the proposed work

Department 1

Department name	Managing Directors	<input type="checkbox"/> not applicable
	<input checked="" type="checkbox"/> Same as proposing organisation's address	
Street	Parque Tecnologico Edificio 207 B	
Town	Zamudio	
Postcode	48170	
Country	Spain	

Links with other participants

Type of link	Participant
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Administrative forms

Main contact person

This will be the person the EU services will contact concerning this proposal (e.g. for additional information, invitation to hearings, sending of evaluation results, convocation to start grant preparation). The data in blue is read-only. Details (name, first name and e-mail) of Main Contact persons should be edited in the step "Participants" of the submission wizard.

Title **Mr**

Gender ☐ Woman ☒ Man ☐ Non Binary

First name* **Ismael**

Last name* **Bienvenido**

E-Mail* **ismael.bienvenido@zeuko.com**

Position in org. **Managing Director**

Department **ZEUKO SA**

☒ Same as organisation name

☒ Same as proposing organisation's address

Street **Parque Tecnologico Edificio 207 B**

Town **Zamudio**

Post code **48170**

Country **Spain**

Website **www.zeuko.com**

Phone **+34 633917200**

Phone 2 **+XXX XXXXXXXXX**

Administrative forms

Researchers involved in the proposal

Title	First Name	Last Name	Gender	Nationality	E-mail	Career Stage	Role of researcher (in the project)	Reference Identifier	Type of identifier
Mr	Victor Calixto	Fernandez	Man	Spain	calixto@zeuko.com	Category D First stage r	Team member		
Ms	Estibalitz	Sierra	Woman	Spain	e.sierra@zeuko.com	Category B Senior resea	Team member		
Mr	Carlos	Garcia	Man	Spain	carlos.garcia@zeuko.com	Category D First stage r	Team member		
Mr	Ismael	Bienvenido	Man	Spain	ismael.bienvenido@zeuko.com	Category B Senior resea	Leading		

Administrative forms

Role of participating organisation in the project

Project management	<input checked="" type="checkbox"/>
Communication, dissemination and engagement	<input checked="" type="checkbox"/>
Provision of research and technology infrastructure	<input type="checkbox"/>
Co-definition of research and market needs	<input checked="" type="checkbox"/>
Civil society representative	<input type="checkbox"/>
Policy maker or regulator, incl. standardisation body	<input type="checkbox"/>
Research performer	<input checked="" type="checkbox"/>
Technology developer	<input type="checkbox"/>
Testing/validation of approaches and ideas	<input checked="" type="checkbox"/>
Prototyping and demonstration	<input type="checkbox"/>
IPR management incl. technology transfer	<input type="checkbox"/>
Public procurer of results	<input type="checkbox"/>
Private buyer of results	<input type="checkbox"/>
Finance provider (public or private)	<input type="checkbox"/>
Education and training	<input type="checkbox"/>
Contributions from the social sciences or/and the humanities	<input type="checkbox"/>
Other If yes, please specify: (Maximum number of characters allowed: 50)	<input type="checkbox"/>

Administrative forms

List of up to 5 publications, widely-used datasets, software, goods, services, or any other achievements relevant to the call content.

Type of achievement	Short description (Max 500 characters)
Publication	<i>Acoustic emission characterisation of two pre-cracked specimens . This article contains the experiments carried-out to study the capabilities of Acoustic Emissions (AE) in a Ship To Shore (STS) crane. This solution studies the implementation of Structural Health Monitoring (SHM) in an STS crane based on acoustic emissions (AE) technique for detecting cracks and assessing their growth in steel elements subjected to fatigue. The first experiment is performed using a compact tension specimen (CT) m</i>

List of up to 5 most relevant previous projects or activities, connected to the subject of this proposal.

Name of Project or Activity	Short description (Max 500 characters)
PREDICRANE	<i>Digitalization system for STS cranes (containers shipping). Functioning signal together with IOT are integrated and processed with Machine learning techniques. The system generated predictive health for following systems, bearing, engines, gearboxes, low and high speed axes. Also include platform for data representation and traceability. Pilot system up and running in Client asset.</i>
HEIMDALL	<i>This system still in low TRL check ultrasound technology for fatigue cracks detection and growth prediction. Signals generated during crack progress are detected, ingested and processed. Different algorithms after learning phase adress three objectives, crack detection, position determination and severity prediction. Under lab conditions the system shows promising results.</i>

Description of any significant infrastructure and/or any major items of technical equipment, relevant to the proposed work.

Name of infrastructure of equipment	Short description (Max 300 characters)

Gender Equality Plan

Does the organization have a Gender Equality Plan (GEP) covering the elements listed below?

☐ Yes ☒ No

Minimum process-related requirements (building blocks) for a GEP

- **Publication:** formal document published on the institution's website and signed by the top management
- **Dedicated resources:** commitment of human resources and gender expertise to implement it.
- **Data collection and monitoring:** sex/gender disaggregated data on personnel (and students for establishments concerned) and annual reporting based on indicators.
- **Training:** Awareness raising/trainings on gender equality and unconscious gender biases for staff and decision-makers.
- **Content-wise, recommended areas** to be **covered** and addressed via concrete measures and targets are:
 - o work-life balance and organisational culture;
 - o gender balance in leadership and decision-making;
 - o gender equality in recruitment and career progression;
 - o integration of the gender dimension into research and teaching content;
 - o measures against gender-based violence including sexual harassment.

Administrative forms

PIC	Legal name
998735863	FUNDACJA PARTNERSTWA TECHNOLOGICZNEGO TECHNOLOGY PARTNERS

Short name: TECHNOLOGY PARTNERS

Address

Street	UL. PAWINSKIEGO 5A
Town	WARSZAWA
Postcode	02-106
Country	Poland
Webpage	www.technologypartners.pl

Specific Legal Statuses

Legal person	yes
Public body	no
Non-profit	yes
International organisation	no
Secondary or Higher education establishment	no
Research organisation	yes

SME Data

Based on the below details from the Participant Registry the organisation is **not** an SME (small- and medium-sized enterprise) for the call.

SME self-declared status	19/06/2008 - no
SME self-assessment	unknown
SME validation	19/06/2008 - no

Administrative forms

Departments carrying out the proposed work

No department involved

Department name

Name of the department/institute carrying out the work.

☒ not applicable

☐ Same as proposing organisation's address

Street

Please enter street name and number.

Town

Please enter the name of the town.

Postcode

Area code.

Country

Please select a country

Links with other participants

Type of link	Participant
--------------	-------------

Administrative forms

Main contact person

This will be the person the EU services will contact concerning this proposal (e.g. for additional information, invitation to hearings, sending of evaluation results, convocation to start grant preparation). The data in blue is read-only. Details (name, first name and e-mail) of Main Contact persons should be edited in the step "Participants" of the submission wizard.

Title **Mr**

Gender ☐ Woman ☒ Man ☐ Non Binary

First name* **Michal**

Last name* **Towpik**

E-Mail* **michal.towpik@technologypartners.pl**

Position in org. **Vice-President**

Department **FUNDACJA PARTNERSTWA TECHNOLOGICZNEGO TECHNOLOGY PARTNERS**

☒ Same as organisation name

☒ Same as proposing organisation's address

Street **UL. PAWINSKIEGO 5A**

Town **WARSZAWA**

Post code **02-106**

Country **Poland**

Website *Please enter website*

Phone **+48513196162**

Phone 2 *+XXX XXXXXXXXXX*

Administrative forms

Researchers involved in the proposal

Title	First Name	Last Name	Gender	Nationality	E-mail	Career Stage	Role of researcher (in the project)	Reference Identifier	Type of identifier
Mr	Michal	Towpik	Man	Poland	michal.towpik@technologypartners.pl	Category C Recognised	Leading		
Mrs	Anna	Zmievskia	Woman	Ukraine	Anna.zmievskia@technologypartners.pl	Category C Recognised	Leading		
Mr	Krzysztof	Santarek	Man	Poland	krzysztof.santarek@technologypartners.pl	Category A Top grade re	Leading	0000-0002-3284-9098	Orcid ID

Administrative forms

Role of participating organisation in the project

Project management	<input type="checkbox"/>
Communication, dissemination and engagement	<input checked="" type="checkbox"/>
Provision of research and technology infrastructure	<input type="checkbox"/>
Co-definition of research and market needs	<input checked="" type="checkbox"/>
Civil society representative	<input type="checkbox"/>
Policy maker or regulator, incl. standardisation body	<input type="checkbox"/>
Research performer	<input checked="" type="checkbox"/>
Technology developer	<input type="checkbox"/>
Testing/validation of approaches and ideas	<input checked="" type="checkbox"/>
Prototyping and demonstration	<input type="checkbox"/>
IPR management incl. technology transfer	<input type="checkbox"/>
Public procurer of results	<input type="checkbox"/>
Private buyer of results	<input type="checkbox"/>
Finance provider (public or private)	<input type="checkbox"/>
Education and training	<input type="checkbox"/>
Contributions from the social sciences or/and the humanities	<input type="checkbox"/>
Other If yes, please specify: (Maximum number of characters allowed: 50)	<input type="checkbox"/>

Administrative forms

List of up to 5 publications, widely-used datasets, software, goods, services, or any other achievements relevant to the call content.

Type of achievement	Short description (Max 500 characters)
Publication	<i>Product Lifecycle Management (PLM) in the Context of Industry 4.0. J Duda, S Oleszek, K Santarek - Advances in Manufacturing III: Volume 2-Production Engineering: Research and Technology Innovations, Industry 4.0, 2022</i>
Publication	<i>Technical product-service systems—a business opportunity for machine industry M Salwin, B Gladysz, K Santarek - Advances in Manufacturing, 2018</i>
Publication	<i>Integration in manufacturing systems K Santarek - Lean Business Systems and Beyond, 2008</i>
Publication	<i>Technology roadmapping as a supporting tool for management of new product development processes in small and medium enterprises A Buczacki, K Santarek - Problemy Eksploatacji, 2016</i>
Publication	<i>Report on how to increase the participation of talented newcomers in Horizon Europe NMP projects, FIT-4-NMP project. Including policy measures and recommendations. 2022</i>

List of up to 5 most relevant previous projects or activities, connected to the subject of this proposal.

Name of Project or Activity	Short description (Max 500 characters)
FIT-4-NMP	<i>FIT-4-NMP "Strategic and targeted support to incentivise talented newcomers to NMP projects under Horizon Europe" is a Horizon 2020 support action which overall objective is to increase the participation of talented newcomers from underrepresented regions in NMP (nanotechnologies, advanced materials and new manufacturing processes) projects. The project takes strategic and targeted approaches to facilitate collaboration across borders and between industry and research organizations.</i>
MULTI-KETs	<i>MULTI-KETs "Preparation and Demonstration of Multi-KETs Pilot Lines Actions" project's goal was to prepare and foster consensus for future actions in Europe focusing on multi-KETs pilot lines. KETs (key enabling technologies) include advanced materials, nanotechnology, micro- and nano-electronics, biotechnology, photonics and advanced manufacturing systems. The state of play was analysed, a compelling vision, a methodology and criteria were developed and demonstration realised.</i>
SBI FOLLOW-UP	<i>Social Business Initiative (SBI) Follow-up: Cooperation between Social Economy Enterprises and Traditional Enterprises. The study aimed to deepen knowledge about cross-sector cooperation relationships between social enterprises and traditional profitmaking enterprises and how to strengthen European social enterprises' ecosystems. The study strived to advance in understanding both organisation-level collaborative behaviours of social enterprises and contextual factors.</i>

Description of any significant infrastructure and/or any major items of technical equipment, relevant to the proposed work.

Name of infrastructure of equipment	Short description (Max 300 characters)

Gender Equality Plan

Does the organization have a Gender Equality Plan (GEP) covering the elements listed below?

☒ Yes ☐ No

Minimum process-related requirements (building blocks) for a GEP

- **Publication:** formal document published on the institution's website and signed by the top management
- **Dedicated resources:** commitment of human resources and gender expertise to implement it.
- **Data collection and monitoring:** sex/gender disaggregated data on personnel (and students for establishments concerned) and annual reporting based on indicators.
- **Training:** Awareness raising/trainings on gender equality and unconscious gender biases for staff and decision-makers.
- **Content-wise, recommended areas** to be **covered** and addressed via concrete measures and targets are:
 - o work-life balance and organisational culture;
 - o gender balance in leadership and decision-making;
 - o gender equality in recruitment and career progression;
 - o integration of the gender dimension into research and teaching content;
 - o measures against gender-based violence including sexual harassment.

Administrative forms

PIC	Legal name
907374667	STIRTEC GMBH

Short name: STIRTEC GMBH

Address

Street	INDUSTRIESTRASSE 41
Town	PREMSTAETTEN
Postcode	8141
Country	Austria
Webpage	www.stirtec.at

Specific Legal Statuses

Legal person	yes
Public body	no
Non-profit	no
International organisation	no
Secondary or Higher education establishment	no
Research organisation	no

SME Data

Based on the below details from the Participant Registry the organisation is an SME (small- and medium-sized enterprise) for the call.

SME self-declared status	07/01/2020 - yes
SME self-assessment	31/12/2018 - yes
SME validation	unknown

Administrative forms

Departments carrying out the proposed work

No department involved

Department name

Name of the department/institute carrying out the work.

☒ not applicable

☐ Same as proposing organisation's address

Street

Please enter street name and number.

Town

Please enter the name of the town.

Postcode

Area code.

Country

Please select a country

Links with other participants

Type of link	Participant
--------------	-------------

Administrative forms

Main contact person

This will be the person the EU services will contact concerning this proposal (e.g. for additional information, invitation to hearings, sending of evaluation results, convocation to start grant preparation). The data in blue is read-only. Details (name, first name and e-mail) of Main Contact persons should be edited in the step "Participants" of the submission wizard.

Title

Gender

☐

Woman

☒

Man

☐

Non Binary

First name* **Thomas**

Last name* **Weinberger**

E-Mail* **thomas.weinberger@stirtec.at**

Position in org. **Project manger**

Department **STIRTEC GMBH**

☒

Same as organisation
name

☒ Same as proposing organisation's address

Street **INDUSTRIESTRASSE 41**

Town **PREMSTAETTEN**

Post code **8141**

Country **Austria**

Website *Please enter website*

Phone *+XXX XXXXXXXXXX*

Phone 2

+XXX XXXXXXXXXX

Administrative forms

Researchers involved in the proposal

Title	First Name	Last Name	Gender	Nationality	E-mail	Career Stage	Role of researcher (in the project)	Reference Identifier	Type of identifier
Dr	Thomas	Weinberger	Man	Austria	thomas.weinberger@stirtec.at	Category A Top grade re	Leading		
Mr	Gunter	Figner	Man	Austria	gunter.figner@stirtec.at	Category B Senior resea	Team member		
Mr	Lucas	Oppeneiger	Man	Austria	lucas.oppeineiger@stirtec.at	Category C Recognised	Team member		
Mr	Paul	Jaritz	Man	Austria	paul.jaritz@stirtec.at	Category D First stage r	Team member		

Administrative forms

Role of participating organisation in the project

Project management	<input type="checkbox"/>
Communication, dissemination and engagement	<input type="checkbox"/>
Provision of research and technology infrastructure	<input checked="" type="checkbox"/>
Co-definition of research and market needs	<input checked="" type="checkbox"/>
Civil society representative	<input type="checkbox"/>
Policy maker or regulator, incl. standardisation body	<input type="checkbox"/>
Research performer	<input type="checkbox"/>
Technology developer	<input checked="" type="checkbox"/>
Testing/validation of approaches and ideas	<input checked="" type="checkbox"/>
Prototyping and demonstration	<input checked="" type="checkbox"/>
IPR management incl. technology transfer	<input checked="" type="checkbox"/>
Public procurer of results	<input type="checkbox"/>
Private buyer of results	<input checked="" type="checkbox"/>
Finance provider (public or private)	<input type="checkbox"/>
Education and training	<input type="checkbox"/>
Contributions from the social sciences or/and the humanities	<input type="checkbox"/>
Other If yes, please specify: (Maximum number of characters allowed: 50)	<input type="checkbox"/>

Administrative forms

List of up to 5 publications, widely-used datasets, software, goods, services, or any other achievements relevant to the call content.

Type of achievement	Short description (Max 500 characters)

List of up to 5 most relevant previous projects or activities, connected to the subject of this proposal.

Name of Project or Activity	Short description (Max 500 characters)

Description of any significant infrastructure and/or any major items of technical equipment, relevant to the proposed work.

Name of infrastructure of equipment	Short description (Max 300 characters)
Stirpower Series machines	Friction stir welding machines used for verification and testing of the concept and generation of real-life data by customers

Gender Equality Plan

Does the organization have a Gender Equality Plan (GEP) covering the elements listed below?

☐ Yes ☒ No

Minimum process-related requirements (building blocks) for a GEP

- **Publication:** formal document published on the institution's website and signed by the top management
- **Dedicated resources:** commitment of human resources and gender expertise to implement it.
- **Data collection and monitoring:** sex/gender disaggregated data on personnel (and students for establishments concerned) and annual reporting based on indicators.
- **Training:** Awareness raising/trainings on gender equality and unconscious gender biases for staff and decision-makers.
- **Content-wise, recommended areas** to be **covered** and addressed via concrete measures and targets are:
 - o work-life balance and organisational culture;
 - o gender balance in leadership and decision-making;
 - o gender equality in recruitment and career progression;
 - o integration of the gender dimension into research and teaching content;
 - o measures against gender-based violence including sexual harassment.

Administrative forms

PIC	Legal name
951502877	Hubert Schmitz GmbH

Short name: Hubert Schmitz GmbH

Address

Street	Aphovener Straße 75-77
Town	Heinsberg
Postcode	52525
Country	Germany
Webpage	www.s-gard.de

Specific Legal Statuses

Legal person	yes
Public body	no
Non-profit	no
International organisation	no
Secondary or Higher education establishment	no
Research organisation	no

SME Data

Based on the below details from the Participant Registry the organisation is an SME (small- and medium-sized enterprise) for the call.

SME self-declared status	17/12/2012 - yes
SME self-assessment	unknown
SME validation	unknown

Administrative forms

Departments carrying out the proposed work

No department involved

Department name

Name of the department/institute carrying out the work.

☒ not applicable

☐ Same as proposing organisation's address

Street

Please enter street name and number.

Town

Please enter the name of the town.

Postcode

Area code.

Country

Please select a country

Links with other participants

Type of link	Participant
--------------	-------------

Administrative forms

Main contact person

This will be the person the EU services will contact concerning this proposal (e.g. for additional information, invitation to hearings, sending of evaluation results, convocation to start grant preparation). The data in blue is read-only. Details (name, first name and e-mail) of Main Contact persons should be edited in the step "Participants" of the submission wizard.

Title

Gender

☐ Woman

☒ Man

☐ Non Binary

First name*

Jonas

Last name*

Kuschnir

E-Mail*

jonas.kuschnir@s-gard.de

Position in org.

Head of Product Development

Department

Hubert Schmitz GmbH

☒ Same as organisation name

☒ Same as proposing organisation's address

Street

Aphovener Straße 75-77

Town

Heinsberg

Post code

52525

Country

Germany

Website

Please enter website

Phone

+XXX XXXXXXXXXX

Phone 2

+XXX XXXXXXXXXX

Other contact persons

First Name	Last Name	E-mail	Phone
Lea	Schmitz	lea.schmitz@s-gard.de	+XXX XXXXXXXXXX
Nicole	Toeller	nicole.toeller@s-gard.de	+XXX XXXXXXXXXX

Administrative forms

Researchers involved in the proposal

Title	First Name	Last Name	Gender	Nationality	E-mail	Career Stage	Role of researcher (in the project)	Reference Identifier	Type of identifier

Administrative forms

Role of participating organisation in the project

Project management	<input type="checkbox"/>
Communication, dissemination and engagement	<input type="checkbox"/>
Provision of research and technology infrastructure	<input checked="" type="checkbox"/>
Co-definition of research and market needs	<input type="checkbox"/>
Civil society representative	<input type="checkbox"/>
Policy maker or regulator, incl. standardisation body	<input type="checkbox"/>
Research performer	<input type="checkbox"/>
Technology developer	<input type="checkbox"/>
Testing/validation of approaches and ideas	<input checked="" type="checkbox"/>
Prototyping and demonstration	<input type="checkbox"/>
IPR management incl. technology transfer	<input type="checkbox"/>
Public procurer of results	<input type="checkbox"/>
Private buyer of results	<input type="checkbox"/>
Finance provider (public or private)	<input type="checkbox"/>
Education and training	<input checked="" type="checkbox"/>
Contributions from the social sciences or/and the humanities	<input type="checkbox"/>
Other If yes, please specify: (Maximum number of characters allowed: 50)	<input type="checkbox"/>

Administrative forms

List of up to 5 publications, widely-used datasets, software, goods, services, or any other achievements relevant to the call content.

Type of achievement	Short description (Max 500 characters)

List of up to 5 most relevant previous projects or activities, connected to the subject of this proposal.

Name of Project or Activity	Short description (Max 500 characters)
SewGuide (KMU-innovativ, 02K19K013)	<i>The goal of the research project SewGuide was to address the perspectively declining numbers of sewing experts by incorporating digital technologies in the handcraft to support experts in the training of beginners and conserve both craft and processual knowledge. The development phase was aligned with the needs and restrictions of workers and resulted in two digitalised sewing machines accompanied by a digital learning platform, which in testing promised both acceptance and effectiveness.</i>

Description of any significant infrastructure and/or any major items of technical equipment, relevant to the proposed work.

Name of infrastructure of equipment	Short description (Max 300 characters)
Sewing Facilities	<i>Hubert Schmitz GmbH - S-GARD has a sewing facility (development & sample production) in Heinsberg Germany, and full scale production facilities in Tunisia. The digitalised sewing machines of the SewGuide project are available in Heinsberg.</i>

Gender Equality Plan

Does the organization have a Gender Equality Plan (GEP) covering the elements listed below?

☐ Yes ☒ No

Minimum process-related requirements (building blocks) for a GEP

- **Publication:** formal document published on the institution's website and signed by the top management
- **Dedicated resources:** commitment of human resources and gender expertise to implement it.
- **Data collection and monitoring:** sex/gender disaggregated data on personnel (and students for establishments concerned) and annual reporting based on indicators.
- **Training:** Awareness raising/trainings on gender equality and unconscious gender biases for staff and decision-makers.
- **Content-wise, recommended areas** to be **covered** and addressed via concrete measures and targets are:
 - o work-life balance and organisational culture;
 - o gender balance in leadership and decision-making;
 - o gender equality in recruitment and career progression;
 - o integration of the gender dimension into research and teaching content;
 - o measures against gender-based violence including sexual harassment.

Administrative forms

PIC	Legal name
912983886	B.BRAUN AVITUM ITALY SPA

Short name: B.BRAUN AVITUM ITALY SPA

Address

Street	Via XXV Luglio 11
Town	Mirandola
Postcode	41032
Country	Italy

Webpage

Specific Legal Statuses

Legal person	yes
Public body	no
Non-profit	no
International organisation	no
Secondary or Higher education establishment	no
Research organisation	no

SME Data

Based on the below details from the Participant Registry the organisation is **unknown** (small- and medium-sized enterprise) for the call.

SME self-declared status	unknown
SME self-assessment	unknown
SME validation	unknown

Administrative forms

Departments carrying out the proposed work

No department involved

Department name

Name of the department/institute carrying out the work.

☒ not applicable

☐ Same as proposing organisation's address

Street

Please enter street name and number.

Town

Please enter the name of the town.

Postcode

Area code.

Country

Please select a country

Links with other participants

Type of link	Participant
--------------	-------------

Administrative forms

Main contact person

This will be the person the EU services will contact concerning this proposal (e.g. for additional information, invitation to hearings, sending of evaluation results, convocation to start grant preparation). The data in blue is read-only. Details (name, first name and e-mail) of Main Contact persons should be edited in the step "Participants" of the submission wizard.

Title

Gender

☐

Woman

☒

Man

☐

Non Binary

First name* **Enrico**

Last name* **Corazzari**

E-Mail* **enrico.corazzari@bbraun.com**

Position in org. **Project manger**

Department **B.BRAUN AVITUM ITALY SPA**

☒

Same as organisation name

☒ Same as proposing organisation's address

Street **Via XXV Luglio 11**

Town **Mirandola**

Post code **41032**

Country **Italy**

Website *Please enter website*

Phone *+XXX XXXXXXXXXX*

Phone 2

+XXX XXXXXXXXXX

Administrative forms

Researchers involved in the proposal

Title	First Name	Last Name	Gender	Nationality	E-mail	Career Stage	Role of researcher (in the project)	Reference Identifier	Type of identifier
Mr	Luca	Incerti	Man	Italy	luca.incerti@bbraun.com				
Mr	Matteo	Franchini	Man	Italy	matteo.franchini@bbraun.com				

Administrative forms

Role of participating organisation in the project

Project management	<input type="checkbox"/>
Communication, dissemination and engagement	<input checked="" type="checkbox"/>
Provision of research and technology infrastructure	<input type="checkbox"/>
Co-definition of research and market needs	<input checked="" type="checkbox"/>
Civil society representative	<input type="checkbox"/>
Policy maker or regulator, incl. standardisation body	<input type="checkbox"/>
Research performer	<input checked="" type="checkbox"/>
Technology developer	<input type="checkbox"/>
Testing/validation of approaches and ideas	<input checked="" type="checkbox"/>
Prototyping and demonstration	<input type="checkbox"/>
IPR management incl. technology transfer	<input type="checkbox"/>
Public procurer of results	<input type="checkbox"/>
Private buyer of results	<input type="checkbox"/>
Finance provider (public or private)	<input type="checkbox"/>
Education and training	<input type="checkbox"/>
Contributions from the social sciences or/and the humanities	<input type="checkbox"/>
Other If yes, please specify: (Maximum number of characters allowed: 50)	<input type="checkbox"/>

Administrative forms

List of up to 5 publications, widely-used datasets, software, goods, services, or any other achievements relevant to the call content.

Type of achievement	Short description (Max 500 characters)

List of up to 5 most relevant previous projects or activities, connected to the subject of this proposal.

Name of Project or Activity	Short description (Max 500 characters)

Description of any significant infrastructure and/or any major items of technical equipment, relevant to the proposed work.

Name of infrastructure of equipment	Short description (Max 300 characters)

Gender Equality Plan

Does the organization have a Gender Equality Plan (GEP) covering the elements listed below?

☐ Yes

☒ No

Minimum process-related requirements (building blocks) for a GEP

- **Publication:** formal document published on the institution's website and signed by the top management
- **Dedicated resources:** commitment of human resources and gender expertise to implement it.
- **Data collection and monitoring:** sex/gender disaggregated data on personnel (and students for establishments concerned) and annual reporting based on indicators.
- **Training:** Awareness raising/trainings on gender equality and unconscious gender biases for staff and decision-makers.
- **Content-wise, recommended areas** to be **covered** and addressed via concrete measures and targets are:
 - o work-life balance and organisational culture;
 - o gender balance in leadership and decision-making;
 - o gender equality in recruitment and career progression;
 - o integration of the gender dimension into research and teaching content;
 - o measures against gender-based violence including sexual harassment.

Administrative forms

PIC	Legal name
910945140	SINTEF AS

Short name: SINTEF

Address

Street	STRINDVEGEN 4
Town	TRONDHEIM
Postcode	7034
Country	Norway
Webpage	www.sintef.no

Specific Legal Statuses

Legal person	yes
Public body	no
Non-profit	yes
International organisation	no
Secondary or Higher education establishment	no
Research organisation	yes

SME Data

Based on the below details from the Participant Registry the organisation is not an SME (small- and medium-sized enterprise) for the call.

SME self-declared status	14/01/2022 - no
SME self-assessment	31/12/2021 - no
SME validation	31/12/2021 - no

Administrative forms

Departments carrying out the proposed work

Department 1

Department name	SINTEF Digital, Software Engineering, Safety and Security	<input type="checkbox"/> not applicable
	<input checked="" type="checkbox"/> Same as proposing organisation's address	
Street	STRINDVEGEN 4	
Town	TRONDHEIM	
Postcode	7034	
Country	Norway	

Links with other participants

Type of link	Participant
--------------	-------------

Administrative forms

Main contact person

This will be the person the EU services will contact concerning this proposal (e.g. for additional information, invitation to hearings, sending of evaluation results, convocation to start grant preparation). The data in blue is read-only. Details (name, first name and e-mail) of Main Contact persons should be edited in the step "Participants" of the submission wizard.

Title

Mrs

Gender

☒ Woman

☐ Man

☐ Non Binary

First name*

Line Breivik

Last name*

Thompson

E-Mail*

line.thompson@sintef.no

Position in org.

Business Developer EU

Department

SINTEF Digital, Software Engineering, Safety and Security

☐ Same as organisation name

☒ Same as proposing organisation's address

Street

STRINDVEGEN 4

Town

TRONDHEIM

Post code

7034

Country

Norway

Website

https://www.sintef.no/

Phone

+4740091209

Phone 2

+XXX XXXXXXXXXX

Other contact persons

First Name	Last Name	E-mail	Phone
Geir	Hanssen	geir.k.hanssen@sintef.no	+47 92 49 24 54

Administrative forms

Researchers involved in the proposal

Title	First Name	Last Name	Gender	Nationality	E-mail	Career Stage	Role of researcher (in the project)	Reference Identifier	Type of identifier
Dr	Geir Kjetil	Hanssen	Man	Norway	geir.k.hanssen@sintef.no	Category A Top grade re	Leading	0000-0003-2718-6637	Orcid ID
Dr	Nils Brede	Moe	Man	Norway	nils.b.moe@sintef.no	Category A Top grade re	Team member	0000-0003-2669-0778	Orcid ID
Dr	Astri	Barbala	Woman	Norway	astri.barbala@sintef.no	Category C Recognised	Team member	0000-0002-3087-3350	Orcid ID

Administrative forms

Role of participating organisation in the project

Project management	<input type="checkbox"/>
Communication, dissemination and engagement	<input checked="" type="checkbox"/>
Provision of research and technology infrastructure	<input type="checkbox"/>
Co-definition of research and market needs	<input type="checkbox"/>
Civil society representative	<input type="checkbox"/>
Policy maker or regulator, incl. standardisation body	<input type="checkbox"/>
Research performer	<input checked="" type="checkbox"/>
Technology developer	<input type="checkbox"/>
Testing/validation of approaches and ideas	<input checked="" type="checkbox"/>
Prototyping and demonstration	<input type="checkbox"/>
IPR management incl. technology transfer	<input type="checkbox"/>
Public procurer of results	<input type="checkbox"/>
Private buyer of results	<input type="checkbox"/>
Finance provider (public or private)	<input type="checkbox"/>
Education and training	<input checked="" type="checkbox"/>
Contributions from the social sciences or/and the humanities	<input checked="" type="checkbox"/>
Other If yes, please specify: (Maximum number of characters allowed: 50)	<input type="checkbox"/>

Administrative forms

List of up to 5 publications, widely-used datasets, software, goods, services, or any other achievements relevant to the call content.

Type of achievement	Short description (Max 500 characters)
Publication	Ulfesnes, R., Moe, N.B., Hanssen, G.K., and Buan, T.A. Interrelation of Digitalization and Digital Transformation in a Maritime Company. in Software Business: 13th International Conference, ICSOB 2022, Bolzano, Italy, November 8–11, 2022, Proceedings. 2022: Springer.
Publication	Tkalich, A., Ulfesnes, R., and Moe, N.B. Toward an Agile Product Management: What Do Product Managers Do in Agile Companies? 2022. Cham: Springer International Publishing.
Publication	Moe, N.B., Ulfesnes, R., Stray, V., and Smite, D., Improving Productivity through Corporate Hackathons: A Multiple Case Study of Two Large-scale Agile Organizations. arXiv e-prints, 2021: p. arXiv: 2112.05528.
Publication	Sporsem, T., Tkalich, A., Moe, N.B., and Mikalsen, M. Understanding barriers to internal startups in large organizations: evidence from a globally distributed company. in 2021 IEEE/ACM Joint 15th International Conference on Software and System Processes (ICSSP) and 16th ACM/IEEE International Conference on Global Software Engineering (ICGSE). 2021: IEEE.
Publication	Ravn, J.E., Moe, N.B., Stray, V., and Seim, E.A., Team autonomy and digital transformation: Disruptions and adjustments in a well-established organizational principle. AI & SOCIETY, 2022. 37(2): p. 701-710.

List of up to 5 most relevant previous projects or activities, connected to the subject of this proposal.

Name of Project or Activity	Short description (Max 500 characters)
Transformit	Data-driven digital transformation: The project will explore how we can use data to understand how organizations are transformed, how to support development teams in their work and devise methods for using data to create new products and services.
10xTeams	Third-generation large-scale method for software innovation in autonomous teams https://www.sintef.no/en/projects/2020/10xteams-third-generation-large-scale-method-for-software-innovation-in-autonomous-teams/
Digital Class	Method for experiment-based digital product innovation https://www.sintef.no/prosjekter/2020/digital-class/
Agile 2.0	This project developed a knowledge-based model of software development to understand and improve distributed agile development, large-scale agile development and use of agile methods in developing safety-critical software. http://smidig.org/agil-2-0/
A-Team	The project will address three core themes in relation to team autonomy: leadership, coordination and knowledge management. The four business partners are Kantega, Knowit, Skandiabanken and Storebrand. https://www.sintef-no.translate.google/prosjekter/2017/a-team/?_x_tr_sl=no&_x_tr_tl=en&_x_tr_hl=no&_x_tr_pto=wapp

Description of any significant infrastructure and/or any major items of technical equipment, relevant to the proposed work.

Name of infrastructure of equipment	Short description (Max 300 characters)
The SafeScrum® method framework	The SafeScrum® method framework https://www.sintef.no/en/digital/departments-new/software-engineering-safety-and-security/system-safety/safescrum/
Action-research	We do action-research, meaning we always work with practice (industry and public sector). We gather empirical data to understand a problem situation (e.g. software teams not working optimally), which is used to propose improvement actions (e.g. apply agile coaching), which is implemented in practice

Gender Equality Plan

Does the organization have a Gender Equality Plan (GEP) covering the elements listed below?

☒ Yes ☐ No

Minimum process-related requirements (building blocks) for a GEP

- **Publication:** formal document published on the institution's website and signed by the top management
- **Dedicated resources:** commitment of human resources and gender expertise to implement it.
- **Data collection and monitoring:** sex/gender disaggregated data on personnel (and students for establishments concerned) and annual reporting based on indicators.
- **Training:** Awareness raising/trainings on gender equality and unconscious gender biases for staff and decision-makers.
- **Content-wise, recommended areas** to be **covered** and addressed via concrete measures and targets are:
 - o work-life balance and organisational culture;
 - o gender balance in leadership and decision-making;
 - o gender equality in recruitment and career progression;
 - o integration of the gender dimension into research and teaching content;
 - o measures against gender-based violence including sexual harassment.

Administrative forms

PIC	Legal name
891355796	INTRACT INOVASYON DANISMANLIK LIMITED SIRKETI

Short name: INTRACT INOVASYON DANISMANLIK LIMITED SIRKETI

Address

Street	BARBAROS MAH BEGONYA SOK NIDAKULE ATAS
Town	ISTANBUL
Postcode	34746
Country	Turkiye
Webpage	www.intract.com.tr

Specific Legal Statuses

Legal person	yes
Public body	no
Non-profit	no
International organisation	no
Secondary or Higher education establishment	no
Research organisation	no

SME Data

Based on the below details from the Participant Registry the organisation is an SME (small- and medium-sized enterprise) for the call.

SME self-declared status	13/03/2018 - yes
SME self-assessment	unknown
SME validation	unknown

Administrative forms

Departments carrying out the proposed work

No department involved

Department name

Name of the department/institute carrying out the work.

☒ not applicable

☐ Same as proposing organisation's address

Street

Please enter street name and number.

Town

Please enter the name of the town.

Postcode

Area code.

Country

Please select a country

Department 2

Department name

Management

☐ not applicable

☒ Same as proposing organisation's address

Street

BARBAROS MAH BEGONYA SOK NIDAKULE ATASEH

Town

ISTANBUL

Postcode

34746

Country

Turkiye

Links with other participants

Type of link	Participant
--------------	-------------

Administrative forms

Main contact person

This will be the person the EU services will contact concerning this proposal (e.g. for additional information, invitation to hearings, sending of evaluation results, convocation to start grant preparation). The data in blue is read-only. Details (name, first name and e-mail) of Main Contact persons should be edited in the step "Participants" of the submission wizard.

TitleMrs

Gender

WomanManNon Binary

First name*Nilay

Last name*Yoruk

E-Mail*nilay@intract.com.tr

Position in org.Managing Director

DepartmentManagement

Same as organisation name

Same as proposing organisation's address

StreetBARBAROS MAH BEGONYA SOK NIDAKULE ATASEHIR BATI NO 1 IC KAPI NO.2

TownISTANBUL

Post code34746

CountryTurkiye

WebsitePlease enter website

Phone+905375104619

Phone 2+XXX XXXXXXXXXX

Other contact persons

First Name	Last Name	E-mail	Phone
Dilan	Bingol	dilan@intract.com.tr	+XXX XXXXXXXXXX
Ayse	Demirhas Kopuz	a.demirhas@intract.com.tr	+XXX XXXXXXXXXX

Administrative forms

Researchers involved in the proposal

Title	First Name	Last Name	Gender	Nationality	E-mail	Career Stage	Role of researcher (in the project)	Reference Identifier	Type of identifier
Mrs	Nilay	Yalcinkaya Yoruk	Woman	Turkiye	nilay@intract.com.tr	Category B Senior resea	Leading	0000-0002-4750-4770	Orcid ID
Ms	Dilan	Bingol	Woman	Turkiye	dilan@intract.com.tr	Category C Recognised	Team member	0000-0002-3477-7817	Orcid ID
Mr	Mahmut Ender	Yalcinkaya	Man	Turkiye	ender@intract.com.tr	Category C Recognised	Team member	0000-0001-5573-8609	Orcid ID
Ms	Kubra	Yurduseven	Woman	Turkiye	k.yurduseven@intract.com.tr	Category C Recognised	Team member	0000-0003-1350-9562	Orcid ID

Administrative forms

Role of participating organisation in the project

Project management	<input checked="" type="checkbox"/>
Communication, dissemination and engagement	<input checked="" type="checkbox"/>
Provision of research and technology infrastructure	<input type="checkbox"/>
Co-definition of research and market needs	<input type="checkbox"/>
Civil society representative	<input type="checkbox"/>
Policy maker or regulator, incl. standardisation body	<input type="checkbox"/>
Research performer	<input type="checkbox"/>
Technology developer	<input type="checkbox"/>
Testing/validation of approaches and ideas	<input type="checkbox"/>
Prototyping and demonstration	<input type="checkbox"/>
IPR management incl. technology transfer	<input checked="" type="checkbox"/>
Public procurer of results	<input type="checkbox"/>
Private buyer of results	<input type="checkbox"/>
Finance provider (public or private)	<input type="checkbox"/>
Education and training	<input type="checkbox"/>
Contributions from the social sciences or/and the humanities	<input type="checkbox"/>
Other If yes, please specify: (Maximum number of characters allowed: 50)	<input checked="" type="checkbox"/>

Stakeholder Analysis & Engagement

Administrative forms

List of up to 5 publications, widely-used datasets, software, goods, services, or any other achievements relevant to the call content.

Type of achievement	Short description (Max 500 characters)
Other achievement	<i>We have experience on dissemination and communication from EnerMan project. https://enerman-h2020.eu/ https://www.linkedin.com/company/enermanh2020 https://twitter.com/EnerManH2020</i>

List of up to 5 most relevant previous projects or activities, connected to the subject of this proposal.

Name of Project or Activity	Short description (Max 500 characters)
EnerMan	<i>The EnerMan (958478) project is about the development of an autonomous energy management system with 8 demonstrations and a wide stakeholder group from different industries. Roles of INTRACT; IPR Management; Dissemination & Communication (Social media management, Brand communication, Organizing events, meetings, and workshops, Stakeholder analysis and external advisory board building).</i>

Description of any significant infrastructure and/or any major items of technical equipment, relevant to the proposed work.

Name of infrastructure of equipment	Short description (Max 300 characters)
Graphical Design Software	<i>It is for brand identity creating and social media management activities.</i>
Patent analysis software	<i>It is for better patent search and analysis.</i>

Gender Equality Plan

Does the organization have a Gender Equality Plan (GEP) covering the elements listed below?

☐ Yes ☒ No

Minimum process-related requirements (building blocks) for a GEP

- **Publication:** formal document published on the institution's website and signed by the top management
- **Dedicated resources:** commitment of human resources and gender expertise to implement it.
- **Data collection and monitoring:** sex/gender disaggregated data on personnel (and students for establishments concerned) and annual reporting based on indicators.
- **Training:** Awareness raising/trainings on gender equality and unconscious gender biases for staff and decision-makers.
- **Content-wise, recommended areas** to be **covered** and addressed via concrete measures and targets are:
 - o work-life balance and organisational culture;
 - o gender balance in leadership and decision-making;
 - o gender equality in recruitment and career progression;
 - o integration of the gender dimension into research and teaching content;
 - o measures against gender-based violence including sexual harassment.

Administrative forms

PIC	Legal name
894671741	Teknorot Otomotiv Urunleri San. ve Tic. A.S.

Short name: TEKNOROT

Address

Street	1. Cadde
Town	Düzce
Postcode	81000
Country	Turkiye
Webpage	www.teknorot.com

Specific Legal Statuses

Legal person	yes
Public body	no
Non-profit	no
International organisation	unknown
Secondary or Higher education establishment	unknown
Research organisation	unknown

SME Data

Based on the below details from the Participant Registry the organisation is **unknown** (small- and medium-sized enterprise) for the call.

SME self-declared status	unknown
SME self-assessment	unknown
SME validation	unknown

Administrative forms

Departments carrying out the proposed work

No department involved

Department name

Name of the department/institute carrying out the work.

☒ not applicable

☐ Same as proposing organisation's address

Street

Please enter street name and number.

Town

Please enter the name of the town.

Postcode

Area code.

Country

Please select a country

Links with other participants

Type of link	Participant
--------------	-------------

Administrative forms

Main contact person

This will be the person the EU services will contact concerning this proposal (e.g. for additional information, invitation to hearings, sending of evaluation results, convocation to start grant preparation). The data in blue is read-only. Details (name, first name and e-mail) of Main Contact persons should be edited in the step "Participants" of the submission wizard.

Title

Mr

Gender

☐ Woman

☒ Man

☐ Non Binary

First name*

Fatih

Last name*

CAGIRANKAYA

E-Mail*

fatih.cagirankaya@teknorot.com

Position in org.

R&D Project Manager

Department

Research and Development

☐ Same as organisation name

☒ Same as proposing organisation's address

Street

1. Cadde

Town

Düzce

Post code

81000

Country

Turkiye

Website

Please enter website

Phone

+90 538 277 61 91

Phone 2

+XXX XXXXXXXXXX

Other contact persons

First Name	Last Name	E-mail	Phone
Ali	YAZGAN	ali.yazgan@teknorot.com	+XXX XXXXXXXXXX
Murat	ARSLANOGLU	murat.arslanoglu@teknorot.com	+XXX XXXXXXXXXX
Kubra	Yurduseven	k.yurduseven@intract.com.tr	+XXX XXXXXXXXXX

Administrative forms

Researchers involved in the proposal

Title	First Name	Last Name	Gender	Nationality	E-mail	Career Stage	Role of researcher (in the project)	Reference Identifier	Type of identifier
Mr	Murat	ARSLANOGLU	Man	Turkiye	murat.arslanoglu@teknorot.com	Category C Recognised	Leading	0000-0003-2995-9699	Orcid ID
Mr	Fatih	CAGIRANKAYA	Man	Turkiye	fatih.cagirankaya@teknorot.com	Category D First stage r	Team member	0000-0002-3537-1659	Orcid ID
Ms	Sevilay	SAGTAN	Woman	Turkiye	sevilay.sagtan@teknorot.com	Category D First stage r	Team member	0009-0001-2598-5550	Orcid ID
Mr	Ali	YAZGAN	Man	Turkiye	ali.yazgan@teknorot.com	Category B Senior resea	Team member	0000-0003-4914-7575	Orcid ID
Mr	Enes	MUTLU	Man	Turkiye	enes.mutlu@teknorot.com	Category D First stage r	Team member	0009-0001-5333-6777	Orcid ID
Ms	Sule	AKTURK	Woman	Turkiye	sule.akturk@teknorot.com	Category C Recognised	Team member	0009-0004-0142-6086	Orcid ID
Ms	Sena	YUKSEL	Woman	Turkiye	sena.yuksel@teknorot.com	Category D First stage r	Team member	0009-0006-3656-1194	Orcid ID

Administrative forms

Role of participating organisation in the project

Project management	<input checked="" type="checkbox"/>
Communication, dissemination and engagement	<input checked="" type="checkbox"/>
Provision of research and technology infrastructure	<input type="checkbox"/>
Co-definition of research and market needs	<input checked="" type="checkbox"/>
Civil society representative	<input type="checkbox"/>
Policy maker or regulator, incl. standardisation body	<input type="checkbox"/>
Research performer	<input type="checkbox"/>
Technology developer	<input type="checkbox"/>
Testing/validation of approaches and ideas	<input checked="" type="checkbox"/>
Prototyping and demonstration	<input checked="" type="checkbox"/>
IPR management incl. technology transfer	<input type="checkbox"/>
Public procurer of results	<input type="checkbox"/>
Private buyer of results	<input type="checkbox"/>
Finance provider (public or private)	<input type="checkbox"/>
Education and training	<input type="checkbox"/>
Contributions from the social sciences or/and the humanities	<input type="checkbox"/>
Other If yes, please specify: (Maximum number of characters allowed: 50)	<input type="checkbox"/>

Administrative forms

List of up to 5 publications, widely-used datasets, software, goods, services, or any other achievements relevant to the call content.

Type of achievement	Short description (Max 500 characters)
Publication	

List of up to 5 most relevant previous projects or activities, connected to the subject of this proposal.

Name of Project or Activity	Short description (Max 500 characters)
SMART COMPOSITE SUSPENSION ARM	It is a project where composite manufacturing is made by adding sensor components with the design optimization of the control arm. Weight reduction, being able to give feedback on the product's life is one of the most important advantages of the project.
SMARTARM	New Sensor Technology Developed to Implement IoT to be Used in Automotive Steering and Suspension Parts
Software for the Automotive Spare Parts Industry	Development of Artificial Intelligence-Based Demand Forecasting Software for the Automotive Spare Parts Industry Thanks to Artificial Intelligence (ML/DL), it is aimed to increase the customer demand forecasting rate from approximately 35% to 85%.
3D Parts Measurement-Packaging Optimization Tool	3D Parts Measurement and Packaging Optimization Tool Design and Development. It enables the selection of the appropriate packaging form with image processing and artificial intelligence software.

Description of any significant infrastructure and/or any major items of technical equipment, relevant to the proposed work.

Name of infrastructure of equipment	Short description (Max 300 characters)
SIEMENS NX	3D CAD/CAM
ANSYS	Structural Analysis Design Optimization
SIMUFACT	Forging Simulation Non-Linear Analysis
AUTOFORM	Sheet Metal Process Simulation
nCODE DESING LIFE	Lifetime Simulation
Uipath	It is used in the development of RPA applications. (Robotic Process Automation)
Autom Mate	It is used in the development of RPA applications.
PYTHON	It is the language of programming.
Power BI	Business analysis service.

Gender Equality Plan

Does the organization have a Gender Equality Plan (GEP) covering the elements listed below?

☐ Yes

☒ No

Minimum process-related requirements (building blocks) for a GEP

- **Publication:** formal document published on the institution's website and signed by the top management
- **Dedicated resources:** commitment of human resources and gender expertise to implement it.
- **Data collection and monitoring:** sex/gender disaggregated data on personnel (and students for establishments concerned) and annual reporting based on indicators.
- **Training:** Awareness raising/trainings on gender equality and unconscious gender biases for staff and decision-makers.
- **Content-wise, recommended areas** to be **covered** and addressed via concrete measures and targets are:
 - o work-life balance and organisational culture;
 - o gender balance in leadership and decision-making;
 - o gender equality in recruitment and career progression;
 - o integration of the gender dimension into research and teaching content;
 - o measures against gender-based violence including sexual harassment.

Administrative forms

PIC	Legal name
999939342	LATVIJAS TEHNOLOGISKAIS CENTRS NODIBINAJUMS

Short name: LTC

Address

Street	KRIVU IELA 11
Town	RIGA
Postcode	LV-1006
Country	Latvia
Webpage	www.innovation.lv/ltc

Specific Legal Statuses

Legal person	yes
Public body	no
Non-profit	yes
International organisation	no
Secondary or Higher education establishment	no
Research organisation	yes

SME Data

Based on the below details from the Participant Registry the organisation is not an SME (small- and medium-sized enterprise) for the call.

SME self-declared status	10/06/1993 - no
SME self-assessment	unknown
SME validation	unknown

Administrative forms

Departments carrying out the proposed work

No department involved

Department name

Name of the department/institute carrying out the work.

☒ not applicable

☐ Same as proposing organisation's address

Street

Please enter street name and number.

Town

Please enter the name of the town.

Postcode

Area code.

Country

Please select a country

Links with other participants

Type of link	Participant
--------------	-------------

Administrative forms

Main contact person

This will be the person the EU services will contact concerning this proposal (e.g. for additional information, invitation to hearings, sending of evaluation results, convocation to start grant preparation). The data in blue is read-only. Details (name, first name and e-mail) of Main Contact persons should be edited in the step "Participants" of the submission wizard.

Title **Mr**

Gender ☐ Woman ☒ Man ☐ Non Binary

First name* **Ints**

Last name* **Viksna**

E-Mail* **ints.viksna@techcenter.lv**

Position in org. **Chairman of Board, Director**

Department **LATVIJAS TEHNOLOGISKAIS CENTRS NODIBINAJUMS**

☒ Same as organisation name

☒ Same as proposing organisation's address

Street **KRIVU IELA 11**

Town **RIGA**

Post code **LV-1006**

Country **Latvia**

Website **www.innovation.lv/ltc**

Phone **+37126553532**

Phone 2 **+XXX XXXXXXXXXX**

Administrative forms

Researchers involved in the proposal

Title	First Name	Last Name	Gender	Nationality	E-mail	Career Stage	Role of researcher (in the project)	Reference Identifier	Type of identifier	
Ms	Agnese	Kore	Woman	Latvia	agnese.kore@techcenter.lv	Category B Senior research	Team member		Other ID	LTC

Administrative forms

Role of participating organisation in the project

Project management	<input checked="" type="checkbox"/>
Communication, dissemination and engagement	<input checked="" type="checkbox"/>
Provision of research and technology infrastructure	<input type="checkbox"/>
Co-definition of research and market needs	<input checked="" type="checkbox"/>
Civil society representative	<input type="checkbox"/>
Policy maker or regulator, incl. standardisation body	<input type="checkbox"/>
Research performer	<input type="checkbox"/>
Technology developer	<input type="checkbox"/>
Testing/validation of approaches and ideas	<input checked="" type="checkbox"/>
Prototyping and demonstration	<input type="checkbox"/>
IPR management incl. technology transfer	<input type="checkbox"/>
Public procurer of results	<input type="checkbox"/>
Private buyer of results	<input type="checkbox"/>
Finance provider (public or private)	<input type="checkbox"/>
Education and training	<input checked="" type="checkbox"/>
Contributions from the social sciences or/and the humanities	<input type="checkbox"/>
Other If yes, please specify: (Maximum number of characters allowed: 50)	<input type="checkbox"/>

Administrative forms

List of up to 5 publications, widely-used datasets, software, goods, services, or any other achievements relevant to the call content.

Type of achievement	Short description (Max 500 characters)

List of up to 5 most relevant previous projects or activities, connected to the subject of this proposal.

Name of Project or Activity	Short description (Max 500 characters)
ENTERPRISE EUROPE NETWORK	<i>The Enterprise Europe Network (EEN) helps businesses innovate and grow on an international scale. It is the world's largest support network for SMEs with international ambitions. The Network is active worldwide.</i>
ADMA TranS4Mers	<i>ADMA TranS4Mers (Advanced Manufacturing assistance and training for SME Transformation) accelerate factories to become Factories of the Future embracing the ecological, digital, and societal challenges. It's done via a smart combination of an all-connecting community platform in combination with toolboxes, virtual and physical training activities, assistance programs, tailor-made training content in all relevant technology areas and set of applications.</i>
FIT-4-NMP	<i>In the FIT-4-NMP the analytical work on project/proposal participation was performed, specifically covering topics relevant to manufacturing. Additionally, the project organized survey of actors and has a task of formulating and communicating best practices and recommendations to relevant stakeholders. The outcomes of these activities and lessons learned can be shared within the PROSPECTS5.0 consortium.</i>

Description of any significant infrastructure and/or any major items of technical equipment, relevant to the proposed work.

Name of infrastructure of equipment	Short description (Max 300 characters)

Gender Equality Plan

Does the organization have a Gender Equality Plan (GEP) covering the elements listed below?

☒ Yes ☐ No

Minimum process-related requirements (building blocks) for a GEP

- **Publication:** formal document published on the institution's website and signed by the top management
- **Dedicated resources:** commitment of human resources and gender expertise to implement it.
- **Data collection and monitoring:** sex/gender disaggregated data on personnel (and students for establishments concerned) and annual reporting based on indicators.
- **Training:** Awareness raising/trainings on gender equality and unconscious gender biases for staff and decision-makers.
- **Content-wise, recommended areas** to be **covered** and addressed via concrete measures and targets are:
 - o work-life balance and organisational culture;
 - o gender balance in leadership and decision-making;
 - o gender equality in recruitment and career progression;
 - o integration of the gender dimension into research and teaching content;
 - o measures against gender-based violence including sexual harassment.

Administrative forms

PIC	Legal name
894777762	Knowit Objectnet AS

Short name: Knowit Objectnet AS

Address

Street	Lakkegata 51
Town	Oslo
Postcode	0135
Country	Norway
Webpage	www.knowit.no

Specific Legal Statuses

Legal person	yes
Public body	no
Non-profit	no
International organisation	unknown
Secondary or Higher education establishment	unknown
Research organisation	unknown

SME Data

Based on the below details from the Participant Registry the organisation is **unknown** (small- and medium-sized enterprise) for the call.

SME self-declared status	unknown
SME self-assessment	unknown
SME validation	unknown

Administrative forms

Departments carrying out the proposed work

No department involved

Department name

Name of the department/institute carrying out the work.

☒ not applicable

☐ Same as proposing organisation's address

Street

Please enter street name and number.

Town

Please enter the name of the town.

Postcode

Area code.

Country

Please select a country

Links with other participants

Type of link	Participant
--------------	-------------

Administrative forms

Main contact person

This will be the person the EU services will contact concerning this proposal (e.g. for additional information, invitation to hearings, sending of evaluation results, convocation to start grant preparation). The data in blue is read-only. Details (name, first name and e-mail) of Main Contact persons should be edited in the step "Participants" of the submission wizard.

Title **Mr**

Gender ☐ Woman ☒ Man ☐ Non Binary

First name* **Jan Henrik**

Last name* **Gundelsby**

E-Mail* **jhg@knowit.no**

Position in org. **Head of R&D**

Department **Knowit Solutions**

☐ Same as organisation name

☐ Same as proposing organisation's address

Street **Universitetsgata 1**

Town **Oslo**

Post code **0164**

Country **Norway**

Website **https://knowit.no**

Phone **+4790181940**

Phone 2 **+XXX XXXXXXXXXX**

Administrative forms

Researchers involved in the proposal

Title	First Name	Last Name	Gender	Nationality	E-mail	Career Stage	Role of researcher (in the project)	Reference Identifier	Type of identifier
Mr	Jan Henrik	Gundelsby	Man	Norway	jhg@knowit.no	Category D First stage r	Team member		

Administrative forms

Role of participating organisation in the project

Project management	<input type="checkbox"/>
Communication, dissemination and engagement	<input checked="" type="checkbox"/>
Provision of research and technology infrastructure	<input checked="" type="checkbox"/>
Co-definition of research and market needs	<input checked="" type="checkbox"/>
Civil society representative	<input type="checkbox"/>
Policy maker or regulator, incl. standardisation body	<input type="checkbox"/>
Research performer	<input checked="" type="checkbox"/>
Technology developer	<input checked="" type="checkbox"/>
Testing/validation of approaches and ideas	<input type="checkbox"/>
Prototyping and demonstration	<input type="checkbox"/>
IPR management incl. technology transfer	<input type="checkbox"/>
Public procurer of results	<input type="checkbox"/>
Private buyer of results	<input type="checkbox"/>
Finance provider (public or private)	<input type="checkbox"/>
Education and training	<input checked="" type="checkbox"/>
Contributions from the social sciences or/and the humanities	<input type="checkbox"/>
Other If yes, please specify: (Maximum number of characters allowed: 50)	<input type="checkbox"/>

Administrative forms

List of up to 5 publications, widely-used datasets, software, goods, services, or any other achievements relevant to the call content.

Type of achievement	Short description (Max 500 characters)
Publication	<i>Sporsem, T., Moe N.B. Coordination Strategies When Working from Anywhere: A Case Study of Two Agile Teams, XP2022 https://arxiv.org/ftp/arxiv/papers/2204/2204.03978.pdf</i>
Publication	<i>Stray, V., Gundelsby, J.H., Ulfesnes, R., Moe, N.B. How agile teams make Objectives and Key Results (OKRs) work, ICSSP 2022 https://www.researchgate.net/publication/359867764_How_agile_teams_make_Objectives_and_Key_Results_OKRs_work</i>
Publication	<i>Vestues, K., Hanssen, G.K., Mikalsen, M., Buan, T., Conboy, K. Agile data management in NAV: A Case Study XP2022 https://arxiv.org/ftp/arxiv/papers/2204/2204.09979.pdf</i>
Publication	<i>Smite, D., Moe, N.B., Tklich, A., Hanssen, G.K., Nydal, K., Nøkleberg Sandbæk, J., Wasskog Aamo, H., Hagaseth, A.O., Bekke, S.A., and Holte, M. Half-Empty Offices in Flexible Work Arrangements: Why are Employees Not Returning? 2022 https://arxiv.org/ftp/arxiv/papers/2208/2208.12797.pdf</i>
Other achievement	<i>Conference event 2023. In the age of digitization and digital transformation, projects are no longer good enough to be innovative and to be able to deliver what is expected. It is time to move from projects to product development. SINTEF, Knowit and several Norwegian and international companies and actors in the public sector have looked at precisely this and used this conference event to share their insight, research and experience to help others succeed with product development.</i>

List of up to 5 most relevant previous projects or activities, connected to the subject of this proposal.

Name of Project or Activity	Short description (Max 500 characters)
<i>Transformit Data-driven digital transformation</i>	<i>The project will explore how we can use data to understand how organizations are transformed, how to support development teams in their work and devise methods for using data to create new products and services. https://prosjektbanken.forskingsradet.no/en/project/FORISS/321477?Kilde=FORISS&distribution=Ar&chart=bar&calcType=funding&Sprak=no&sortBy=score&sortOrder=desc&resultCount=30&offset=0&Fritekst=knowit</i>
<i>Autonomous Teams</i>	<i>This project explores in real-life work settings, how to enable the right level of team autonomy in autonomous teams from the ICT and finance sectors. The multi-team context implies that there are dependencies to other teams, while the distributed context incurs that the team must deal with geographical dispersion of team members, teams or units. Moreover, The project address three core topics highly relevant considering the issue of team autonomy in organizations; leadership, coordination and k</i>

Description of any significant infrastructure and/or any major items of technical equipment, relevant to the proposed work.

Name of infrastructure of equipment	Short description (Max 300 characters)

Gender Equality Plan

Does the organization have a Gender Equality Plan (GEP) covering the elements listed below?

☒ Yes ☐ No

Minimum process-related requirements (building blocks) for a GEP

- **Publication:** formal document published on the institution's website and signed by the top management
- **Dedicated resources:** commitment of human resources and gender expertise to implement it.
- **Data collection and monitoring:** sex/gender disaggregated data on personnel (and students for establishments concerned) and annual reporting based on indicators.
- **Training:** Awareness raising/trainings on gender equality and unconscious gender biases for staff and decision-makers.
- **Content-wise, recommended areas** to be **covered** and addressed via concrete measures and targets are:
 - o work-life balance and organisational culture;
 - o gender balance in leadership and decision-making;
 - o gender equality in recruitment and career progression;
 - o integration of the gender dimension into research and teaching content;
 - o measures against gender-based violence including sexual harassment.

Administrative forms

PIC	Legal name
882613962	CAMELEO LESNIEWICZ GRADKOWSKA SJ

Short name: CAMELEO LESNIEWICZ GRADKOWSKA SJ

Address

Street	SIKORSKIEGO 139
Town	PSARSKIE
Postcode	63-100
Country	Poland
Webpage	www.cameleo.pl

Specific Legal Statuses

Legal person	yes
Public body	no
Non-profit	no
International organisation	no
Secondary or Higher education establishment	no
Research organisation	no

SME Data

Based on the below details from the Participant Registry the organisation is an SME (small- and medium-sized enterprise) for the call.

SME self-declared status	15/03/2023 - yes
SME self-assessment	unknown
SME validation	unknown

Administrative forms

Departments carrying out the proposed work

No department involved

Department name

Name of the department/institute carrying out the work.

☒ not applicable

☐ Same as proposing organisation's address

Street

Please enter street name and number.

Town

Please enter the name of the town.

Postcode

Area code.

Country

Please select a country

Links with other participants

Type of link	Participant
--------------	-------------

Administrative forms

Main contact person

This will be the person the EU services will contact concerning this proposal (e.g. for additional information, invitation to hearings, sending of evaluation results, convocation to start grant preparation). The data in blue is read-only. Details (name, first name and e-mail) of Main Contact persons should be edited in the step "Participants" of the submission wizard.

Title **Mr**

Gender ☐ Woman ☒ Man ☐ Non Binary

First name* **Mariusz**

Last name* **Gradkowski**

E-Mail* **m.gradkowski@cameleo.pl**

Position in org. **Export Manager**

Department **CAMELEO LESNIEWICZ GRADKOWSKA SJ**

☒ Same as organisation name

☒ Same as proposing organisation's address

Street **SIKORSKIEGO 139**

Town **PSARSKIE**

Post code **63-100**

Country **Poland**

Website **https://cameleo.pl/**

Phone **+48 61 283 58 99**

Phone 2 **+48 509 206 776**

Other contact persons

First Name	Last Name	E-mail	Phone
Robert	Przekop	r.przekop@gmail.com	+48 510 810 681
Anna	Zmiiowska	anna.zmiiowska@technologypartners.pl	+XXX XXXXXXXXX

Administrative forms

Researchers involved in the proposal

Title	First Name	Last Name	Gender	Nationality	E-mail	Career Stage	Role of researcher (in the project)	Reference Identifier	Type of identifier
Mr	Mariusz	Gradkowski	Man	Poland	m.gradkowski@cameleo.pl	Category B Senior resea	Leading		
Mr	Robert	Przekop	Man	Poland	r.przekop@gmail.com	Category B Senior resea	Team member	0000-0002-7355-5803	Orcid ID

Administrative forms

Role of participating organisation in the project

Project management	<input type="checkbox"/>
Communication, dissemination and engagement	<input checked="" type="checkbox"/>
Provision of research and technology infrastructure	<input type="checkbox"/>
Co-definition of research and market needs	<input checked="" type="checkbox"/>
Civil society representative	<input type="checkbox"/>
Policy maker or regulator, incl. standardisation body	<input type="checkbox"/>
Research performer	<input checked="" type="checkbox"/>
Technology developer	<input type="checkbox"/>
Testing/validation of approaches and ideas	<input checked="" type="checkbox"/>
Prototyping and demonstration	<input type="checkbox"/>
IPR management incl. technology transfer	<input type="checkbox"/>
Public procurer of results	<input type="checkbox"/>
Private buyer of results	<input type="checkbox"/>
Finance provider (public or private)	<input type="checkbox"/>
Education and training	<input type="checkbox"/>
Contributions from the social sciences or/and the humanities	<input type="checkbox"/>
Other If yes, please specify: (Maximum number of characters allowed: 50)	<input type="checkbox"/>

Administrative forms

List of up to 5 publications, widely-used datasets, software, goods, services, or any other achievements relevant to the call content.

Type of achievement	Short description (Max 500 characters)

List of up to 5 most relevant previous projects or activities, connected to the subject of this proposal.

Name of Project or Activity	Short description (Max 500 characters)

Description of any significant infrastructure and/or any major items of technical equipment, relevant to the proposed work.

Name of infrastructure of equipment	Short description (Max 300 characters)

Gender Equality Plan

Does the organization have a Gender Equality Plan (GEP) covering the elements listed below?

☐ Yes ☒ No

Minimum process-related requirements (building blocks) for a GEP

- **Publication:** formal document published on the institution's website and signed by the top management
- **Dedicated resources:** commitment of human resources and gender expertise to implement it.
- **Data collection and monitoring:** sex/gender disaggregated data on personnel (and students for establishments concerned) and annual reporting based on indicators.
- **Training:** Awareness raising/trainings on gender equality and unconscious gender biases for staff and decision-makers.
- **Content-wise, recommended areas** to be **covered** and addressed via concrete measures and targets are:
 - o work-life balance and organisational culture;
 - o gender balance in leadership and decision-making;
 - o gender equality in recruitment and career progression;
 - o integration of the gender dimension into research and teaching content;
 - o measures against gender-based violence including sexual harassment.

Administrative forms

PIC	Legal name
907501834	TRYGONS SA

Short name: TRYGONS

Address

Street	KERATEA INDUSTRIAL PARK
Town	Keratea Athens
Postcode	190 01
Country	Greece
Webpage	www.trygons-tech.com

Specific Legal Statuses

Legal person	yes
Public body	no
Non-profit	no
International organisation	no
Secondary or Higher education establishment	no
Research organisation	no

SME Data

Based on the below details from the Participant Registry the organisation is an SME (small- and medium-sized enterprise) for the call.

SME self-declared status	04/12/2007 - yes
SME self-assessment	unknown
SME validation	unknown

Administrative forms

Departments carrying out the proposed work

No department involved

Department name

Name of the department/institute carrying out the work.

☒ not applicable

☐ Same as proposing organisation's address

Street

Please enter street name and number.

Town

Please enter the name of the town.

Postcode

Area code.

Country

Please select a country

Links with other participants

Type of link	Participant
--------------	-------------

Administrative forms

Main contact person

This will be the person the EU services will contact concerning this proposal (e.g. for additional information, invitation to hearings, sending of evaluation results, convocation to start grant preparation). The data in blue is read-only. Details (name, first name and e-mail) of Main Contact persons should be edited in the step "Participants" of the submission wizard.

Title

Ms

Gender

☒ Woman

☐ Man

☐ Non Binary

First name*

Kozel

Last name*

Williams

E-Mail*

k.williams@trygons.com

Position in org.

Communications Manager

Department

TRYGONS SA

☒ Same as organisation name

☒ Same as proposing organisation's address

Street

KERATEA INDUSTRIAL PARK

Town

Keratea Athens

Post code

190 01

Country

Greece

Website

www.trygons-tech.com

Phone

+302299068649

Phone 2

+306937859023

Other contact persons

First Name	Last Name	E-mail	Phone
Alexandros	Sarasitis	a.sarasitis@trygons.com	+306937859023

Administrative forms

Researchers involved in the proposal

Title	First Name	Last Name	Gender	Nationality	E-mail	Career Stage	Role of researcher (in the project)	Reference Identifier	Type of identifier

Administrative forms

Role of participating organisation in the project

Project management	<input type="checkbox"/>
Communication, dissemination and engagement	<input type="checkbox"/>
Provision of research and technology infrastructure	<input checked="" type="checkbox"/>
Co-definition of research and market needs	<input checked="" type="checkbox"/>
Civil society representative	<input type="checkbox"/>
Policy maker or regulator, incl. standardisation body	<input type="checkbox"/>
Research performer	<input type="checkbox"/>
Technology developer	<input checked="" type="checkbox"/>
Testing/validation of approaches and ideas	<input checked="" type="checkbox"/>
Prototyping and demonstration	<input type="checkbox"/>
IPR management incl. technology transfer	<input type="checkbox"/>
Public procurer of results	<input type="checkbox"/>
Private buyer of results	<input type="checkbox"/>
Finance provider (public or private)	<input type="checkbox"/>
Education and training	<input type="checkbox"/>
Contributions from the social sciences or/and the humanities	<input type="checkbox"/>
Other If yes, please specify: (Maximum number of characters allowed: 50)	<input type="checkbox"/>

Administrative forms

List of up to 5 publications, widely-used datasets, software, goods, services, or any other achievements relevant to the call content.

Type of achievement	Short description (Max 500 characters)

List of up to 5 most relevant previous projects or activities, connected to the subject of this proposal.

Name of Project or Activity	Short description (Max 500 characters)
TrySMART Project (L4MS Logistics for Manufacturi	The TrySMARTProject aimed to automate the transport of heavy manufacturing moulds in TRYGONS using AGVs (Autonomous Guided Vehicles) and digitizing the process. The project was conducted in collaboration with the ICCS Institute of Communication and Computer Systems and the National and Kapodistrian University of Athens. The results showed the successful design and implementation of a technological solution, proof of concept validation, and the potential for full exploitation with 4-5 AGV kits op
VirtFuse (Kyklos)	The Resin Vacuum Infusion Process (RVIP) is a cost-effective method for producing large composite parts, such as yacht components, automobile cabins, and wind turbine blades. VirtFuse is an advanced digital twin of the RVIP system that provides real-time data on resin curing levels and predicts optimal catalyst/resin ratios for the next cycle. Our project aims to create an AI model that adjusts the catalyst/resin ratio based on room temperature, preventing premature or slow curing and ensuring h

Description of any significant infrastructure and/or any major items of technical equipment, relevant to the proposed work.

Name of infrastructure of equipment	Short description (Max 300 characters)
KUKA robots (3)	Articulated 6-axis robots
AGV	AGV driven manufacturing mould
16m fully automated painting room	A 16m fully automated painting room is a 16-meter long facility that uses robots and automated equipment for painting tasks, commonly found in the automotive, aerospace, and manufacturing industries. Key components include industrial painting robots, paint supply systems, conveyor systems, ventilati
Curing sensor	Resistance resin curing sensor with integrated temperature sensor
Direct robot SW	In-house automating software for direct CAD to robot programming connection.

Gender Equality Plan

Does the organization have a Gender Equality Plan (GEP) covering the elements listed below?

☐ Yes ☒ No

Minimum process-related requirements (building blocks) for a GEP

- **Publication:** formal document published on the institution's website and signed by the top management
- **Dedicated resources:** commitment of human resources and gender expertise to implement it.
- **Data collection and monitoring:** sex/gender disaggregated data on personnel (and students for establishments concerned) and annual reporting based on indicators.
- **Training:** Awareness raising/trainings on gender equality and unconscious gender biases for staff and decision-makers.
- **Content-wise, recommended areas** to be **covered** and addressed via concrete measures and targets are:
 - o work-life balance and organisational culture;
 - o gender balance in leadership and decision-making;
 - o gender equality in recruitment and career progression;
 - o integration of the gender dimension into research and teaching content;
 - o measures against gender-based violence including sexual harassment.

Administrative forms

PIC	Legal name
952409051	AMF, LDA

Short name: AMF, LDA

Address

Street	RUA S. CIPRIANO 658
Town	GUIMARAES TABUADELO
Postcode	4835 461
Country	Portugal
Webpage	www.2work4.pt

Specific Legal Statuses

Legal person	yes
Public body	no
Non-profit	no
International organisation	no
Secondary or Higher education establishment	no
Research organisation	no

SME Data

Based on the below details from the Participant Registry the organisation is an SME (small- and medium-sized enterprise) for the call.

SME self-declared status	23/10/2012 - yes
SME self-assessment	unknown
SME validation	23/10/2012 - yes

Administrative forms

Departments carrying out the proposed work

No department involved

Department name

Name of the department/institute carrying out the work.

☒ not applicable

☐ Same as proposing organisation's address

Street

Please enter street name and number.

Town

Please enter the name of the town.

Postcode

Area code.

Country

Please select a country

Links with other participants

Type of link	Participant
--------------	-------------

Administrative forms

Main contact person

This will be the person the EU services will contact concerning this proposal (e.g. for additional information, invitation to hearings, sending of evaluation results, convocation to start grant preparation). The data in blue is read-only. Details (name, first name and e-mail) of Main Contact persons should be edited in the step "Participants" of the submission wizard.

Title

Gender

☐

Woman

☒

Man

☐

Non Binary

First name* **Tiago**

Last name* **Machado**

E-Mail* **tiagomachado@amfshoes.com**

Position in org. **Project manger**

Department **AMF, LDA**

☒

Same as organisation name

☒ Same as proposing organisation's address

Street **RUA S. CIPRIANO 658**

Town **GUIMARAES TABUADELO**

Post code **4835 461**

Country **Portugal**

Website *Please enter website*

Phone *+XXX XXXXXXXXXX*

Phone 2

+XXX XXXXXXXXXX

Administrative forms

Researchers involved in the proposal

Title	First Name	Last Name	Gender	Nationality	E-mail	Career Stage	Role of researcher (in the project)	Reference Identifier	Type of identifier

Administrative forms

Role of participating organisation in the project

Project management	<input type="checkbox"/>
Communication, dissemination and engagement	<input checked="" type="checkbox"/>
Provision of research and technology infrastructure	<input checked="" type="checkbox"/>
Co-definition of research and market needs	<input checked="" type="checkbox"/>
Civil society representative	<input type="checkbox"/>
Policy maker or regulator, incl. standardisation body	<input type="checkbox"/>
Research performer	<input checked="" type="checkbox"/>
Technology developer	<input type="checkbox"/>
Testing/validation of approaches and ideas	<input checked="" type="checkbox"/>
Prototyping and demonstration	<input type="checkbox"/>
IPR management incl. technology transfer	<input type="checkbox"/>
Public procurer of results	<input type="checkbox"/>
Private buyer of results	<input type="checkbox"/>
Finance provider (public or private)	<input type="checkbox"/>
Education and training	<input type="checkbox"/>
Contributions from the social sciences or/and the humanities	<input type="checkbox"/>
Other If yes, please specify: (Maximum number of characters allowed: 50)	<input type="checkbox"/>

Administrative forms

List of up to 5 publications, widely-used datasets, software, goods, services, or any other achievements relevant to the call content.

Type of achievement	Short description (Max 500 characters)

List of up to 5 most relevant previous projects or activities, connected to the subject of this proposal.

Name of Project or Activity	Short description (Max 500 characters)

Description of any significant infrastructure and/or any major items of technical equipment, relevant to the proposed work.

Name of infrastructure of equipment	Short description (Max 300 characters)

Gender Equality Plan

Does the organization have a Gender Equality Plan (GEP) covering the elements listed below?

☐ Yes

☒ No

Minimum process-related requirements (building blocks) for a GEP

- **Publication:** formal document published on the institution's website and signed by the top management
- **Dedicated resources:** commitment of human resources and gender expertise to implement it.
- **Data collection and monitoring:** sex/gender disaggregated data on personnel (and students for establishments concerned) and annual reporting based on indicators.
- **Training:** Awareness raising/trainings on gender equality and unconscious gender biases for staff and decision-makers.
- **Content-wise, recommended areas** to be **covered** and addressed via concrete measures and targets are:
 - o work-life balance and organisational culture;
 - o gender balance in leadership and decision-making;
 - o gender equality in recruitment and career progression;
 - o integration of the gender dimension into research and teaching content;
 - o measures against gender-based violence including sexual harassment.

Administrative forms

PIC	Legal name
882488541	ELMI SIA

Short name: ELMI SIA

Address

Street	Bukultu iela 7B
Town	Riga
Postcode	LV-1005
Country	Latvia
Webpage	https://elmi-tech.com/

Specific Legal Statuses

Legal person	yes
Public body	no
Non-profit	no
International organisation	no
Secondary or Higher education establishment	no
Research organisation	no

SME Data

Based on the below details from the Participant Registry the organisation is an SME (small- and medium-sized enterprise) for the call.

SME self-declared status	21/03/2023 - yes
SME self-assessment	unknown
SME validation	unknown

Administrative forms

Departments carrying out the proposed work

No department involved

Department name

Name of the department/institute carrying out the work.

☒ not applicable

☐ Same as proposing organisation's address

Street

Please enter street name and number.

Town

Please enter the name of the town.

Postcode

Area code.

Country

Please select a country

Links with other participants

Type of link	Participant
--------------	-------------

Administrative forms

Main contact person

This will be the person the EU services will contact concerning this proposal (e.g. for additional information, invitation to hearings, sending of evaluation results, convocation to start grant preparation). The data in blue is read-only. Details (name, first name and e-mail) of Main Contact persons should be edited in the step "Participants" of the submission wizard.

Title	Mr	Gender	<input type="radio"/> Woman	<input checked="" type="radio"/> Man	<input type="radio"/> Non Binary
First name*	Ivan	Last name*	Mironov		
E-Mail*	ivan.mironov@elmi-tech.com				
Position in org.	CEO				
Department	ELMI SIA			<input checked="" type="checkbox"/>	Same as organisation name
	<input checked="" type="checkbox"/> Same as proposing organisation's address				
Street	Bukultu iela 7B				
Town	Riga	Post code	LV-1005		
Country	Latvia				
Website	www.elmi-tech.com				
Phone	+371 6755 8743	Phone 2	+XXX XXXXXXXXXX		

Administrative forms

Researchers involved in the proposal

Title	First Name	Last Name	Gender	Nationality	E-mail	Career Stage	Role of researcher (in the project)	Reference Identifier	Type of identifier	
Dr	Dmitrijs	Merkulovs	Man	Latvia	dmitrijs_merkulovs@yahoo.co.uk	Category A Top grade re	Leading		Other ID	In-house

Administrative forms

Role of participating organisation in the project

Project management	<input type="checkbox"/>
Communication, dissemination and engagement	<input checked="" type="checkbox"/>
Provision of research and technology infrastructure	<input type="checkbox"/>
Co-definition of research and market needs	<input type="checkbox"/>
Civil society representative	<input type="checkbox"/>
Policy maker or regulator, incl. standardisation body	<input type="checkbox"/>
Research performer	<input checked="" type="checkbox"/>
Technology developer	<input checked="" type="checkbox"/>
Testing/validation of approaches and ideas	<input checked="" type="checkbox"/>
Prototyping and demonstration	<input type="checkbox"/>
IPR management incl. technology transfer	<input type="checkbox"/>
Public procurer of results	<input type="checkbox"/>
Private buyer of results	<input type="checkbox"/>
Finance provider (public or private)	<input type="checkbox"/>
Education and training	<input checked="" type="checkbox"/>
Contributions from the social sciences or/and the humanities	<input type="checkbox"/>
Other If yes, please specify: (Maximum number of characters allowed: 50)	<input type="checkbox"/>

Administrative forms

List of up to 5 publications, widely-used datasets, software, goods, services, or any other achievements relevant to the call content.

Type of achievement	Short description (Max 500 characters)
Publication	Merkulovs D., Vilitis V., Kozlovs V. Measurement of low concentration of nanosized objects suspended in a liquid medium. Latv. J.Phys.Techn. Sci. 2, 2018, lpp.57-65, DOI: 10.1515/Ipts-2016-0045 ISSN 0868 - 8257 (SCOPUS bibliographic database).
Publication	Merkulovs D., Dekhtyar Y., Vilitis O., Shipkovs P., Merkulova V., Cylindrical Cell-Based Refractometers to Analyse Biomedical Liquids, Department of Measurement and Information Systems Budapest University of Technology and Economics (BME), Budapest, Hungary, ISSN, IFMBE Proceedings, Volume 50, 2015, pp 16-19, DOI: 10.1007/978-981-287-573-0_4, ISBN 978-981-287-572-3 (Springerlink)
Publication	Merkulovs D., Dekhtyar Y., Vilitis O., Shipkovs P., Merkulova V., Cylindrical Cuvette Light Refraction Measurements Technology to Analyses Biomedical Liquids, International Federation for Medical and Biological Engineering (IFMBE), Volume 45, 2015, pp 298-301, DOI:10.1007/978-3-319-11128-5_74, Online ISBN:978-3-319-11128- 5, ISSN:1680-0737 (Springerlink)
Other achievement	Merkulovs D., Mironovs I., Barisev M., Mironovs V., Multifunctional programmable centrifuge mixer, Patent LV14977, International Publication Date 20.11.2015

List of up to 5 most relevant previous projects or activities, connected to the subject of this proposal.

Name of Project or Activity	Short description (Max 500 characters)

Description of any significant infrastructure and/or any major items of technical equipment, relevant to the proposed work.

Name of infrastructure of equipment	Short description (Max 300 characters)

Gender Equality Plan

Does the organization have a Gender Equality Plan (GEP) covering the elements listed below?

☐ Yes ☒ No

Minimum process-related requirements (building blocks) for a GEP

- **Publication:** formal document published on the institution's website and signed by the top management
- **Dedicated resources:** commitment of human resources and gender expertise to implement it.
- **Data collection and monitoring:** sex/gender disaggregated data on personnel (and students for establishments concerned) and annual reporting based on indicators.
- **Training:** Awareness raising/trainings on gender equality and unconscious gender biases for staff and decision-makers.
- **Content-wise, recommended areas** to be **covered** and addressed via concrete measures and targets are:
 - o work-life balance and organisational culture;
 - o gender balance in leadership and decision-making;
 - o gender equality in recruitment and career progression;
 - o integration of the gender dimension into research and teaching content;
 - o measures against gender-based violence including sexual harassment.

Administrative forms

PIC	Legal name
903141587	GTW BEARINGS s.r.o.

Short name: GTW BEARINGS s.r.o.

Address

Street	č.p. 24
Town	Příšov
Postcode	330 11
Country	Czechia
Webpage	www.gtw.cz

Specific Legal Statuses

Legal person	yes
Public body	no
Non-profit	no
International organisation	unknown
Secondary or Higher education establishment	unknown
Research organisation	unknown

SME Data

Based on the below details from the Participant Registry the organisation is **unknown** (small- and medium-sized enterprise) for the call.

SME self-declared status	unknown
SME self-assessment	unknown
SME validation	unknown

Administrative forms

Departments carrying out the proposed work

Department 1

Department name	Development Department	<input type="checkbox"/> not applicable
	<input checked="" type="checkbox"/> Same as proposing organisation's address	
Street	č.p. 24	
Town	Příšov	
Postcode	330 11	
Country	Czechia	

Links with other participants

Type of link	Participant
--------------	-------------

Administrative forms

Main contact person

This will be the person the EU services will contact concerning this proposal (e.g. for additional information, invitation to hearings, sending of evaluation results, convocation to start grant preparation). The data in blue is read-only. Details (name, first name and e-mail) of Main Contact persons should be edited in the step "Participants" of the submission wizard.

Title

Gender

☐

Woman

☒

Man

☐

Non Binary

First name* **Tomáš**

Last name* **Skopeček**

E-Mail* **tskopecek@gtw.cz**

Position in org. **Project manger**

Department **GTW BEARINGS s.r.o.**

☒

Same as organisation
name

☒ Same as proposing organisation's address

Street **č.p. 24**

Town **Příšov**

Post code **330 11**

Country **Czechia**

Website *Please enter website*

Phone *+XXX XXXXXXXXXX*

Phone 2

+XXX XXXXXXXXXX

Administrative forms

Researchers involved in the proposal

Title	First Name	Last Name	Gender	Nationality	E-mail	Career Stage	Role of researcher (in the project)	Reference Identifier	Type of identifier
Mr	Tomáš	Skopeček	Man	Czechia	tskopecek@gtw.cz				

Administrative forms

Role of participating organisation in the project

Project management	<input type="checkbox"/>
Communication, dissemination and engagement	<input checked="" type="checkbox"/>
Provision of research and technology infrastructure	<input type="checkbox"/>
Co-definition of research and market needs	<input checked="" type="checkbox"/>
Civil society representative	<input type="checkbox"/>
Policy maker or regulator, incl. standardisation body	<input type="checkbox"/>
Research performer	<input checked="" type="checkbox"/>
Technology developer	<input type="checkbox"/>
Testing/validation of approaches and ideas	<input checked="" type="checkbox"/>
Prototyping and demonstration	<input type="checkbox"/>
IPR management incl. technology transfer	<input type="checkbox"/>
Public procurer of results	<input type="checkbox"/>
Private buyer of results	<input type="checkbox"/>
Finance provider (public or private)	<input type="checkbox"/>
Education and training	<input type="checkbox"/>
Contributions from the social sciences or/and the humanities	<input type="checkbox"/>
Other If yes, please specify: (Maximum number of characters allowed: 50)	<input type="checkbox"/>

Administrative forms

List of up to 5 publications, widely-used datasets, software, goods, services, or any other achievements relevant to the call content.

Type of achievement	Short description (Max 500 characters)

List of up to 5 most relevant previous projects or activities, connected to the subject of this proposal.

Name of Project or Activity	Short description (Max 500 characters)

Description of any significant infrastructure and/or any major items of technical equipment, relevant to the proposed work.

Name of infrastructure of equipment	Short description (Max 300 characters)

Gender Equality Plan

Does the organization have a Gender Equality Plan (GEP) covering the elements listed below?

☐ Yes ☒ No

Minimum process-related requirements (building blocks) for a GEP

- **Publication:** formal document published on the institution's website and signed by the top management
- **Dedicated resources:** commitment of human resources and gender expertise to implement it.
- **Data collection and monitoring:** sex/gender disaggregated data on personnel (and students for establishments concerned) and annual reporting based on indicators.
- **Training:** Awareness raising/trainings on gender equality and unconscious gender biases for staff and decision-makers.
- **Content-wise, recommended areas** to be **covered** and addressed via concrete measures and targets are:
 - o work-life balance and organisational culture;
 - o gender balance in leadership and decision-making;
 - o gender equality in recruitment and career progression;
 - o integration of the gender dimension into research and teaching content;
 - o measures against gender-based violence including sexual harassment.

Administrative forms

PIC	Legal name
999991334	KATHOLIEKE UNIVERSITEIT LEUVEN

Short name: KU Leuven

Address

Street	OUDE MARKT 13
Town	LEUVEN
Postcode	3000
Country	Belgium
Webpage	www.kuleuven.be

Specific Legal Statuses

Legal person	yes
Public body	no
Non-profit	yes
International organisation	no
Secondary or Higher education establishment	yes
Research organisation	yes

SME Data

Based on the below details from the Participant Registry the organisation is not an SME (small- and medium-sized enterprise) for the call.

SME self-declared status	13/01/2022 - no
SME self-assessment	unknown
SME validation	unknown

Administrative forms

Departments carrying out the proposed work

Department 1

Department name	Mechanical Engineering	<input type="checkbox"/> not applicable
	<input type="checkbox"/> Same as proposing organisation's address	
Street	Celestijnenlaan 300 - box 2420	
Town	Leuven	
Postcode	3001	
Country	Belgium	

Links with other participants

Type of link	Participant
--------------	-------------

Administrative forms

Main contact person

This will be the person the EU services will contact concerning this proposal (e.g. for additional information, invitation to hearings, sending of evaluation results, convocation to start grant preparation). The data in blue is read-only. Details (name, first name and e-mail) of Main Contact persons should be edited in the step "Participants" of the submission wizard.

Title **Dr**

Gender ☐ Woman ☒ Man ☐ Non Binary

First name* **Bert**

Last name* **Pluymers**

E-Mail* **bert.pluymers@mech.kuleuven.be**

Position in org. **Senior Industrial Research Manager**

Department **Mechanical Engineering**

☐ Same as organisation name

☐ Same as proposing organisation's address

Street **Celestijnenlaan 300 - box 2420**

Town **Leuven**

Post code **3001**

Country **Belgium**

Website **www.mech.kuleuven.be**

Phone **+32 16 32 25 29**

Phone 2 **+32 16 32 24 80**

Other contact persons

First Name	Last Name	E-mail	Phone
Katrijn	De Brucker	katrijn.debrucker@kuleuven.be	+XXX XXXXXXXXX
Claus	Claeys	claus.claeys@kuleuven.be	+XXX XXXXXXXXX

Administrative forms

Researchers involved in the proposal

Title	First Name	Last Name	Gender	Nationality	E-mail	Career Stage	Role of researcher (in the project)	Reference Identifier	Type of identifier
Dr	Bert	Pluymers	Man	Belgium	bert.pluymers@mech.kuleuven.be	Category B Senior researcher	Leading	0000-0002-7996-8350	Orcid ID
Dr	Claus	Claeys	Man	Belgium	claus.claeys@kuleuven.be	Category B Senior researcher	Team member	0000-0002-7825-5885	Orcid ID
Ms	Vanessa	Cool	Woman	Belgium	vanessa.cool@kuleuven.be	Category D First stage researcher	Team member	0000-0002-8305-2417	Orcid ID

Administrative forms

Role of participating organisation in the project

Project management	<input type="checkbox"/>
Communication, dissemination and engagement	<input checked="" type="checkbox"/>
Provision of research and technology infrastructure	<input type="checkbox"/>
Co-definition of research and market needs	<input checked="" type="checkbox"/>
Civil society representative	<input type="checkbox"/>
Policy maker or regulator, incl. standardisation body	<input type="checkbox"/>
Research performer	<input checked="" type="checkbox"/>
Technology developer	<input type="checkbox"/>
Testing/validation of approaches and ideas	<input checked="" type="checkbox"/>
Prototyping and demonstration	<input type="checkbox"/>
IPR management incl. technology transfer	<input type="checkbox"/>
Public procurer of results	<input type="checkbox"/>
Private buyer of results	<input type="checkbox"/>
Finance provider (public or private)	<input type="checkbox"/>
Education and training	<input checked="" type="checkbox"/>
Contributions from the social sciences or/and the humanities	<input type="checkbox"/>
Other If yes, please specify: (Maximum number of characters allowed: 50)	<input type="checkbox"/>

Administrative forms

List of up to 5 publications, widely-used datasets, software, goods, services, or any other achievements relevant to the call content.

Type of achievement	Short description (Max 500 characters)
Publication	Karhula, H.O.H., Claeys, C., Pluymers, B., Van Der Auweraer, H., Desmet, W. (2018). Innovation through cooperation between industry and university: Siemens Industry Software – KU Leuven; a golden partnership. Presented at the MCAA General Assembly & Conference, Leuven, 02 Feb 2018-03 Feb 2018. -> testimony on a Pilot within the H2020 Science2Society project
Publication	Sangiuliano, L., Reff, B., Palandri, J., Wolf-Monheim, F., Pluymers, B., Deckers, E., Desmet, W., Claeys, C. (2022). Low frequency tyre noise mitigation in a vehicle using metal 3D printed resonant metamaterials. Mechanical Systems And Signal Processing, 179, Art.No. 109335. doi: 10.1016/j.ymssp.2022.109335 Open Access -> illustration of co-creation with industry and societal impact in Industry
Publication	Eyckens, P., Naets, F., Deckers, E., Rosseel, E., Schuette, H., Koutla, I., Diltor, R., Lopez, C., Duysinx, P., Pluymers, B. (contr.) (2021). A generic approach to capitalize manufacturing experience in design and optimization. In: Proceedings of the Resource Efficient Vehicles Conference - 2021 (rev2021), (252-259). Presented at the Resource Efficient Vehicles Conference, Online, 14 Jun 2021-16 Jun 2021. ISBN: 978-91-8040-047-3. illustration of innovative approaches in manufacturing, cocreat
Other achievement	Strategic partner in the Flanders Make Advanced Manufacturing Innovation Network (www.flandersmake.be)
Other achievement	Extensive track record in Marie Curie and other industry-academia PhD cooperations: https://www.mech.kuleuven.be/en/pma/research/mod/projects/projects

List of up to 5 most relevant previous projects or activities, connected to the subject of this proposal.

Name of Project or Activity	Short description (Max 500 characters)
Science2Society	EU H2020 Coordination and Support Action (CSA), Science2Society: Improving university, industry and society interfaces to boost the throughput capacity of Europe's innovation stakeholders (coordinator)
METAFACTURING	EU HEU Innovation Action (IA), MetaFacturing: Data and METAdata for advanced digitalization of manuFACTURING industrial lines (coordinator)
APRIORI	EU HEU Marie Skłodowska Curie Doctoral Network (DN), APRIORI: Active PProduct-to-Process Learning FOR Improving Critical Components Performance (coordinator)
REBOOT SKILLS	EU DEP DIGITAL-SME, REBOOT-SKILLS: Rebooting manufacturing industry with digitalisation skill development
E2COMATION	EU H2020 Collaborative Research Project, E2COMATION: Life-cycle optimization of industrial energy efficiency by a distributed control and decision-making automation platform

Description of any significant infrastructure and/or any major items of technical equipment, relevant to the proposed work.

Name of infrastructure of equipment	Short description (Max 300 characters)
IOFm/08/006 Dynamics and Mechatronics	KU Leuven-IOF IOFm/08/006 Dynamics and Mechatronics: Oxygen for an innovating industry --> an Industrial Research Fund Fellowship to bridge the gap between industry and academia via innovative approaches – Fellowship awarded to B. Pluymers
Industry 4.0 laboratories	Fully equipped dynamic mechanical measurement laboratories, a small semianechoic chamber, a dedicated test-suite for characterisation structures, a 6-dof CUBE shaker table for component and full system testing, dedicated test-rigs for dynamic component analysis, virtual sensor demonstrators, HPC.

Administrative forms

<i>Polymer pilot plant</i>	<i>Instrumented Polymer Processing manufacturing laboratory</i>
<i>ISMA event</i>	<i>ISMA-USD (www.isma-isaac.be) international events platform for dissemination and interaction activities with an international mechanical engineering community</i>

Gender Equality Plan

Does the organization have a Gender Equality Plan (GEP) covering the elements listed below?

☒ Yes ☐ No

Minimum process-related requirements (building blocks) for a GEP

- **Publication:** formal document published on the institution's website and signed by the top management
- **Dedicated resources:** commitment of human resources and gender expertise to implement it.
- **Data collection and monitoring:** sex/gender disaggregated data on personnel (and students for establishments concerned) and annual reporting based on indicators.
- **Training:** Awareness raising/trainings on gender equality and unconscious gender biases for staff and decision-makers.
- **Content-wise, recommended areas** to be **covered** and addressed via concrete measures and targets are:
 - o work-life balance and organisational culture;
 - o gender balance in leadership and decision-making;
 - o gender equality in recruitment and career progression;
 - o integration of the gender dimension into research and teaching content;
 - o measures against gender-based violence including sexual harassment.

Administrative forms

PIC 999986096	Legal name UNIVERSITEIT GENT
-------------------------	--

Short name: UGent

Address

Street	SINT PIETERSNIEUWSTRAAT 25
Town	GENT
Postcode	9000
Country	Belgium
Webpage	http://www.ugent.be

Specific Legal Statuses

Legal person	yes
Public body	yes
Non-profit	yes
International organisation	no
Secondary or Higher education establishment	yes
Research organisation	yes

SME Data

Based on the below details from the Participant Registry the organisation is not an SME (small- and medium-sized enterprise) for the call.

SME self-declared status	12/01/2022 - no
SME self-assessment	unknown
SME validation	16/01/2009 - no

Administrative forms

Departments carrying out the proposed work

Department 1

Department name	Machineries & Factories	<input type="checkbox"/> not applicable
	<input type="checkbox"/> Same as proposing organisation's address	
Street	Technologiepark 131	
Town	Zwijnaarde	
Postcode	9052	
Country	Belgium	

Links with other participants

Type of link	Participant
--------------	-------------

Administrative forms

Main contact person

This will be the person the EU services will contact concerning this proposal (e.g. for additional information, invitation to hearings, sending of evaluation results, convocation to start grant preparation). The data in blue is read-only. Details (name, first name and e-mail) of Main Contact persons should be edited in the step "Participants" of the submission wizard.

Title

Dr

Gender

☐ Woman

☒ Man

☐ Non Binary

First name*

Jeroen

Last name*

De Maeyer

E-Mail*

jeroen.demaeyer@ugent.be

Position in org.

Lead Business Development and Industrial Research Manager

Department

Machineries & Factories

☐ Same as organisation name

☐ Same as proposing organisation's address

Street

Technologiepark 131

Town

Zwijnaarde

Post code

9052

Country

Belgium

Website

www.ugent.be/m-f/en

Phone

+32471588832

Phone 2

+XXX XXXXXXXXXX

Other contact persons

First Name	Last Name	E-mail	Phone
Margo	Baele	eu-team@ugent.be	+32 9 264 3029

Administrative forms

Researchers involved in the proposal

Title	First Name	Last Name	Gender	Nationality	E-mail	Career Stage	Role of researcher (in the project)	Reference Identifier	Type of identifier
Dr	Jeroen	De Maeyer	Man	Belgium	Jeroen.DeMaeyer@UGent.be	Category C Recognised	Leading	0000-0003-2096-0765	Orcid ID
Dr	Karel	Bauters	Man	Belgium	Karel.Bauters@UGent.be	Category C Recognised	Team member	0000-0002-8500-2528	Orcid ID
Prof	Johannes	Cottyn	Man	Belgium	Johannes.Cottyn@UGent.be	Category B Senior resea	Leading	0000-0002-1668-3331	Orcid ID

Administrative forms

Role of participating organisation in the project

Project management	<input type="checkbox"/>
Communication, dissemination and engagement	<input checked="" type="checkbox"/>
Provision of research and technology infrastructure	<input checked="" type="checkbox"/>
Co-definition of research and market needs	<input checked="" type="checkbox"/>
Civil society representative	<input type="checkbox"/>
Policy maker or regulator, incl. standardisation body	<input type="checkbox"/>
Research performer	<input checked="" type="checkbox"/>
Technology developer	<input type="checkbox"/>
Testing/validation of approaches and ideas	<input checked="" type="checkbox"/>
Prototyping and demonstration	<input type="checkbox"/>
IPR management incl. technology transfer	<input type="checkbox"/>
Public procurer of results	<input type="checkbox"/>
Private buyer of results	<input type="checkbox"/>
Finance provider (public or private)	<input type="checkbox"/>
Education and training	<input type="checkbox"/>
Contributions from the social sciences or/and the humanities	<input type="checkbox"/>
Other If yes, please specify: (Maximum number of characters allowed: 50)	<input type="checkbox"/>

Administrative forms

List of up to 5 publications, widely-used datasets, software, goods, services, or any other achievements relevant to the call content.

Type of achievement	Short description (Max 500 characters)
Other achievement	Regular speaker on industrial revolution, incl. industry 4.0 and 5.0 for both industry and the broader public.

List of up to 5 most relevant previous projects or activities, connected to the subject of this proposal.

Name of Project or Activity	Short description (Max 500 characters)
MES4SME	Regional Living Lab Project (2019-2022) - Regional project targeted at SMEs related to the implementation of MES systems that are industry 4.0 ready. Within this project we have been interacting with many stakeholders in Flanders on their current experience with industry 4.0 (and 5.0)
ManuWin	MANUWIN: Manufacturing Workplace Innovation (2018-2022) - Regional project focussing on workplace innovation with Flemish companies based on data driven tools while ensuring ensuring a workable working climate for the employees.

Description of any significant infrastructure and/or any major items of technical equipment, relevant to the proposed work.

Name of infrastructure of equipment	Short description (Max 300 characters)
Smart & Agile Assembly Lab	Infrastructure that allows to invite operators to experience the impact of operator support systems.

Gender Equality Plan

Does the organization have a Gender Equality Plan (GEP) covering the elements listed below?

☒ Yes ☐ No

Minimum process-related requirements (building blocks) for a GEP

- **Publication:** formal document published on the institution's website and signed by the top management
- **Dedicated resources:** commitment of human resources and gender expertise to implement it.
- **Data collection and monitoring:** sex/gender disaggregated data on personnel (and students for establishments concerned) and annual reporting based on indicators.
- **Training:** Awareness raising/trainings on gender equality and unconscious gender biases for staff and decision-makers.
- **Content-wise, recommended areas** to be **covered** and addressed via concrete measures and targets are:
 - o work-life balance and organisational culture;
 - o gender balance in leadership and decision-making;
 - o gender equality in recruitment and career progression;
 - o integration of the gender dimension into research and teaching content;
 - o measures against gender-based violence including sexual harassment.

Administrative forms

PIC	Legal name
984098466	AGENCIA PER A LA COMPETITIVITAT DE LA EMPRESA

Short name: ACCIO

Address

Street	PASSEIG DE GRACIA 129
Town	BARCELONA
Postcode	08008
Country	Spain
Webpage	http://accio.gencat.cat

Specific Legal Statuses

Legal person	yes
Public body	yes
Non-profit	yes
International organisation	no
Secondary or Higher education establishment	no
Research organisation	no

SME Data

Based on the below details from the Participant Registry the organisation is not an SME (small- and medium-sized enterprise) for the call.

SME self-declared status	09/07/2009 - no
SME self-assessment	09/07/2009 - no
SME validation	unknown

Administrative forms

Departments carrying out the proposed work

No department involved

Department name

Name of the department/institute carrying out the work.

☒ not applicable

☐ Same as proposing organisation's address

Street

Please enter street name and number.

Town

Please enter the name of the town.

Postcode

Area code.

Country

Please select a country

Department 2

Department name

Industry 4.0

☐ not applicable

☒ Same as proposing organisation's address

Street

PASSEIG DE GRACIA 129

Town

BARCELONA

Postcode

08008

Country

Spain

Links with other participants

Type of link	Participant
--------------	-------------

Administrative forms

Researchers involved in the proposal

Title	First Name	Last Name	Gender	Nationality	E-mail	Career Stage	Role of researcher (in the project)	Reference Identifier	Type of identifier
Ms	Sandra	Pérez	Woman	Spain	sperezmartinez@gencat.cat				
Mr	Jesús	Fernández	Man	Spain	jfernandezol@gencat.cat				

Administrative forms

Role of participating organisation in the project

Project management	<input checked="" type="checkbox"/>
Communication, dissemination and engagement	<input checked="" type="checkbox"/>
Provision of research and technology infrastructure	<input type="checkbox"/>
Co-definition of research and market needs	<input type="checkbox"/>
Civil society representative	<input type="checkbox"/>
Policy maker or regulator, incl. standardisation body	<input checked="" type="checkbox"/>
Research performer	<input type="checkbox"/>
Technology developer	<input type="checkbox"/>
Testing/validation of approaches and ideas	<input checked="" type="checkbox"/>
Prototyping and demonstration	<input type="checkbox"/>
IPR management incl. technology transfer	<input type="checkbox"/>
Public procurer of results	<input type="checkbox"/>
Private buyer of results	<input type="checkbox"/>
Finance provider (public or private)	<input checked="" type="checkbox"/>
Education and training	<input type="checkbox"/>
Contributions from the social sciences or/and the humanities	<input type="checkbox"/>
Other If yes, please specify: (Maximum number of characters allowed: 50)	<input type="checkbox"/>

Administrative forms

List of up to 5 publications, widely-used datasets, software, goods, services, or any other achievements relevant to the call content.

Type of achievement	Short description (Max 500 characters)
Service	International networks: ACCIÓ coordinates in Catalonia the European Enterprise Network (EEN) node (CATCIM) and the European Digital Innovation Hub (DIH4CAT) offering services to companies and SMEs related to innovation, technology transfer, access to funding and capacity building, testing and pilot testing in advanced digital technologies, among others. ACCIÓ also adhered to EURAXESS as a contact point in Catalonia.
Service	Industry 4.0 Coupons involve aid for outsourcing to identify opportunities for the integration of industry 4.0 technologies for implementation into products, services or processes.
Service	Grants and funding lines to promote R&D and 4.0 projects. We provide guidance on funding digital transformation projects. Apart from ACCIÓ's aid lines, such as aid for business disruption projects or R&D Nuclei, we help companies access the Next Generation EU funds, grants for purchasing new 4.0 equipment, or the loan lines of the Catalan Institute of Finance.
Service	ACCIÓ puts the most advanced technology for your company within your reach through the suppliers in the Catalonia Industry Suppliers directory, TECNIO Developers and Agents specializing in industry 4.0. Moreover, the Enterprise Europe Network gives you access to technology partners and customers across Europe.
Service	Through ACCIÓ's collaboration agreements with the Ministry of Industry, Trade and Tourism and the EOI Foundation, we provide Catalan industrial companies with access to the Connected Industry 4.0 national programs.

List of up to 5 most relevant previous projects or activities, connected to the subject of this proposal.

Name of Project or Activity	Short description (Max 500 characters)
DIH4CAT. GA101083736. Digital European Programme	ACCIÓ coordinates the Catalonia Digital Innovation Hub born as a non-profit regional innovation ecosystem formed by the main agents supporting digitisation in Catalonia (AI, HPC, Cybersecurity, Robotics, Photonics, 3D Printing and Connectivity). The project has a clear focus on test before investing services but complements its offer with services related to innovation, ecosystem, digital skills, capacity building, access to finance and business. 2022-2025.
CATCIM. GA101052675. Single Market Programme (SMP)	ACCIÓ coordinates the Enterprise Europe Network (EEN) node in Catalonia to help SMEs to develop their innovative potential and grow internationally. It offers SMEs information and advice in relation to policies and new business models and opportunities in EU and third countries, assistance in technology transfer processes, and access to European funding, research, capacity building development and innovation programmes. 2022-2025.
DigiTVC - SOE3/P2/E0866 - Interreg SUDOE	Industry 4.0 and digitization represent a challenge and an opportunity for companies. For SMEs in the textile sector of the SUDOE space having methodologies and tools that allow them to have quick access to these new solutions can provide that differential added value to recover lost competitiveness and address successfully its main challenges: greater speed and flexibility, adapted to new market demands, more personalized products/services, greater traceability.
AI REGIO – 952003 - H2020	The AI REGIO “Regions and Digital Innovation Hubs alliance for AI-driven digital transformation of European Manufacturing SMEs”, will build a one-stop-shop platform that enables access to resources for AI-based solutions in efficient and sustainable manufacturing, with particular emphasis on resources that can lower the AI adoption barriers for SMEs.
GO-SME - H2020 – 101034176	Good practices in SME innovation support. The aim of the project is to share the best practices of participating research funding organisations (RFOs) and their mutual learning in designing programmes which would support SMEs and start-ups in an initial assessment of their innovative ideas so that they can progress to more advanced stages of innovation development.

Administrative forms

Description of any significant infrastructure and/or any major items of technical equipment, relevant to the proposed work.

Name of infrastructure of equipment	Short description (Max 300 characters)
<i>Testing and pilot testing in advanced digital tech</i>	<i>The Digital Innovation Hub of Catalonia (DIH4CAT) offers you the most advanced technological infrastructures so that you can test digital technologies before investing in them and implementing them in your company.</i>
<i>ACCIÓ's offices abroad</i>	<i>ACCIÓ has 40 offices worldwide that operate over 100 countries and help companies to start trading and producing on foreign markets. ACCIÓ provides companies with knowledge, experience and structures around the world, as well as new instruments designed to achieve their goals.</i>
<i>ACCIÓ's regional offices</i>	<i>ACCIÓ has seven offices around Catalonia to support companies in search for new business opportunities. This regional expansion reinforces proximity to companies and allows our team of experts to reach them out.</i>
<i>Catalonia Open Challenges Platform</i>	<i>A meeting point for those who post challenges and those who generate opportunities between Catalan and international companies/organizations. A space for challenges, market demands, searches for partners and international trade and innovation opportunities. https://openchallenges.accio.gencat.cat/</i>

Gender Equality Plan

Does the organization have a Gender Equality Plan (GEP) covering the elements listed below?

☒ Yes ☐ No

Minimum process-related requirements (building blocks) for a GEP

- **Publication:** formal document published on the institution's website and signed by the top management
- **Dedicated resources:** commitment of human resources and gender expertise to implement it.
- **Data collection and monitoring:** sex/gender disaggregated data on personnel (and students for establishments concerned) and annual reporting based on indicators.
- **Training:** Awareness raising/trainings on gender equality and unconscious gender biases for staff and decision-makers.
- **Content-wise, recommended areas** to be **covered** and addressed via concrete measures and targets are:
 - o work-life balance and organisational culture;
 - o gender balance in leadership and decision-making;
 - o gender equality in recruitment and career progression;
 - o integration of the gender dimension into research and teaching content;
 - o measures against gender-based violence including sexual harassment.

Administrative forms

PIC	Legal name
952212626	CONFINDUSTRIA EMILIA ROMAGNA RICERCA SCARL

Short name: CERR

Address

Street	VIA BARBERIA 13
Town	BOLOGNA
Postcode	40123
Country	Italy
Webpage	www.cerr.eu

Specific Legal Statuses

Legal person	yes
Public body	no
Non-profit	yes
International organisation	no
Secondary or Higher education establishment	no
Research organisation	yes

SME Data

Based on the below details from the Participant Registry the organisation is an SME (small- and medium-sized enterprise) for the call.

SME self-declared status	31/12/2021 - yes
SME self-assessment	31/12/2021 - yes
SME validation	06/11/2012 - yes

Administrative forms

Departments carrying out the proposed work

No department involved

Department name

Name of the department/institute carrying out the work.

☒ not applicable

☐ Same as proposing organisation's address

Street

Please enter street name and number.

Town

Please enter the name of the town.

Postcode

Area code.

Country

Please select a country

Links with other participants

Type of link	Participant
--------------	-------------

Administrative forms

Researchers involved in the proposal

Title	First Name	Last Name	Gender	Nationality	E-mail	Career Stage	Role of researcher (in the project)	Reference Identifier	Type of identifier
Ms	Federica	Mori	Woman	Italy	f.mori@confind.emr.it				
Ms	Annamaria	Raimondi	Woman	Italy	a.raimondi@confind.emr.it				

Administrative forms

Role of participating organisation in the project

Project management	<input type="checkbox"/>
Communication, dissemination and engagement	<input checked="" type="checkbox"/>
Provision of research and technology infrastructure	<input type="checkbox"/>
Co-definition of research and market needs	<input checked="" type="checkbox"/>
Civil society representative	<input type="checkbox"/>
Policy maker or regulator, incl. standardisation body	<input type="checkbox"/>
Research performer	<input type="checkbox"/>
Technology developer	<input type="checkbox"/>
Testing/validation of approaches and ideas	<input checked="" type="checkbox"/>
Prototyping and demonstration	<input type="checkbox"/>
IPR management incl. technology transfer	<input type="checkbox"/>
Public procurer of results	<input type="checkbox"/>
Private buyer of results	<input type="checkbox"/>
Finance provider (public or private)	<input type="checkbox"/>
Education and training	<input type="checkbox"/>
Contributions from the social sciences or/and the humanities	<input type="checkbox"/>
Other If yes, please specify: (Maximum number of characters allowed: 50)	<input type="checkbox"/>

Administrative forms

List of up to 5 publications, widely-used datasets, software, goods, services, or any other achievements relevant to the call content.

Type of achievement	Short description (Max 500 characters)

List of up to 5 most relevant previous projects or activities, connected to the subject of this proposal.

Name of Project or Activity	Short description (Max 500 characters)
<i>CloudCamp4SMEs (Empowering the digital transformation)</i>	<i>CloudCamp4SMEs aims to empower the digital transformation of medium-sized enterprises (SMEs) in the European Union (EU) by facilitating access to high-quality, low-cost training courses focusing on high-demand digital skills for Cloud Technologies and Cloud solutions and training content developed by global leaders in cloud technology.</i>
<i>DIH2 (A Pan-European Network of Robotics DIHs for)</i>	<i>DIH certified to support advisory activities and dissemination of funding opportunities related to Artificial intelligence and Robotics; facilitating SMEs access to DIH2 network.</i>
<i>REACH (EuRoPEAn incubator for trusted and secure d)</i>	<i>DIH certified to support advisory and dissemination REACH Incubator activities and funding opportunities (Open Call) to SMEs by proposing data-driven sector theme & challenges relevant to the region/ecosystem; participating in the evaluation and selection of the startups; mentoring the selected startups in their development phase, and/or possibility to track/engage with them in their later stages; facilitating startups/SMEs access to DIH network/channels; becoming REACH Incubation Programme adopt</i>
<i>Change2Twin (Create and Harvest Offerings to suppo</i>	<i>DIH certified to support dissemination Change2win activities and funding opportunities (Assessment and Deployment Open Calls), support to SMEs for applying to the C2T Open calls, use and support the C2T Marketplace during and after the project, promote the Marketplace towards technology providers, support the C2T activities and its community in order to consolidate a visible and sustainable network across Europe for the digitalisation of manufacturing SMEs and deployment of digital twin technolog</i>
<i>CHIMERA - National - MISE Competence Center Bi-Rex</i>	<i>Partnering activities aimed to develop an assessment PoC to measure readiness\feasibility of the use of the blockchain by SMEs. In particular, to identify potential opportunities and risks, entry barriers, skills, capabilities, business model, business continuity, multi-party vs intermediation, trusted authority, data management, scalability, interoperability and performance, architectural and integration aspects, legislative and regulatory aspects, ethics, aspects related to investments. The go</i>

Description of any significant infrastructure and/or any major items of technical equipment, relevant to the proposed work.

Name of infrastructure of equipment	Short description (Max 300 characters)

Gender Equality Plan

Does the organization have a Gender Equality Plan (GEP) covering the elements listed below?

☒ Yes ☐ No

Minimum process-related requirements (building blocks) for a GEP

- **Publication:** formal document published on the institution's website and signed by the top management
- **Dedicated resources:** commitment of human resources and gender expertise to implement it.
- **Data collection and monitoring:** sex/gender disaggregated data on personnel (and students for establishments concerned) and annual reporting based on indicators.
- **Training:** Awareness raising/trainings on gender equality and unconscious gender biases for staff and decision-makers.
- **Content-wise, recommended areas** to be **covered** and addressed via concrete measures and targets are:
 - o work-life balance and organisational culture;
 - o gender balance in leadership and decision-making;
 - o gender equality in recruitment and career progression;
 - o integration of the gender dimension into research and teaching content;
 - o measures against gender-based violence including sexual harassment.

Administrative forms

PIC	Legal name
899261102	ART-ER-SOCIETA CONSORTILE PER AZIONI

Short name: ART-ER

Address

Street	VIA PIERO GOBETTI 101
Town	BOLOGNA BO
Postcode	40129
Country	Italy
Webpage	www.art-er.it

Specific Legal Statuses

Legal person	yes
Public body	no
Non-profit	yes
International organisation	no
Secondary or Higher education establishment	no
Research organisation	no

SME Data

Based on the below details from the Participant Registry the organisation is **unknown** (small- and medium-sized enterprise) for the call.

SME self-declared status	unknown
SME self-assessment	unknown
SME validation	unknown

Administrative forms

Departments carrying out the proposed work

No department involved

Department name

Name of the department/institute carrying out the work.

☒ not applicable

☐ Same as proposing organisation's address

Street

Please enter street name and number.

Town

Please enter the name of the town.

Postcode

Area code.

Country

Please select a country

Links with other participants

Type of link	Participant
--------------	-------------

Administrative forms

Researchers involved in the proposal

Title	First Name	Last Name	Gender	Nationality	E-mail	Career Stage	Role of researcher (in the project)	Reference Identifier	Type of identifier
Mr	Daniele	Sangiorgi	Man	Italy	daniele.sangiorgi@art-er.it				

Administrative forms

Role of participating organisation in the project

Project management	<input type="checkbox"/>
Communication, dissemination and engagement	<input type="checkbox"/>
Provision of research and technology infrastructure	<input type="checkbox"/>
Co-definition of research and market needs	<input checked="" type="checkbox"/>
Civil society representative	<input type="checkbox"/>
Policy maker or regulator, incl. standardisation body	<input type="checkbox"/>
Research performer	<input type="checkbox"/>
Technology developer	<input type="checkbox"/>
Testing/validation of approaches and ideas	<input checked="" type="checkbox"/>
Prototyping and demonstration	<input type="checkbox"/>
IPR management incl. technology transfer	<input type="checkbox"/>
Public procurer of results	<input type="checkbox"/>
Private buyer of results	<input type="checkbox"/>
Finance provider (public or private)	<input type="checkbox"/>
Education and training	<input type="checkbox"/>
Contributions from the social sciences or/and the humanities	<input type="checkbox"/>
Other If yes, please specify: (Maximum number of characters allowed: 50)	<input type="checkbox"/>

Administrative forms

List of up to 5 publications, widely-used datasets, software, goods, services, or any other achievements relevant to the call content.

Type of achievement	Short description (Max 500 characters)
Service	FIRST service (https://first.art-er.it/) as a dissemination channel which reach more than 17.000 subscribers with its weekly newsletter.
Publication	Industry 4.0 in Emilia-Romagna (https://goo.gl/2X9av4). This publication analyzes the Industry 4.0 asset in the Emilia-Romagna Region, in terms of education&training, skills, industrial research, infrastructures and international projects, offering also a vision on Industry 4.0 in the RegionalSmart SpecialisationStrategy.

List of up to 5 most relevant previous projects or activities, connected to the subject of this proposal.

Name of Project or Activity	Short description (Max 500 characters)
INCLUSIVE Project(H2020-FoF-04-2016)	The project has developed an inclusive workingenvironment to ensurethe widest workers' acceptance andproductivity for newautomatic productionsystems. INCLUSIVE isbased on three pillars:Human capabilities; measurement;Adaptation of interfacesto human capabilities;Teaching and training theunskilled users.
IoTwin-Distributed Digital Twins for industrial S	IoTwin is an European project that will work to lower the barriers for the uptake of Industry 4.0 technologies to optimize processes and increase productivity, safety, resiliency, and environmental impact. IoTwin approach is based on a technological platform allowing a simple and low-cost access to big data analytics functionality, AI services andedge cloud infrastructure for the delivery of digital twins in manufacturing and facility management sectors.
KITT4SME(H2020-DT-ICT-03-2020 - I4MS (phase 4)	KITT4SME project is developing scope-tailored and industry-ready hardware, software and organisational kits for European SMEs and mid-caps. The aim is to deliver these as a modularly customisable digital platform that can seamlessly introduce artificial intelligence in their production systems. The project will ensure that the kits are widely distributed to a wide audience of SMEs and mid-caps in Europe. What is more, the seamless adoption of the kits will be facilitated with the use of factory
AI REGIO(H2020-DT-ICT-03-2020 - I4MS (phase 4)	AI REGIO project is addressing policy, technology and business barriers facing the AI-focussed DIHs, which prevent them from fully embracing the new digital reality. Addressing regional, cross-regional and pan-European issues will ensure that the EU takes the lead in digital manufacturing, creating new opportunities for innovation and growth. The AI REGIO project aims at filling 3 major gaps currently preventing AI-driven DIHs from implementing fully effective digital transformation pathways for
AI REDGIO 5.0(HORIZON-CL4-2022-TWIN-TRANSITION-01	AI REDGIO 5.0 aims at renovating and extending the H2020 I4MS AI REGIO alliance between Vanguard EU regions and DIHs for a competitive AI-at-the-Edge Digital Transformation of Industry 5.0 Manufacturing SMEs. AI REGIO outcomes will be i) extended to the I5.0 principles; ii) enabled by the newest trusted technologies along the edge-to-cloud continuum; iii) supported by European open source hw/sw reference implementations, preserving EU values and ethical principles; iv) interconnected with the ED

Description of any significant infrastructure and/or any major items of technical equipment, relevant to the proposed work.

Name of infrastructure of equipment	Short description (Max 300 characters)

Gender Equality Plan

Does the organization have a Gender Equality Plan (GEP) covering the elements listed below?

☒ Yes ☐ No

Minimum process-related requirements (building blocks) for a GEP

- **Publication:** formal document published on the institution's website and signed by the top management
- **Dedicated resources:** commitment of human resources and gender expertise to implement it.
- **Data collection and monitoring:** sex/gender disaggregated data on personnel (and students for establishments concerned) and annual reporting based on indicators.
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- **Content-wise, recommended areas** to be **covered** and addressed via concrete measures and targets are:
 - o work-life balance and organisational culture;
 - o gender balance in leadership and decision-making;
 - o gender equality in recruitment and career progression;
 - o integration of the gender dimension into research and teaching content;
 - o measures against gender-based violence including sexual harassment.

Administrative forms

PIC	Legal name
892817780	SMILE-DIH

Short name: SMILE-DIH

Address

Street	STRADA AL PONTE CAPRAZUCCA 6/A
Town	PARMA
Postcode	43121
Country	Italy
Webpage	www.smile-dih.eu

Specific Legal Statuses

Legal person	yes
Public body	no
Non-profit	yes
International organisation	no
Secondary or Higher education establishment	no
Research organisation	yes

SME Data

Based on the below details from the Participant Registry the organisation is **unknown** (small- and medium-sized enterprise) for the call.

SME self-declared status	unknown
SME self-assessment	unknown
SME validation	unknown

Administrative forms

Departments carrying out the proposed work

No department involved

Department name

Name of the department/institute carrying out the work.

☒ not applicable

☐ Same as proposing organisation's address

Street

Please enter street name and number.

Town

Please enter the name of the town.

Postcode

Area code.

Country

Please select a country

Links with other participants

Type of link	Participant
--------------	-------------

Administrative forms

Researchers involved in the proposal

Title	First Name	Last Name	Gender	Nationality	E-mail	Career Stage	Role of researcher (in the project)	Reference Identifier	Type of identifier
Prof	Annamaria	Cucinotta	Woman	Italy	annamaria.cucinotta@unipr.it	Category A Top grade re	Leading	J-6476-2016	Researcher ID

Administrative forms

Role of participating organisation in the project

Project management	<input type="checkbox"/>
Communication, dissemination and engagement	<input checked="" type="checkbox"/>
Provision of research and technology infrastructure	<input checked="" type="checkbox"/>
Co-definition of research and market needs	<input type="checkbox"/>
Civil society representative	<input type="checkbox"/>
Policy maker or regulator, incl. standardisation body	<input type="checkbox"/>
Research performer	<input type="checkbox"/>
Technology developer	<input type="checkbox"/>
Testing/validation of approaches and ideas	<input checked="" type="checkbox"/>
Prototyping and demonstration	<input checked="" type="checkbox"/>
IPR management incl. technology transfer	<input type="checkbox"/>
Public procurer of results	<input type="checkbox"/>
Private buyer of results	<input type="checkbox"/>
Finance provider (public or private)	<input type="checkbox"/>
Education and training	<input checked="" type="checkbox"/>
Contributions from the social sciences or/and the humanities	<input type="checkbox"/>
Other If yes, please specify: (Maximum number of characters allowed: 50)	<input type="checkbox"/>

Administrative forms

List of up to 5 publications, widely-used datasets, software, goods, services, or any other achievements relevant to the call content.

Type of achievement	Short description (Max 500 characters)

List of up to 5 most relevant previous projects or activities, connected to the subject of this proposal.

Name of Project or Activity	Short description (Max 500 characters)
DIHCUBE	DIHCUBE (Digital Italian Hub for ConstrUction and Built Environment) is one of new EDIHsselected and financed by European Commission and by Italian government. In this consortium SMILE-DIH is one of 12 partners beneficiary.(Project ID: 101083724, Call: DIGITAL-2021-EDIH-01)

Description of any significant infrastructure and/or any major items of technical equipment, relevant to the proposed work.

Name of infrastructure of equipment	Short description (Max 300 characters)

Gender Equality Plan

Does the organization have a Gender Equality Plan (GEP) covering the elements listed below?

☒ Yes ☐ No

Minimum process-related requirements (building blocks) for a GEP

- **Publication:** formal document published on the institution's website and signed by the top management
- **Dedicated resources:** commitment of human resources and gender expertise to implement it.
- **Data collection and monitoring:** sex/gender disaggregated data on personnel (and students for establishments concerned) and annual reporting based on indicators.
- **Training:** Awareness raising/trainings on gender equality and unconscious gender biases for staff and decision-makers.
- **Content-wise, recommended areas** to be **covered** and addressed via concrete measures and targets are:
 - o work-life balance and organisational culture;
 - o gender balance in leadership and decision-making;
 - o gender equality in recruitment and career progression;
 - o integration of the gender dimension into research and teaching content;
 - o measures against gender-based violence including sexual harassment.

Administrative forms

PIC	Legal name
939108314	BIC PLZEN SPOLECNOST S RUCENIM OMEZENYM

Short name: BIC Plzen

Address

Street	RIEGROVA 206/1
Town	PLZEN
Postcode	301 00
Country	Czechia
Webpage	www.bic.cz

Specific Legal Statuses

Legal person	yes
Public body	no
Non-profit	no
International organisation	no
Secondary or Higher education establishment	no
Research organisation	no

SME Data

Based on the below details from the Participant Registry the organisation is not an SME (small- and medium-sized enterprise) for the call.

SME self-declared status	30/03/1992 - no
SME self-assessment	unknown
SME validation	unknown

Administrative forms

Departments carrying out the proposed work

No department involved

Department name

Name of the department/institute carrying out the work.

☒ not applicable

☐ Same as proposing organisation's address

Street

Please enter street name and number.

Town

Please enter the name of the town.

Postcode

Area code.

Country

Please select a country

Links with other participants

Type of link	Participant
--------------	-------------

Administrative forms

Researchers involved in the proposal

Title	First Name	Last Name	Gender	Nationality	E-mail	Career Stage	Role of researcher (in the project)	Reference Identifier	Type of identifier

Administrative forms

Role of participating organisation in the project

Project management	<input type="checkbox"/>
Communication, dissemination and engagement	<input checked="" type="checkbox"/>
Provision of research and technology infrastructure	<input type="checkbox"/>
Co-definition of research and market needs	<input checked="" type="checkbox"/>
Civil society representative	<input type="checkbox"/>
Policy maker or regulator, incl. standardisation body	<input type="checkbox"/>
Research performer	<input type="checkbox"/>
Technology developer	<input type="checkbox"/>
Testing/validation of approaches and ideas	<input checked="" type="checkbox"/>
Prototyping and demonstration	<input type="checkbox"/>
IPR management incl. technology transfer	<input type="checkbox"/>
Public procurer of results	<input type="checkbox"/>
Private buyer of results	<input type="checkbox"/>
Finance provider (public or private)	<input type="checkbox"/>
Education and training	<input type="checkbox"/>
Contributions from the social sciences or/and the humanities	<input type="checkbox"/>
Other If yes, please specify: (Maximum number of characters allowed: 50)	<input type="checkbox"/>

Administrative forms

List of up to 5 publications, widely-used datasets, software, goods, services, or any other achievements relevant to the call content.

Type of achievement	Short description (Max 500 characters)

List of up to 5 most relevant previous projects or activities, connected to the subject of this proposal.

Name of Project or Activity	Short description (Max 500 characters)

Description of any significant infrastructure and/or any major items of technical equipment, relevant to the proposed work.

Name of infrastructure of equipment	Short description (Max 300 characters)

Gender Equality Plan

Does the organization have a Gender Equality Plan (GEP) covering the elements listed below?

☒ Yes

☐ No

Minimum process-related requirements (building blocks) for a GEP

- **Publication:** formal document published on the institution's website and signed by the top management
- **Dedicated resources:** commitment of human resources and gender expertise to implement it.
- **Data collection and monitoring:** sex/gender disaggregated data on personnel (and students for establishments concerned) and annual reporting based on indicators.
- **Training:** Awareness raising/trainings on gender equality and unconscious gender biases for staff and decision-makers.
- **Content-wise, recommended areas** to be **covered** and addressed via concrete measures and targets are:
 - o work-life balance and organisational culture;
 - o gender balance in leadership and decision-making;
 - o gender equality in recruitment and career progression;
 - o integration of the gender dimension into research and teaching content;
 - o measures against gender-based violence including sexual harassment.

Administrative forms

PIC	Legal name
915536053	Klastr MECHATRONIKA, z.s.

Short name: Klastr MECHATRONIKA, z.s.

Address

Street	Nerudova 982/25, Jižní předměstí
Town	Plzeň
Postcode	301 00
Country	Czechia
Webpage	http://www.klastrmechatronika.cz

Specific Legal Statuses

Legal person	yes
Public body	no
Non-profit	yes
International organisation	no
Secondary or Higher education establishment	no
Research organisation	no

SME Data

Based on the below details from the Participant Registry the organisation is an SME (small- and medium-sized enterprise) for the call.

SME self-declared status	02/11/2015 - yes
SME self-assessment	unknown
SME validation	unknown

Administrative forms

Departments carrying out the proposed work

No department involved

Department name

Name of the department/institute carrying out the work.

☒ not applicable

☐ Same as proposing organisation's address

Street

Please enter street name and number.

Town

Please enter the name of the town.

Postcode

Area code.

Country

Please select a country

Links with other participants

Type of link	Participant
--------------	-------------

Administrative forms

Researchers involved in the proposal

Title	First Name	Last Name	Gender	Nationality	E-mail	Career Stage	Role of researcher (in the project)	Reference Identifier	Type of identifier

Administrative forms

Role of participating organisation in the project

Project management	<input type="checkbox"/>
Communication, dissemination and engagement	<input checked="" type="checkbox"/>
Provision of research and technology infrastructure	<input type="checkbox"/>
Co-definition of research and market needs	<input checked="" type="checkbox"/>
Civil society representative	<input type="checkbox"/>
Policy maker or regulator, incl. standardisation body	<input type="checkbox"/>
Research performer	<input type="checkbox"/>
Technology developer	<input type="checkbox"/>
Testing/validation of approaches and ideas	<input checked="" type="checkbox"/>
Prototyping and demonstration	<input type="checkbox"/>
IPR management incl. technology transfer	<input type="checkbox"/>
Public procurer of results	<input type="checkbox"/>
Private buyer of results	<input type="checkbox"/>
Finance provider (public or private)	<input type="checkbox"/>
Education and training	<input type="checkbox"/>
Contributions from the social sciences or/and the humanities	<input type="checkbox"/>
Other If yes, please specify: (Maximum number of characters allowed: 50)	<input type="checkbox"/>

Administrative forms

List of up to 5 publications, widely-used datasets, software, goods, services, or any other achievements relevant to the call content.

Type of achievement	Short description (Max 500 characters)

List of up to 5 most relevant previous projects or activities, connected to the subject of this proposal.

Name of Project or Activity	Short description (Max 500 characters)

Description of any significant infrastructure and/or any major items of technical equipment, relevant to the proposed work.

Name of infrastructure of equipment	Short description (Max 300 characters)

Gender Equality Plan

Does the organization have a Gender Equality Plan (GEP) covering the elements listed below?

☒ Yes ☐ No

Minimum process-related requirements (building blocks) for a GEP

- **Publication:** formal document published on the institution's website and signed by the top management
- **Dedicated resources:** commitment of human resources and gender expertise to implement it.
- **Data collection and monitoring:** sex/gender disaggregated data on personnel (and students for establishments concerned) and annual reporting based on indicators.
- **Training:** Awareness raising/trainings on gender equality and unconscious gender biases for staff and decision-makers.
- **Content-wise, recommended areas** to be **covered** and addressed via concrete measures and targets are:
 - o work-life balance and organisational culture;
 - o gender balance in leadership and decision-making;
 - o gender equality in recruitment and career progression;
 - o integration of the gender dimension into research and teaching content;
 - o measures against gender-based violence including sexual harassment.

Administrative forms

PIC	Legal name
999983962	RHEINISCH-WESTFAELISCHE TECHNISCHE HOCHSCHULE AACHEN

Short name: RWTH AACHEN

Address

Street	TEMPLERGRABEN 55
Town	AACHEN
Postcode	52062
Country	Germany
Webpage	www.rwth-aachen.de

Specific Legal Statuses

Legal person	yes
Public body	yes
Non-profit	yes
International organisation	no
Secondary or Higher education establishment	yes
Research organisation	yes

SME Data

Based on the below details from the Participant Registry the organisation is **not** an SME (small- and medium-sized enterprise) for the call.

SME self-declared status	17/01/2022 - no
SME self-assessment	17/01/2022 - no
SME validation	01/01/1900 - no

Administrative forms

Departments carrying out the proposed work

No department involved

Department name

Name of the department/institute carrying out the work.

☒ not applicable

☐ Same as proposing organisation's address

Street

Please enter street name and number.

Town

Please enter the name of the town.

Postcode

Area code.

Country

Please select a country

Links with other participants

Type of link	Participant
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Administrative forms

Researchers involved in the proposal

Title	First Name	Last Name	Gender	Nationality	E-mail	Career Stage	Role of researcher (in the project)	Reference Identifier	Type of identifier

Administrative forms

Role of participating organisation in the project

Project management	<input type="checkbox"/>
Communication, dissemination and engagement	<input checked="" type="checkbox"/>
Provision of research and technology infrastructure	<input type="checkbox"/>
Co-definition of research and market needs	<input checked="" type="checkbox"/>
Civil society representative	<input type="checkbox"/>
Policy maker or regulator, incl. standardisation body	<input type="checkbox"/>
Research performer	<input type="checkbox"/>
Technology developer	<input type="checkbox"/>
Testing/validation of approaches and ideas	<input checked="" type="checkbox"/>
Prototyping and demonstration	<input type="checkbox"/>
IPR management incl. technology transfer	<input type="checkbox"/>
Public procurer of results	<input type="checkbox"/>
Private buyer of results	<input type="checkbox"/>
Finance provider (public or private)	<input type="checkbox"/>
Education and training	<input type="checkbox"/>
Contributions from the social sciences or/and the humanities	<input type="checkbox"/>
Other If yes, please specify: (Maximum number of characters allowed: 50)	<input type="checkbox"/>

Administrative forms

List of up to 5 publications, widely-used datasets, software, goods, services, or any other achievements relevant to the call content.

Type of achievement	Short description (Max 500 characters)

List of up to 5 most relevant previous projects or activities, connected to the subject of this proposal.

Name of Project or Activity	Short description (Max 500 characters)

Description of any significant infrastructure and/or any major items of technical equipment, relevant to the proposed work.

Name of infrastructure of equipment	Short description (Max 300 characters)

Gender Equality Plan

Does the organization have a Gender Equality Plan (GEP) covering the elements listed below?

☒ Yes ☐ No

Minimum process-related requirements (building blocks) for a GEP

- **Publication:** formal document published on the institution's website and signed by the top management
- **Dedicated resources:** commitment of human resources and gender expertise to implement it.
- **Data collection and monitoring:** sex/gender disaggregated data on personnel (and students for establishments concerned) and annual reporting based on indicators.
- **Training:** Awareness raising/trainings on gender equality and unconscious gender biases for staff and decision-makers.
- **Content-wise, recommended areas** to be **covered** and addressed via concrete measures and targets are:
 - o work-life balance and organisational culture;
 - o gender balance in leadership and decision-making;
 - o gender equality in recruitment and career progression;
 - o integration of the gender dimension into research and teaching content;
 - o measures against gender-based violence including sexual harassment.

Administrative forms

PIC	Legal name
996872008	LATVIJAS INFORMACIJAS TEHNOLOGIJU KLASTERIS

Short name: LATVIAN INFORMATION TECHNOLOGY CLUSTER

Address

Street	SKOLAS IELA 11
Town	RIGA
Postcode	1010
Country	Latvia
Webpage	www.itbaltic.com

Specific Legal Statuses

Legal person	yes
Public body	no
Non-profit	yes
International organisation	no
Secondary or Higher education establishment	no
Research organisation	no

SME Data

Based on the below details from the Participant Registry the organisation is **unknown** (small- and medium-sized enterprise) for the call.

SME self-declared status	unknown
SME self-assessment	unknown
SME validation	unknown

Administrative forms

Departments carrying out the proposed work

No department involved

Department name

Name of the department/institute carrying out the work.

☒ not applicable

☐ Same as proposing organisation's address

Street

Please enter street name and number.

Town

Please enter the name of the town.

Postcode

Area code.

Country

Please select a country

Links with other participants

Type of link	Participant
--------------	-------------

Administrative forms

Researchers involved in the proposal

Title	First Name	Last Name	Gender	Nationality	E-mail	Career Stage	Role of researcher (in the project)	Reference Identifier	Type of identifier

Administrative forms

Role of participating organisation in the project

Project management	<input type="checkbox"/>
Communication, dissemination and engagement	<input checked="" type="checkbox"/>
Provision of research and technology infrastructure	<input type="checkbox"/>
Co-definition of research and market needs	<input checked="" type="checkbox"/>
Civil society representative	<input type="checkbox"/>
Policy maker or regulator, incl. standardisation body	<input type="checkbox"/>
Research performer	<input type="checkbox"/>
Technology developer	<input type="checkbox"/>
Testing/validation of approaches and ideas	<input checked="" type="checkbox"/>
Prototyping and demonstration	<input type="checkbox"/>
IPR management incl. technology transfer	<input type="checkbox"/>
Public procurer of results	<input type="checkbox"/>
Private buyer of results	<input type="checkbox"/>
Finance provider (public or private)	<input type="checkbox"/>
Education and training	<input type="checkbox"/>
Contributions from the social sciences or/and the humanities	<input type="checkbox"/>
Other If yes, please specify: (Maximum number of characters allowed: 50)	<input type="checkbox"/>

Administrative forms

List of up to 5 publications, widely-used datasets, software, goods, services, or any other achievements relevant to the call content.

Type of achievement	Short description (Max 500 characters)

List of up to 5 most relevant previous projects or activities, connected to the subject of this proposal.

Name of Project or Activity	Short description (Max 500 characters)

Description of any significant infrastructure and/or any major items of technical equipment, relevant to the proposed work.

Name of infrastructure of equipment	Short description (Max 300 characters)

Gender Equality Plan

Does the organization have a Gender Equality Plan (GEP) covering the elements listed below?

☒ Yes ☐ No

Minimum process-related requirements (building blocks) for a GEP

- **Publication:** formal document published on the institution's website and signed by the top management
- **Dedicated resources:** commitment of human resources and gender expertise to implement it.
- **Data collection and monitoring:** sex/gender disaggregated data on personnel (and students for establishments concerned) and annual reporting based on indicators.
- **Training:** Awareness raising/trainings on gender equality and unconscious gender biases for staff and decision-makers.
- **Content-wise, recommended areas** to be **covered** and addressed via concrete measures and targets are:
 - o work-life balance and organisational culture;
 - o gender balance in leadership and decision-making;
 - o gender equality in recruitment and career progression;
 - o integration of the gender dimension into research and teaching content;
 - o measures against gender-based violence including sexual harassment.

Administrative forms

PIC	Legal name
999978239	NATIONAL CENTER FOR SCIENTIFIC RESEARCH "DEMOKRITOS"

Short name: NCSR "D"

Address

Street	END OF PATRIARCHOU GRIGORIOU E AND 27 NE
Town	AGIA PARASKEVI
Postcode	15341
Country	Greece
Webpage	www.demokritos.gr

Specific Legal Statuses

Legal person	yes
Public body	yes
Non-profit	yes
International organisation	no
Secondary or Higher education establishment	no
Research organisation	yes

SME Data

Based on the below details from the Participant Registry the organisation is not an SME (small- and medium-sized enterprise) for the call.

SME self-declared status	12/05/2016 - no
SME self-assessment	unknown
SME validation	unknown

Administrative forms

Departments carrying out the proposed work

No department involved

Department name

Name of the department/institute carrying out the work.

☒ not applicable

☐ Same as proposing organisation's address

Street

Please enter street name and number.

Town

Please enter the name of the town.

Postcode

Area code.

Country

Please select a country

Department 2

Department name

Institute of Informatics and Telecommunications

☐ not applicable

☒ Same as proposing organisation's address

Street

END OF PATRIARCHOU GRIGORIOU E AND 27 NE

Town

AGIA PARASKEVI

Postcode

15341

Country

Greece

Links with other participants

Type of link	Participant
--------------	-------------

Administrative forms

Researchers involved in the proposal

Title	First Name	Last Name	Gender	Nationality	E-mail	Career Stage	Role of researcher (in the project)	Reference Identifier	Type of identifier
Dr	George	Giannakopoulos	Man	Greece	ggianna@iit.demokritos.gr	Category B Senior researcher	Leading	0000-0003-2459-589X	Orcid ID
Mr	Periklis	Terlixidis	Man	Greece	periklisterlixidis@ahedd.demokritos.gr	Category D First stage researcher	Team member		

Administrative forms

Role of participating organisation in the project

Project management	<input type="checkbox"/>
Communication, dissemination and engagement	<input checked="" type="checkbox"/>
Provision of research and technology infrastructure	<input type="checkbox"/>
Co-definition of research and market needs	<input checked="" type="checkbox"/>
Civil society representative	<input type="checkbox"/>
Policy maker or regulator, incl. standardisation body	<input type="checkbox"/>
Research performer	<input type="checkbox"/>
Technology developer	<input type="checkbox"/>
Testing/validation of approaches and ideas	<input checked="" type="checkbox"/>
Prototyping and demonstration	<input type="checkbox"/>
IPR management incl. technology transfer	<input type="checkbox"/>
Public procurer of results	<input type="checkbox"/>
Private buyer of results	<input type="checkbox"/>
Finance provider (public or private)	<input type="checkbox"/>
Education and training	<input checked="" type="checkbox"/>
Contributions from the social sciences or/and the humanities	<input type="checkbox"/>
Other If yes, please specify: (Maximum number of characters allowed: 50)	<input type="checkbox"/>

Administrative forms

List of up to 5 publications, widely-used datasets, software, goods, services, or any other achievements relevant to the call content.

Type of achievement	Short description (Max 500 characters)
Publication	Pittaras N., Giannakopoulos G., Stamatopoulos P. and Karkaletsis V., Content-Based and Knowledge-Enriched Representations for Classification Across Modalities: A Survey, In ACM Comput. Surv., Association for Computing Machinery, To appear, 2023. [url] [doi]
Publication	Eleonora Ricci, George Giannakopoulos, Vangelis Karkaletsis, Doros N. Theodorou, Niki Vergadou, Developing Machine-Learned Potentials for Coarse-Grained Molecular Simulations: Challenges and Pitfalls, In Proceedings of the SETN 2022 - 12th Hellenic Conference on Artificial Intelligence, ACM, 2022. [url] [doi]
Publication	Vidalis, T. (2023). Artificial Intelligence Into Democratic Decision Making. In Encyclopedia of Data Science and Machine Learning (pp. 1600-1613). IGI Global.
Publication	Ziouvelou X., Karkaletsis V., Giannakopoulos G., Nousias A., and Konstantakopoulos S., (2020). "Democratising Artificial Intelligence: A National Strategy for Greece", White Paper NCSR Demokritos, April 2020
Publication	Vidalis, T. (2021). Artificial Intelligence in Biomedicine: A Legal Insight. BioTech, 10(3), 15.

List of up to 5 most relevant previous projects or activities, connected to the subject of this proposal.

Name of Project or Activity	Short description (Max 500 characters)
AI4EUROPE	An AI On-Demand Platform to support Research Excellence in Europe Horizon Europe July 1, 2022 - December 31, 2025 AI4Europe builds on the work of AI4EU and multiple supporting projects (ICT-48/ICT-49), creating an open, impartial, and collaborative Platform, built by the European research community according to their needs.
AI4TRUST	AI4TRUST AI-based-technologies for trustworthy solutions against disinformation Horizon Europe January 1, 2023 - February 28, 2026 AI4TRUST will provide a hybrid system, where machines cooperate with humans, relying on advanced AI solutions against advanced disinformation techniques to support media professionals and policy makers.
AI4Copernicus	Reinforcing the AI4EU Platform by Advancing Earth Observation Intelligence, Innovation and Adoption H2020 January 1, 2021 - December 31, 2023 [Coordinator] AI4Copernicus aims to make the AI4EU AI-on-demand platform the platform of choice for users of Copernicus data along the value chain (scientists, SMEs, non-tech sector). AI4Copernicus will achieve this by exposing AI4EU resources on DIAS (data and information access services) platforms.
Smart Attica EDIH	Smart Attica DIH, the Attica region - Greek Innovation hub for Artificial Intelligence in Energy and Environment, Supply chain and mobility, Culture and Tourism Digital Europe Programme (DIGITAL) January 1, 2023 - December 31, 2025 [Coordinator] SmartAttica aims to constitute the reference AI EDIH of Greece and increase the digital maturity of Greek businesses and local authorities through increased AI uptake.
popAI	popAI A European positive sum approach towards AI tools in support of Law Enforcement and safeguarding privacy and fundamental rights, CSA, H2020, (10/2021-09/2023) (Project Coordinator)

Description of any significant infrastructure and/or any major items of technical equipment, relevant to the proposed work.

Name of infrastructure of equipment	Short description (Max 300 characters)
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Administrative forms

<i>Attica Hub for the Economy of Data and Devices</i>	<i>SMART-CITY testbed, IoT testbed, 5G Technologies testbed</i>
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Gender Equality Plan

Does the organization have a Gender Equality Plan (GEP) covering the elements listed below?

☒ Yes ☐ No

Minimum process-related requirements (building blocks) for a GEP

- **Publication:** formal document published on the institution's website and signed by the top management
- **Dedicated resources:** commitment of human resources and gender expertise to implement it.
- **Data collection and monitoring:** sex/gender disaggregated data on personnel (and students for establishments concerned) and annual reporting based on indicators.
- **Training:** Awareness raising/trainings on gender equality and unconscious gender biases for staff and decision-makers.
- **Content-wise, recommended areas** to be **covered** and addressed via concrete measures and targets are:
 - o work-life balance and organisational culture;
 - o gender balance in leadership and decision-making;
 - o gender equality in recruitment and career progression;
 - o integration of the gender dimension into research and teaching content;
 - o measures against gender-based violence including sexual harassment.

Administrative forms

PIC	Legal name
892004726	SMARALD TECH SRL

Short name: SMARALD TECH

Address

Street	Str. Oltului Nr 13, Bld D8a, Ap7
Town	Galati
Postcode	800424
Country	Romania
Webpage	www.smarald.ro

Specific Legal Statuses

Legal person	yes
Public body	no
Non-profit	no
International organisation	unknown
Secondary or Higher education establishment	unknown
Research organisation	unknown

SME Data

Based on the below details from the Participant Registry the organisation is **unknown** (small- and medium-sized enterprise) for the call.

SME self-declared status	unknown
SME self-assessment	unknown
SME validation	unknown

Administrative forms

Departments carrying out the proposed work

No department involved

Department name

Name of the department/institute carrying out the work.

☒ not applicable

☐ Same as proposing organisation's address

Street

Please enter street name and number.

Town

Please enter the name of the town.

Postcode

Area code.

Country

Please select a country

Links with other participants

Type of link	Participant
--------------	-------------

Administrative forms

Main contact person

This will be the person the EU services will contact concerning this proposal (e.g. for additional information, invitation to hearings, sending of evaluation results, convocation to start grant preparation). The data in blue is read-only. Details (name, first name and e-mail) of Main Contact persons should be edited in the step "Participants" of the submission wizard.

Title **Mr**

Gender ☐ Woman ☒ Man ☐ Non Binary

First name* **Paul**

Last name* **Ivanov**

E-Mail* **paul.ivanov@tradingline.eu**

Position in org. **CEO**

Department **SMARALD TECH SRL**

☒ Same as organisation name

☒ Same as proposing organisation's address

Street **Str. Oltului Nr 13, Bld D8a, Ap7**

Town **Galati**

Post code **800424**

Country **Romania**

Website **www.smarald.ro**

Phone **+40751225577**

Phone 2 **+XXX XXXXXXXXXX**

Administrative forms

Researchers involved in the proposal

Title	First Name	Last Name	Gender	Nationality	E-mail	Career Stage	Role of researcher (in the project)	Reference Identifier	Type of identifier	
Mr	Paul	Ivanov	Man	Romania	paul.ivanov@tradingline.eu	Category D First stage r	Leading		Other ID	
Mr	Sandu Ciprian	Doca	Man	Romania	sandu.doca@tradingline.eu	Category D First stage r	Team member		Other ID	
Mr	Ionut	Nastase	Man	Romania	ionut@smarald.ro	Category D First stage r	Team member		Other ID	
Mr	Pogar	Mihai	Man	Romania	pogar.mihai@tradingline.eu	Category D First stage r	Team member		Other ID	

Administrative forms

Role of participating organisation in the project

Project management	<input type="checkbox"/>
Communication, dissemination and engagement	<input checked="" type="checkbox"/>
Provision of research and technology infrastructure	<input checked="" type="checkbox"/>
Co-definition of research and market needs	<input type="checkbox"/>
Civil society representative	<input type="checkbox"/>
Policy maker or regulator, incl. standardisation body	<input type="checkbox"/>
Research performer	<input type="checkbox"/>
Technology developer	<input type="checkbox"/>
Testing/validation of approaches and ideas	<input checked="" type="checkbox"/>
Prototyping and demonstration	<input type="checkbox"/>
IPR management incl. technology transfer	<input type="checkbox"/>
Public procurer of results	<input type="checkbox"/>
Private buyer of results	<input type="checkbox"/>
Finance provider (public or private)	<input type="checkbox"/>
Education and training	<input type="checkbox"/>
Contributions from the social sciences or/and the humanities	<input type="checkbox"/>
Other If yes, please specify: (Maximum number of characters allowed: 50)	<input type="checkbox"/>

Administrative forms

List of up to 5 publications, widely-used datasets, software, goods, services, or any other achievements relevant to the call content.

Type of achievement	Short description (Max 500 characters)
Other achievement	

List of up to 5 most relevant previous projects or activities, connected to the subject of this proposal.

Name of Project or Activity	Short description (Max 500 characters)
Testing of integration of MQTT	MQTT to develop recipe and step of productions.

Description of any significant infrastructure and/or any major items of technical equipment, relevant to the proposed work.

Name of infrastructure of equipment	Short description (Max 300 characters)
Robots - KUKA KMR iiwa	The industrial production of wafers requires sensitive, intelligent and clean automation solutions. KMR iiwa offer the CR specifically for the safe handling of sensitive components such as wafers. The solution consists of a combination of a cleanroom cobot and a mobile platform. The robot's paten
Kuka Robots:	Robots for different Manufacture process KR3 R540 KR6 R720-2 KR-10 R900-2
UR Robots:	Cobots The URe has a compact form factor making it a good fit for tight workspaces. Its small footprint is great for bench-tops or built directly inside machinery, making it well suited for light assembly and screwdriving applications. 1x UR3 2x UR5 1x UR10
3D Printers - WAX (4.0)	20x SolidScape S360, 2x ProJet MJP 2500W 2x ProJet MJP 3600W
3D Printers - Resin (4.0)	DWS 028J+ DWS 029xc
CNC - Machines (4.0)	2x Benzingers 5@works (5 axes) Benginger GoRing R2
Laser - Machines (4.0)	BSP 200F EP-SISMA BIG SMARK 500F EP BIG SMARK 1000F EP
Casting - Machines (4.0)	Induterm , TVTC 100V , VC 680V Galloni Impianti
Chain Produce - Machines (4.0)	6x Sisma SGUL/W with Laser Chain Welding SL PLUS 50 1x Sisma F2/VL 1x Sisma SFV/L

Gender Equality Plan

Does the organization have a Gender Equality Plan (GEP) covering the elements listed below?

☐ Yes ☒ No

Minimum process-related requirements (building blocks) for a GEP

- **Publication:** formal document published on the institution's website and signed by the top management
- **Dedicated resources:** commitment of human resources and gender expertise to implement it.
- **Data collection and monitoring:** sex/gender disaggregated data on personnel (and students for establishments concerned) and annual reporting based on indicators.
- **Training:** Awareness raising/trainings on gender equality and unconscious gender biases for staff and decision-makers.
- **Content-wise, recommended areas** to be **covered** and addressed via concrete measures and targets are:
 - o work-life balance and organisational culture;
 - o gender balance in leadership and decision-making;
 - o gender equality in recruitment and career progression;
 - o integration of the gender dimension into research and teaching content;
 - o measures against gender-based violence including sexual harassment.

Administrative forms

Proposal ID **101135948**

Acronym **PROSPECTS 5.0**

3 - Budget

No.	Name of beneficiary	Country	Role	Personnel costs/€	Subcontracting costs/€	Purchase costs - Travel and subistence /€	Purchase costs - Equipment/€	Purchase costs - Other goods, works and services/€	Internally invoiced goods and services/€ (Unit costs-usual accounting practices)	Indirect costs/€	Total eligible costs	Funding rate	Maximum EU contribution to eligible costs	Requested EU contribution to eligible costs/€	Max grant amount	Income generated by the action	Financial contributions	Own resources	Total estimated income
1	Flanders Make	BE	Coordinator	251 619	0	30 500	0	63 500	0	86 404.75	432 023.75	100	432 023.75	432 023.75	432 023.75	0.00	0.00	0.00	432 023.75
2	Zapadoceska Univerzita V Plzni	CZ	Partner	64 600	0	12 500	0	0	0	19 275.00	96 375.00	100	96 375.00	96 375.00	96 375.00	0.00	0.00	0.00	96 375.00
3	Inegi - Instituto De Ciencia E	PT	Partner	104 590	0	12 500	0	0	0	29 272.50	146 362.50	100	146 362.50	146 362.50	146 362.50	0.00	0.00	0.00	146 362.50
4	Fundacion Tecnalía Research &	ES	Partner	171 774	0	12 500	0	7 500	0	47 943.50	239 717.50	100	239 717.50	239 717.50	239 717.50	0.00	0.00	0.00	239 717.50
5	Nerosubianco Srl	IT	Partner	124 200	0	12 500	0	7 500	0	36 050.00	180 250.00	100	180 250.00	180 250.00	180 250.00	0.00	0.00	0.00	180 250.00
6	Fundacio Eurecat	ES	Partner	124 700	0	12 500	0	7 500	0	36 175.00	180 875.00	100	180 875.00	180 875.00	180 875.00	0.00	0.00	0.00	180 875.00
7	Universita Degli Studi Di Modena E	IT	Partner	165 000	0	12 500	0	10 000	0	46 875.00	234 375.00	100	234 375.00	234 375.00	234 375.00	0.00	0.00	0.00	234 375.00
8	Aethon Engineering Single	EL	Partner	133 250	0	12 500	0	7 500	0	38 312.50	191 562.50	100	191 562.50	191 562.50	191 562.50	0.00	0.00	0.00	191 562.50
9	Forschungsinsitut Fur Rationalisierung	DE	Partner	129 012	0	12 500	0	0	0	35 378.00	176 890.00	100	176 890.00	176 890.00	176 890.00	0.00	0.00	0.00	176 890.00
10	Octave	BE	Partner	54 600	0	6 250	0	0	0	15 212.50	76 062.50	100	76 062.50	76 062.50	76 062.50	0.00	0.00	0.00	76 062.50

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11	Efesto	FR	Partner	50 820	0	6 250	0	0	0	14 267.50	71 337.50	100	71 337.50	71 337.50	71 337.50	0.00	0.00	0.00	71 337.50
12	I2m Unternehmen sentwicklung	AT	Partner	125 400	0	12 500	0	0	0	34 475.00	172 375.00	100	172 375.00	172 375.00	172 375.00	0.00	0.00	0.00	172 375.00
13	Zeuko Sa	ES	Partner	44 377	0	6 250	0	0	0	12 656.75	63 283.75	100	63 283.75	63 283.75	63 283.75	0.00	0.00	0.00	63 283.75
14	Fundacja Partnerstwa Technologiczn	PL	Partner	151 800	0	12 500	0	3 000	0	41 825.00	209 125.00	100	209 125.00	209 125.00	209 125.00	0.00	0.00	0.00	209 125.00
15	Stirtec Gmbh	AT	Partner	66 220	0	6 250	0	0	0	18 117.50	90 587.50	100	90 587.50	90 587.50	90 587.50	0.00	0.00	0.00	90 587.50
16	Hubert Schmitz Gmbh	DE	Partner	65 912	0	6 250	0	0	0	18 040.50	90 202.50	100	90 202.50	90 202.50	90 202.50	0.00	0.00	0.00	90 202.50
17	B.braun Avitum Italy Spa	IT	Partner	61 600	0	6 250	0	0	0	16 962.50	84 812.50	100	84 812.50	84 812.50	84 812.50	0.00	0.00	0.00	84 812.50
18	Sintef As	NO	Partner	194 652	0	15 000	0	0	0	52 413.00	262 065.00	100	262 065.00	262 065.00	262 065.00	0.00	0.00	0.00	262 065.00
19	Intract Inovasyon Danismanlik	TR	Partner	138 000	0	15 000	0	2 700	0	38 925.00	194 625.00	100	194 625.00	194 625.00	194 625.00	0.00	0.00	0.00	194 625.00
20	Teknorot Otomotiv Urunleri San.	TR	Partner	26 950	0	8 500	0	0	0	8 862.50	44 312.50	100	44 312.50	44 312.50	44 312.50	0.00	0.00	0.00	44 312.50
21	Latvijas Tehnologiskais Centrs	LV	Partner	96 000	0	12 500	0	0	0	27 125.00	135 625.00	100	135 625.00	135 625.00	135 625.00	0.00	0.00	0.00	135 625.00
22	Knowit Objectnet As	NO	Partner	85 747	0	7 500	0	0	0	23 311.75	116 558.75	100	116 558.75	116 558.75	116 558.75	0.00	0.00	0.00	116 558.75
23	Cameleo Lesniewicz Gradkowska Sj	PL	Partner	38 500	0	6 250	0	0	0	11 187.50	55 937.50	100	55 937.50	55 937.50	55 937.50	0.00	0.00	0.00	55 937.50
24	Trygons Sa	EL	Partner	34 650	0	6 250	0	0	0	10 225.00	51 125.00	100	51 125.00	51 125.00	51 125.00	0.00	0.00	0.00	51 125.00
25	Amf, Lda	PT	Partner	38 500	0	6 250	0	0	0	11 187.50	55 937.50	100	55 937.50	55 937.50	55 937.50	0.00	0.00	0.00	55 937.50
26	Elmi Sia	LV	Partner	26 950	0	6 250	0	0	0	8 300.00	41 500.00	100	41 500.00	41 500.00	41 500.00	0.00	0.00	0.00	41 500.00
27	Gtw Bearings S.r.o.	CZ	Partner	30 800	0	6 250	0	0	0	9 262.50	46 312.50	100	46 312.50	46 312.50	46 312.50	0.00	0.00	0.00	46 312.50

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28	Katholieke Universiteit Leuven	BE	Partner	84 000	0	8 400	0	0	0	23 100.00	115 500.00	100	115 500.00	115 500.00	115 500.00	0.00	0.00	0.00	115 500.00
29	Universiteit Gent	BE	Partner	77 145	0	8 400	0	0	0	21 386.25	106 931.25	100	106 931.25	106 931.25	106 931.25	0.00	0.00	0.00	106 931.25
30	Agencia Per A La Competitivitat	ES	Associated	0	0	0	0	0	0	0.00	0.00	100	0.00	0.00	0.00	0.00	0.00	0.00	0.00
31	Confindustria Emilia Romagna	IT	Associated	0	0	0	0	0	0	0.00	0.00	100	0.00	0.00	0.00	0.00	0.00	0.00	0.00
32	Art-er-societa Consortile Per Azioni	IT	Associated	0	0	0	0	0	0	0.00	0.00	100	0.00	0.00	0.00	0.00	0.00	0.00	0.00
33	Smile-dih	IT	Associated	0	0	0	0	0	0	0.00	0.00	100	0.00	0.00	0.00	0.00	0.00	0.00	0.00
34	Bic Plzen Spolecnost S Rucenim	CZ	Associated	0	0	0	0	0	0	0.00	0.00	100	0.00	0.00	0.00	0.00	0.00	0.00	0.00
35	Klastr Mechatronika, Z.s.	CZ	Associated	0	0	0	0	0	0	0.00	0.00	100	0.00	0.00	0.00	0.00	0.00	0.00	0.00
36	Rheinisch-westfaelische Technische	DE	Associated	0	0	0	0	0	0	0.00	0.00	100	0.00	0.00	0.00	0.00	0.00	0.00	0.00
37	Latvijas Informacijas Tehnologiju	LV	Associated	0	0	0	0	0	0	0.00	0.00	100	0.00	0.00	0.00	0.00	0.00	0.00	0.00
38	National Center For Scientific	EL	Associated	0	0	0	0	0	0	0.00	0.00	100	0.00	0.00	0.00	0.00	0.00	0.00	0.00
39	Smarald Tech Srl	RO	Partner	23 100	0	6 250	0	0	0	7 337.50	36 687.50	100	36 687.50	36 687.50	36 687.50	0.00	0.00	0.00	36 687.50
	TOTAL			2 784 468	0	305 800	0	109 200	0	799 867.00	3 999 335.00		3 999 335.00	3 999 335.00	3 999 335.00	0.00	0.00	0.00	3 999 335.00

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4 - Ethics & security

Ethics Issues Table

1. Human Embryonic Stem Cells and Human Embryos		Page
Does this activity involve Human Embryonic Stem Cells (hESCs)?	<input type="radio"/> Yes <input checked="" type="radio"/> No	
Does this activity involve the use of human embryos?	<input type="radio"/> Yes <input checked="" type="radio"/> No	
2. Humans		Page
Does this activity involve human participants?	<input type="radio"/> Yes <input checked="" type="radio"/> No	
Does this activity involve interventions (physical also including imaging technology, behavioural treatments, etc.) on the study participants?	<input type="radio"/> Yes <input checked="" type="radio"/> No	
Does this activity involve conducting a clinical study as defined by the Clinical Trial Regulation (EU 536/2014) ? (using pharmaceuticals, biologicals, radiopharmaceuticals, or advanced therapy medicinal products)	<input type="radio"/> Yes <input checked="" type="radio"/> No	
3. Human Cells / Tissues (not covered by section 1)		Page
Does this activity involve the use of human cells or tissues?	<input type="radio"/> Yes <input checked="" type="radio"/> No	
4. Personal Data		Page
Does this activity involve processing of personal data?	<input type="radio"/> Yes <input checked="" type="radio"/> No	
Does this activity involve further processing of previously collected personal data (including use of preexisting data sets or sources, merging existing data sets)?	<input type="radio"/> Yes <input checked="" type="radio"/> No	
Is it planned to export personal data from the EU to non-EU countries? Specify the type of personal data and countries involved	<input type="radio"/> Yes <input checked="" type="radio"/> No	
Is it planned to import personal data from non-EU countries into the EU or from a non-EU country to another non-EU country? Specify the type of personal data and countries involved	<input type="radio"/> Yes <input checked="" type="radio"/> No	
Does this activity involve the processing of personal data related to criminal convictions or offences?	<input type="radio"/> Yes <input checked="" type="radio"/> No	
5. Animals		Page
Does this activity involve animals?	<input type="radio"/> Yes <input checked="" type="radio"/> No	
6. Non-EU Countries		Page
Will some of the activities be carried out in non-EU countries?	<input type="radio"/> Yes <input checked="" type="radio"/> No	
In case non-EU countries are involved, do the activities undertaken in these countries raise potential ethics issues?	<input type="radio"/> Yes <input checked="" type="radio"/> No	
It is planned to use local resources (e.g. animal and/or human tissue samples, genetic material, live animals, human remains, materials of historical value, endangered fauna or flora samples, etc.)?	<input type="radio"/> Yes <input checked="" type="radio"/> No	
Is it planned to import any material (other than data) from non-EU countries into the EU or from a non-EU country to another non-EU country? For data imports, see section 4.	<input type="radio"/> Yes <input checked="" type="radio"/> No	
Is it planned to export any material (other than data) from the EU to non-EU countries? For data exports, see section 4.	<input type="radio"/> Yes <input checked="" type="radio"/> No	
Does this activity involve low and/or lower middle income countries , (if yes, detail the benefit-sharing actions planned in the self-assessment)	<input type="radio"/> Yes <input checked="" type="radio"/> No	
Could the situation in the country put the individuals taking part in the activity at risk?	<input type="radio"/> Yes <input checked="" type="radio"/> No	
7. Environment, Health and Safety		Page

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Does this activity involve the use of substances or processes that may cause harm to the environment, to animals or plants.(during the implementation of the activity or further to the use of the results, as a possible impact) ? ☐ Yes ☒ No

Does this activity deal with endangered fauna and/or flora / protected areas? ☐ Yes ☒ No

Does this activity involve the use of substances or processes that may cause harm to humans, including those performing the activity.(during the implementation of the activity or further to the use of the results, as a possible impact) ? ☐ Yes ☒ No

8. Artificial Intelligence

Page

Does this activity involve the development, deployment and/or use of Artificial Intelligence? (if yes, detail in the self-assessment whether that could raise ethical concerns related to human rights and values and detail how this will be addressed). ☐ Yes ☒ No

9. Other Ethics Issues

Page

Are there any other ethics issues that should be taken into consideration? ☐ Yes ☒ No

I confirm that I have taken into account all ethics issues above and that, if any ethics issues apply, I will complete the ethics self-assessment as described in the guidelines [How to Complete your Ethics Self-Assessment](#)



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Ethics Self-Assessment

Ethical dimension of the objectives, methodology and likely impact

The PROSPECTS 5.0 project has been thoroughly evaluated for ethical issues based on its objectives, methodologies, planned work, and potential impact, in compliance with the Horizon Europe Work Programme's general principles. The consortium has identified and verified that there are NO potential ethical issues in this research project. Additionally, NO toxic chemical materials or nanomaterials are used, and no activities that could cause environmental damage or political or financial consequences are planned. The FM will manage this project while fully complying with the EU GDPR data protection legislation, ensuring that participants are fully informed about data usage, access, and withdrawal. If the project is successful, the FM will work closely with all partners to handle any ethical issues that may arise appropriately. The consortium partners will raise and discuss any ethical issues arising during the project at project regular meetings, management meetings, and advisory board meetings. Therefore, the PROSPECTS 5.0 project has no identified ethical issues and is fully committed to ethical research practices.

Remaining characters

3860

Compliance with ethical principles and relevant legislations

The PROSPECTS 5.0 consortium is fully aware of the ethical implications of the proposed research and is committed to upholding the ethical rules and standards of HORIZON EUROPE, as well as those outlined in the Charter of Fundamental Rights of the European Union. Ethical, social, and data protection considerations are of paramount importance to this project and will be given the utmost attention. In light of the critical nature of ethics and data privacy aspects, the consortium has developed a Data Management Plan to establish the necessary mechanisms for the supervision and enforcement of ethical principles throughout the project. The PROSPECTS 5.0 consortium acknowledges that ethical, privacy, and data protection issues will arise from the project activities, particularly in relation to data collection from human participants in fourteen different demonstrators. Data will be collected regarding ambient conditions in their living and working environments and will be done in full compliance with relevant legislation and directives. The consortium will adhere to the Universal Declaration of Human Rights and Convention 108 for the Protection of Individuals with Regard to Automatic Processing of Personal Data, as well as Directive 95/46/EC and Directive 2002/58/EC of the European Parliament, with regard to issues of privacy and protection of personal data and the free movement of such data. The PROSPECTS 5.0 project will fully comply with the national legislation of the pilot countries involved in the project. Lastly, the consortium recognizes the ethical requirements for technology solutions to security and privacy. Therefore, the consortium will communicate and enforce participants' data protection as a policy in all aspects of the approach with AI-based solutions, with the measures described above.

Remaining characters

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Security issues table

1. EU Classified Information (EUCI) ²		Page
Does this activity involve information and/or materials requiring protection against unauthorised disclosure (EUCI)?	<input type="radio"/> Yes <input checked="" type="radio"/> No	
Does this activity involve non-EU countries which need to have access to EUCI?	<input type="radio"/> Yes <input checked="" type="radio"/> No	
2. Misuse		Page
Does this activity have the potential for misuse of results?	<input type="radio"/> Yes <input checked="" type="radio"/> No	
3. Other Security Issues		Page
Does this activity involve information and/or materials subject to national security restrictions? If yes, please specify: (Maximum number of characters allowed: 1000)	<input type="radio"/> Yes <input checked="" type="radio"/> No	
Are there any other security issues that should be taken into consideration? If yes, please specify: (Maximum number of characters allowed: 1000)	<input type="radio"/> Yes <input checked="" type="radio"/> No	

Security self-assessment

Please specify: (Maximum number of characters allowed: 5000)

Remaining characters 5000

²According to the Commission Decision (EU, Euratom) 2015/444 of 13 March 2015 on the security rules for protecting EU classified information, “European Union classified information (EUCI) means any information or material designated by an EU security classification, the unauthorised disclosure of which could cause varying degrees of prejudice to the interests of the European Union or of one or more of the Member States”.

³Classified background information is information that is already classified by a country and/or international organisation and/or the EU and is going to be used by the project. In this case, the project must have in advance the authorisation from the originator of the classified information, which is the entity (EU institution, EU Member State, third state or international organisation) under whose authority the classified information has been generated.

⁴EU classified foreground information is information (documents/deliverables/materials) planned to be generated by the project and that needs to be protected from unauthorised disclosure. The originator of the EUCI generated by the project is the European Commission.



PROSPECTS



Part B: technical description

PROGRESS TOWARDS INDUSTRY 5-0. A SMART STUDY ON ANALYSIS AND IDENTIFICATION OF PRACTICES, DRIVERS, SUCCESS FACTORS AND OBSTACLES OF TRANSITIONS TOWARDS INDUSTRY 5.0. (PROSPECTS 5.0)

#@APP-FORM-HERIAIA@#

List of participants

	No	Participant organisation name	Short name	Country	Type
Core partners	1	Flanders Make	FM	Belgium	RTO
	2	SINTEF AS	SINTEF	Norway	RTO
	3	AETHON ENGINEERING SINGLE MEMBER PC	AETHON	Greece	SME
	4	INSTITUTO DE CIENCIA E INOVACAO EM ENG. MEC. E ENG. INDUSTRIAL	INEGI	Portugal	RTO
	5	UNIVERSITA DEGLI STUDI DI MODENA E REGGIO EMILIA	UNIMORE	Italy	Academia
	6	FUNDACION TECNALIA RESEARCH & INNOVATION	TECNALIA	Spain	RTO
	7	ZAPADOESKA UNIVERZITA V PLZNI	UWB	Czechia	Academia
	8	FUNDACIO EURECAT	EURECAT	Spain	RTO
	9	LATVIJAS TEHNOLOGISKAIS CENTRS NODIBINAJUMS	LTC	Latvia	RTO
	10	FORSCHUNGSINSTITUT FUR RATIONALISIERUNG VEREIN	FIR	Germany	RTO
	11	I2M UNTERNEHMENSENTWICKLUNG GMBH	I2M	Austria	SME
	12	UNIVERSITEIT GENT	UGENT	Belgium	Academia
	13	INTRACT INOVASYON DANISMANLIK LIMITED SIRKETI	INTRACT	Türkiye	SME
	14	UNDACJA PARTNERSTWA TECH. TECHNOLOGY PARTNERS	TPF	Poland	SME
	15	KATHOLIEKE UNIVERSITEIT LEUVEN	KUL	Belgium	Academic
	16	NEROSUBIANCO SRL	NSB	Italy	SME
Use case providers	17	OCTAVE	OCTAVE	Belgium	Scale-up
	18	Knowit Objectnet AS	Knowit	Norway	Industry
	19	TRYGONS SA	Trygons	Greece	Spin-off
	20	AMF,LDA	AMF	Portugal	Industry
	21	B.BRAUN AVITUM ITALY SPA	B.BRAUN	Italy	Industry
	22	ZEUKO SA	ZEUKO	Spain	SME
	23	GTW BEARINGS s.r.o.	GWT	Czechia	Industry
	24	ELMI SIA	ELMI	Latvia	SME
	25	Hubert Schmitz GmbH	S-Gard	Germany	SME
	26	STIRTEC GMBH	STIRTEC	Austria	Spin-off
	27	EFESTO	EFESTO	France	Spin-off
	28	SMARALD TECH SRL	SMARALD	Romania	SME
	29	Teknorot Otomotiv Urunleri San. ve Tic. A.S.	TEKNOROT	Türkiye	Industry
	30	CAMELEO LESNIEWICZ GRADKOWSKA SJ	CAMELEO	Poland	SME



Associated	31	AGENCIA PER A LA COMPETITIVITAT DE LA EMPRESA	ACCIÓ	Spain	Government Agency
	32	CONFINDUSTRIA EMILIA ROMAGNA RICERCA SCARL	CERR	Italy	Industry Association
	33	RHEINISCH-WESTFAELISCHE TECHNISCHE HOCHSCHULE AACHEN	RWTH	Germany	Academia
	34	ART-ER-SOCIETA CONSORTILE PER AZIONI	ART-ER	Italy	Government Agency
	35	Klastr MECHATRONIKA, z.s.	Klastr	Czechia	Industry Cluster
	36	LATVIJAS INFORMACIJAS TEHNOLOGIJU KLASITERIS	Latvian IT Cluster	Latvia	Industry Cluster
	37	SMILE-DIH	SMILE-DIH	Italy	EDIH
	38	NATIONAL CENTER FOR SCIENTIFIC RESEARCH "DEMOKRITOS"	DEMOKRITOS	Greece	RTO
	39	BIC PLZEN SPOLECNOST S RUCENIM OMEZENYM	BIC PLZEN	Czechia	SME

1 Excellence #@REL-EVA-RE@#

European industry is a key driving force in the economic and societal transitions that we are currently facing. To remain the engine of prosperity, industry must lead the digital and green transitions (twin transition). This approach provides a vision of industry that aims beyond efficiency and productivity as the sole goals but reinforces the role and the contribution of industry to society. Industry 5.0 represents the latest evolution in the industry, characterised by a human-centric approach to technology and manufacturing. Unlike previous industrial revolutions, Industry 5.0 aims to combine the strengths of both human and technological capabilities, facilitating greater efficiency and productivity while safeguarding the interests of workers. This focus on Industry 5.0 is critical for various reasons. Firstly, it enables the integration of advanced technologies such as artificial intelligence, robotics, and the Internet of Things (IoT) with human skills and creativity, thereby enhancing the efficiency and flexibility of manufacturing. Secondly, it fosters sustainability by reducing waste, optimising energy consumption, and promoting a circular economy. Thirdly, it improves the quality of products and services by providing customised and personalised solutions to customers. Fourthly, it creates new employment opportunities that require advanced technical and soft skills such as creativity, empathy, and problem-solving. Finally, Industry 5.0 promotes economic growth by driving innovation, increasing competitiveness, and promoting social and environmental responsibility. The transition towards Industry 5.0 is crucial for European companies to maintain global competitiveness, resilience to disruptions, and progress towards climate change objectives.

PROSPECTS 5.0 doesn't view industry 5.0 as a mere chronological continuation of, or alternative to, the existing Industry 4.0 paradigm. Rather, consider it is a forward-looking exercise that seeks to frame how European industry can coexist with emerging societal trends and needs. PROSPECTS 5.0 considers Industry 5.0 complements and extends the hallmark features of Industry 4.0. By embracing Industry 5.0, companies can continue to leverage the technologies and principles of Industry 4.0, while also addressing evolving societal and environmental challenges as key differentiators. In this way, Industry 5.0 provides a path towards a more sustainable and resilient future for European industry. Prospects 5.0 uses a holistic and inclusive approach to stakeholder engagement to raise awareness and engage with Industry 5.0 transition and offer practical tools and guidelines to enable a faster uptake. While aiming on the one hand for a holistic approach and a broad uptake, PROSPECTS 5.0 on the other hand will deep dive in key sectors and use cases identified as the driving stakeholders to enable a fast uptake.

The PROSPECTS 5.0 project aims to support the transition to Industry 5.0 by providing practical guidance, tools, and solutions for industry stakeholders to remove the barriers for industry to opt into the I5.0 transition. PROSPECTS 5.0 will achieve this vision by focusing on the following key aspects:

- Firstly, **fostering collaboration between** companies, universities, research centres, and government agencies to co-create new solutions and innovations. This can lead to a better understanding of customer needs, the development of new business models, and the creation of new markets and value chains.
- Secondly, the project aims to improve the **skills and mindsets** of individuals by investing in the development of new skills such as creativity, critical thinking, and communication. This will be achieved through training programmes, mentoring, coaching, and other activities envisioned in PROSPECTS 5.0 to promote continuous learning and improvement.
- Thirdly, the project will **study pilot projects** to test and validate new technologies, processes, and business models. This allows companies to learn from their mistakes, iterate, and refine their approach before scaling up.
- Fourthly, the project aims to measure the impact of Industry 5.0 on various operations, employees, customers, and the environment, including key performance indicators (KPIs), such as productivity, quality, customer satisfaction, resiliency, and sustainability. The results will be communicated to relevant stakeholders.
- Lastly, **raising awareness** about the benefits and opportunities of Industry 5.0 is crucial. This will be achieved through PROSPECTS 5.0 workshops, seminars/webinars, and other events that showcase successful case



studies, best practices, challenges, and the latest trends and technologies.

One of the main features of PROSPECTS 5.0 is the study of a broad range of use case (14 use case) with different maturity level from 14 European Union (EU) countries. The use cases cover different industrial sectors, including various types of *manufacturing, service providing, education, energy, aviation transport, and automotive*. The selected industrial sectors hold a great significance in the European economy and are experiencing notable transformations due to the fourth industrial revolution. As a result, these sectors have been identified as critical drivers for the adoption of Industry 5.0. Furthermore, these sectors are instrumental in utilizing the enabling technologies that are necessary for the implementation of Industry 5.0. Hence, the selection of use cases from these sectors will enable a focused approach towards implementing Industry 5.0, ensuring a swift and effective transition in Europe. Studying a diverse range of use cases from different countries and industries can provide benefits and insights for stakeholders and companies looking to transition towards Industry 5.0.

- Learning from real-world examples: It can provide tangible evidence of the benefits of Industry 5.0 for different industries, such as increased efficiency, productivity, and sustainability, which can help convince companies that Industry 5.0 is important and worth investing in.
- Identifying common themes: analysing multiple use cases can help identify common themes and patterns that contribute to successful and fast uptake of Industry 5.0 across different sectors and countries. This can help stakeholders and companies understand the key factors that contribute to success and avoid common mistakes, ultimately improving the chances of success.
- Building a network of knowledge-sharing: studying use cases from different countries and industries can identify potential cross-sectoral collaborations and opportunities for knowledge exchange. This can create a network of Industry 5.0 practitioners who can collaborate and share best practices, ultimately accelerating the transition towards Industry 5.0.
- Demonstrating the benefits: showcasing the benefits of Industry 5.0 through multiple use cases can help change the mindset and encourage more widespread adoption. This can ultimately lead to a more sustainable, productive, and innovative economy.

PROSPECTS 5.0 will rely on a multidisciplinary team of experts working together to develop **reports, guidelines, policy recommendations, collaborative hubs and tools** for the successful implementation of PROSPECTS 5.0

1.1 Objectives and ambition #@PRJ-OBJ-PO@#

1.1.1 Global and specific objectives

The global objective of the PROSPECTS 5.0 project is to facilitate the successful transition to Industry 5.0 by providing practical guidance, tools, and solutions to policy makers and industry stakeholders.

The global objective of **PROSPECTS 5.0** is to accelerate the transition towards industry 5.0 by fostering collaboration, improving individual skills and mindsets about industry 5.0, studying pilot projects, measuring impact, and raising awareness. In addition, **PROSPECTS 5.0 aims** to studying a diverse range of use cases from different countries and industries with various level of maturity will provide real-world examples to identify common themes, build a network of knowledge-sharing, and demonstrate the benefits of Industry 5.0 to enable a fast uptake of Industry 5.0 to multiple sectors in European industry. The project will rely on a multidisciplinary team of experts to deliver tangible outcomes and to develop reports, guidelines, policy recommendations, collaborative hubs, and tools for successful implementation.

This will be accomplished through **Five** specific objectives with clear, measurable Key Achievement Indicators (KAIs). By achieving the global objective and specific objectives, PROSPECTS 5.0 will contribute to:

- 1) Increased uptake of Industry 5.0 principles and practices across industrial sectors
- 2) Providing sound data and analysis of the uptake of Industry 5.0 for policy makers

Objective 1: Creating an open and resilient ecosystem to perform additive knowledge build-up

PROSPECTS 5.0 defines stakeholders, establishes communication channels, and fosters collaboration through appropriate tools and methodologies to build trust and foster interconnected, inclusive innovation ecosystems across the EU. As a result, a Community of Interest on Industry 5.0 will be established in PROSPECTS5.0, which will be engaged in the different project phases. PROSPECTS 5.0 aims to also collaborate with relevant working groups of Horizon Europe Partnerships or other EU initiatives to promote joint discussions and synergies. This objective will be addressed starting from **WP1**, but in parallel through the whole project activities.

Associated KAIs:

KAI1.1: Since the consortium partners are members of various initiatives and associations, at least the following initiatives and associations will be engaged 1)AI-Data-Robotics Association, 2) A.SPIRE, 3) Processes4Planet, 4) European Digital SME Alliance, 5) AMPlatform, 6) Vanguard Initiative, 7) EPOSS, 8)EIT Digital, 9)EIT manufacturing, 10) EFFRA 11) AENEAS (Association for European NanoElectronics Activities.), 12) IASP - International Association of Science Parks and Areas of Innovation, 13) Regional and national industry related cluster organisations and associations, 14) Regional and national investment and development agencies.

KAI1.2: Around 50 stakeholders involved (including industries, universities, association) through EDIHs, association and initiatives mentioned in KAI1.1.

KAI1.3: At least 14 events and workshops under WP5 will be organised to engage stakeholders.

Objective 2: Developing an Industry 5.0 Assessment Framework based on a multi-step multi-sectorial and multi-stakeholders' engagement and co-creation processes



This focuses on creating a comprehensive, flexible, and exploitable Industry 5.0 Assessment Framework through co-design and continuous stakeholder validation. Previous projects, and evaluation frameworks such as ESG (Environmental, Social, and Governance) and Sustainable Development Goals (SDGs) will be studied to elaborate on KPIs and methodologies for assessing different implementation practices linked to Industry 5.0, main drivers, success factors and bottlenecks. The assessment framework will include a focus on the SMEs/start-ups/scale-ups perspective and adaptable measurements tools will be suggested. The framework allows the quantified analysis of the implementation of Industry 5.0 principles and practices. This objective will be achieved through the tasks in WP1.

Associated KAIs:

KAI2.1 At least the requirements of five sectors/vertical including Manufacturing, Automotive, Aerospace, Transport & Logistics, Energy and Utilities will be assessed.

KAI2.2: Approximately 18 co-creation and validation workshops and event for developing the framework including **1 event** in T1.1 to assess current assessment frameworks and establish the Industry 5.0 Community of Interest. **14 remote workshops** in T1.3 with each PROSPECTS.5 case study to validate the preliminary Industry 5.0 Assessment Framework. **2 workshops** in T1.3 with the Advisory Board to validate the preliminary Industry 5.0 Assessment Framework. **1 workshop** in T1.3 with representatives of EU initiatives and associations to validate the preliminary Industry 5.0 Assessment Framework.

Objective 3: Conducting an evidence-based analysis on implementation practices, drivers, success factors bottlenecks and obstacles to adopt Industry 5.0 principles

PROSPECTS5.0 aims to gain insights into the implementation practices of Industry 5.0 principles in various companies, local innovation ecosystems, and industrial sectors, and to identify the drivers, success factors, and bottlenecks influencing the adoption of these principles. Moreover, PROSPECTS 5.0 aims to address the research on the adoption of Industry 5.0 concepts among SMEs, start-ups, and scale-ups and how to identify strategies to engage them in the twin transition. This objective will be achieved on the one hand, by conducting a literature review, surveys and on the other hand, by involving 14 companies as use case providers and engaging them in the assessment process, guided by the Industry 5.0 Assessment Framework. The task in **WP2&3** will help accomplish this objective. As a result, specific reports adjusted to recipients needs will be developed, on each main topic of interest (the Industry 5.0 Reports – I5.R).

Associated KAIs:

KAI3.1: A minimum of 50 references, comprising of surveys, academic literature, and previous EU projects, will be reviewed.

KAI3.2: **14 empirical** implementation of industry 5.0 in 5 industrial sectors will be studied (through use cases).

KAI3.3: At least 10 SMEs, start-ups, and scale-ups within PROSPECTS5.0 ecosystem will be studied (both through use cases and surveys)

KAI3.4: **4** Industry 5.0 Reports (I5.R) will be created focusing on the following research themes drivers, success factors, bottlenecks and the SMEs/start-ups/scale-ups (more detail on methodology section).

KAI 3.5: **1** assessment tool will be developed

Objective 4: Provide measurement and adaptation tools for Industry Leaders and Policy Makers at national, sectorial and EU level to increase the uptake of industry 5.0 principles

PROSPECTS 5.0 will leverage insights and knowledge gained from the conducted research to develop hands-on guidelines, as well as policy briefs and recommendations for companies, policy makers, and other targeted stakeholders. The goal is to reduce the uncertainty and risk associated with the transition and streamlining implementation of industry 5.0 in different sectors by offering actionable knowledge. This enables industries to learn from successful implementations, anticipate potential obstacles and challenges that may arise during the transition, exchange best practices and lessons learned, and develop strategies to overcome common challenges.

This objective is set to be realised by carrying out the tasks specified in WP4 and developing set of guidelines called I5Gs (more detail on methodology section). This objective also involves the provision of a digital platform to allow easier access to the Assessment Framework as well as a mechanism to promote Industry 5.0 adoption by companies and organisations. This objective will be addressed in **WP4** and partly in **WP3**. Cristina Popa from Romanian Standards Association (ASRO) will be another link between the project and policy makers. Consortium partners will participate CEN CENELEC Technical- and STAIR Committee¹ meetings as Liaison² organisation to reflect the project results with the leadership of INTRACT with support from FIR to achieve a broader awareness of I5.0 and practical actions.

Associated KAIs:

KAI 4.1: At least **10** policy recommendation to facilitate policy-making enabling the uptake of Industry 5.0 principles

KAI 4.2: **5** guidelines will be created

KAI 4.3: The **PROSPECTS platform** fully functional and tested through acceptance testing in workshops.

Objective 5: Accelerating adoption of results to relevant actors by

This objective focuses on raising awareness and accelerating the potential uptake of PROSPECTS 5.0 results and data to relevant actors, by transferring results. A transferability plan, part of work package 5, outlines the transfer of project outputs. In order to achieve this objective, PROSPECTS5.0 will create an Industry 5.0 wiki, host

¹ <https://boss.cen.eu/technicalstructures/pages/tc/>

² <https://boss.cen.eu/technicalstructures/pages/liaison/>



seminars/webinars and training modules, and culminate in a final conference. The Industry 5.0 wiki will serve as an online collaborative platform where stakeholders can share their knowledge and experience related to Industry 5.0. Seminars/webinars and training modules will provide opportunities for in-depth learning and discussion on specific topics. Finally, the final conference will bring together stakeholders to share the results of the project and discuss how to further accelerate the adoption of Industry 5.0. This objective will be addressed in **WP5**.

Associated KAIs:

KAI 5.1: Industry 5.0 Wiki, including the PROSPECTS5.0 knowledge base and open to include input by the external audience

KAI 5.2: 6 seminars/webinars (1 for each industrial sectors covered by use cases) to disseminate evidence of the assessment work performed under WP3 targeted to the entire Community of Interest and extended to additional stakeholders

KAI 5.3: 3 training modules (1 for industry, 1 for policy and 1 for innovation related stakeholders) aimed at transferring PROSPECT 5.0 results in the daily practice

KAI 5.4: 1 Final conference, engaging the whole Industry 5.0 Community of Interest and EU Policy Makers

1.1.2 Challenges and PROSPECTS 5.0 Ambitions

Over the period of 2009 to 2019, the industrial sector accounted for around 20% of the EU GDP with manufacturing contributing 14.5% of value to the economy³. To strengthen and develop industry as a crucial element of the EU's prosperity in the long term, it is vital to understand what the existing challenges are and to offer suitable approaches to address them. The current state of industrial production faces several limitations and challenges such as the need for greater competitiveness and efficiency, the increasing demand for sustainable and environmentally friendly production methods and overall resilience, as was seen lacking during the COVID-19 pandemic. Industry 4.0 has revolutionised manufacturing and production systems by increasing operational efficiency as well as developing and implementing new business models, services, and products⁴. It was developed with a focus on digitalisation and automation of production processes. Therefore, today's technological development is mainly system and machine-oriented rather than people-oriented and has been criticised for its narrow focus on technological advancements and its limited ability to address socio-economic and environmental issues⁵. In response to these limitations, the concept of Industry 5.0 has emerged, which aims to promote a more human-centric and sustainable approach to industrial development by integrating new and advanced technologies with human labour and creativity⁶. Industry 5.0 integrates advanced technologies such as the Internet of Things (IoT), artificial intelligence (AI), robotics, and big data analytics into industrial production processes to create a more flexible, efficient, and sustainable manufacturing environment⁷. Human centrality is at the heart of manufacturing's evolution toward Industry 5.0⁸. Despite the potential benefits, the adoption of Industry 5.0 is still in its early stages and faces significant barriers. **The ambition of PROSPECTS 5.0 is to overcome barriers and accelerate the transition of industries to Industry 5.0. This will be achieved by focusing on specific areas that can have a significant impact on adoption and transition, such as 1) increasing awareness and consolidation, 2) de-risking the transition through sharing empirical implementations and benchmarking against industry peers, 3) facilitating the transition of SMEs/start-ups/scale-ups towards Industry 5.0 (inclusive technology diffusion), 4) providing measurement tools and maturity models, and 5) promoting collaborative and open innovation.**

Table 1 provides a detailed analysis of the current challenges in the focus area and outlines the ambitions of PROSPECTS 5.0 in addressing these challenges.

Table 1. PROSPECTS 5.0 ambitions

Focus area/ Existing challenges/ PROSPECTS 5.0 Ambitions
<p>Focus Area: Awareness and Consolidation</p> <p>Challenge: Lack of knowledge and understanding of Industry 5.0 can be a significant barrier for companies to adopt it⁹. Any sectors may not fully understand what Industry 5.0 entails and the benefits it can offer, leading to a lack of interest in adopting its principles and practices. according to the policy brief published by the EU Commission¹⁰, industries are at the beginning of transition towards industry 5.0. the success highly depends on increasing awareness and the widest possible engagement and action of all stakeholders.</p> <p>PROSPECTS 5.0 ambition: Offering education and training programmes to company employees and decision-makers will help build awareness and understanding of Industry 5.0 concepts, benefits, and potential applications.</p>

³ Maija Breque, Lars De Nul, and Athanasios Petridis, . . *Industry 5.0 : Towards a Sustainable, Human-Centric and Resilient European Industry*, Publications Office., 2021 <<https://op.europa.eu/en/publication-detail/-/publication/468a892a-5097-11eb-b59f-01aa75ed71a1>> [accessed 10 March 2023].

⁴ Dimitris Mourtzis, John Angelopoulos, and Nikos Panopoulos, 'A Literature Review of the Challenges and Opportunities of the Transition from Industry 4.0 to Society 5.0', *Energies* (Multidisciplinary Digital Publishing Institute, 2022), 6276 <<https://doi.org/10.3390/en15176276>>.

⁵ Joel Alves, Tânia M. Lima, and Pedro D. Gaspar, 'Is Industry 5.0 a Human-Centred Approach? A Systematic Review', *Processes* 2023, Vol. 11, Page 193, 11.1 (2023), 193 <<https://doi.org/10.3390/PR11010193>>.

⁶ Jiewu Leng and others, 'Industry 5.0: Prospect and Retrospect', *Journal of Manufacturing Systems*, 65 (2022), 279–95 <<https://doi.org/10.1016/J.JMSY.2022.09.017>>.

⁷ Praveen Kumar Reddy Maddikunta and others, 'Industry 5.0: A Survey on Enabling Technologies and Potential Applications', *Journal of Industrial Information Integration*, 26 (2022), 100257 <<https://doi.org/10.1016/J.JII.2021.100257>>.

⁸ Mourtzis, Angelopoulos, and Panopoulos.

⁹ Mourtzis, Angelopoulos, and Panopoulos.

¹⁰ Breque, De Nul, and Petridis.



PROSPECTS 5.0 ambition in this area are consolidation and promotion of Industry 5.0 principles, elements and impacts through the dissemination activities such as trainings and seminars/webinars. Additionally, PROSPECTS 5.0 will develop a guidance called Industry 5.0 Stakeholder Engagement Guide (**I5SEG**) providing a framework for engaging stakeholders in Industry 5.0 initiatives. **Linked objectives and WPs: Obj: 1 & 5. WPs: 1, 4, & 5**

Focus Area: De-risking the transition through Sharing empirical implementation and Benchmarking against industry peers

Challenge: Companies may be hesitant to transition to Industry 5.0 due to concerns about the risk and challenges associated with implementing Industry 5.0 principles such as investments in new technologies and equipment, workforce training, cybersecurity, data privacy, and intellectual property protection. Moreover, challenges such as measuring environmental and social value creation, addressing social heterogeneity, and promoting corporate social equity and acceptance are becoming increasingly important¹¹. Demonstrating the benefits of Industry 5.0 through sharing empirical implementation and success stories will encourage other companies to adopt it¹².

PROSPECTS 5.0 ambition: the ambition is to reduce the risk of transitioning to Industry 5.0 by helping companies better understand the benefits of the transition and identifying potential obstacles and challenges they may face. Additionally, PROSPECTS 5.0 aims to enable industries to benchmark their progress against their peers, identify areas where they may be falling behind, and take necessary actions to accelerate their transition to Industry 5.0. This will be achieved by studying successful, less successful, and challenging Industry 5.0 empirical use cases and sharing experiences and best practices through exclusive reports called Industry 5.0 implementation practices (I5IP), Industry 5.0 Drivers and Impacts (I5DI), Industry 5.0 Uptake Factors (I5UF) as well as guideline namely Industry 5.0 Best Practices Guide (I5BPG), Adoption Toolkit (I5AT). **Linked objectives and WPs: Obj: 3 & 4. WP 2, 3, & 4**

Focus Area: facilitating the Transition of SME/start-ups/scale ups towards Industry 5.0 (Inclusive Technology Diffusion)

Challenges: As manufacturing evolves toward Industry 5.0, the focus shifts to humans¹³. Small and medium-sized enterprises (SMEs) face major challenges because they have limited resources to implement a successful digitisation strategy that embraces precisely this¹⁴. SME/start-ups/scale ups face several challenges such as a lack of resources, limited access to technology and expertise, and the need for a cultural shift towards the twin transition. Several initiatives and projects such as SURE5.0¹⁵ that are currently underway to address these challenges and help SMEs in their transition towards Industry 5.0. However, there is a need to further analysis of how SMEs/start-ups/scale-ups take up Industry 5.0 principles into account and what the role of the local innovation ecosystem in this is.

PROSPECTS 5.0 ambition: PROSPECTS 5.0 aims to identify best practices, common challenges, and effective strategies that can help SMEs, start-ups, and scale-ups to promote uptake of Industry 5.0. PROSPECTS 5.0 will develop and share tailored reports called Industry 5.0 for Empowering SMEs/start-ups/scale-ups (**I5ES**) elaborating on how these enterprises have implemented Industry 5.0 principles, the role of the local innovation ecosystem, and how Industry 5.0 principles have helped these types of enterprises to successfully participate in the twin transition of industry. to promote uptake of Industry 5.0 in these types of organisations. This will be achieved through in-depth analysis of SMEs, start-ups, and scale-ups that have already implemented or taken the initiative to implement Industry 5.0 principles in various sectors, such as manufacturing, aviation, transport, and energy. **Linked objectives and WPs: Obj: 3 & 4. WP 2, 3, & 4**

Focus Area: Measurement tools and maturity models (MM)

SOA: There are several existing Industry 4.0 maturity models that have been developed by researchers, consulting firms, and industry associations^{16,17, 18}. A recent study has identified a significant gap in the adoption of sustainability, resiliency, and human-centred approaches in existing Industry 4.0 maturity models (MMs)¹⁹. The study investigates 24 industry 4.0 MM and concludes that none of the analysed models fully embraces a human-centred approach and is thus unsuitable for the digital transformation process required for Industry 5.0. Therefore, it is essential to develop Industry 5.0 maturity models take a human-centred approach, prioritise sustainability, and build resiliency into their operations. This approach will help ensure that the benefits of advanced technologies such as AI, IoT, and robotics are fully realised while also creating a more sustainable and resilient industrial

¹¹ Xun Xu and others, 'Industry 4.0 and Industry 5.0—Inception, Conception and Perception', *Journal of Manufacturing Systems*, 61 (2021), 530–35 <<https://doi.org/10.1016/j.jmsy.2021.10.006>>.

¹² Bagria Vipin Kumar, 'Investigation of Readiness Indices for Embracing for Industry 5.0: The Road Ahead by IRJET Journal - Issuu', *International Research Journal of Engineering and Technology (IRJET)*, 9.8 (2022) <<https://issuu.com/irjet/docs/irjet-v9i8118>> [accessed 10 February 2023].

¹³ Jože M. Rožanec and others, 'Human-Centric Artificial Intelligence Architecture for Industry 5.0 Applications', *https://doi.org/10.1080/00207543.2022.2138611*, 2022 <<https://doi.org/10.1080/00207543.2022.2138611>>.

¹⁴ Franziska Hein-Pensel and others, 'Maturity Assessment for Industry 5.0: A Review of Existing Maturity Models', *Journal of Manufacturing Systems*, 66 (2023), 200–210 <<https://doi.org/10.1016/j.jmsy.2022.12.009>>.

¹⁵ 'The SURE 5.0 Project' <<https://sureproject.eu/>> [accessed 13 March 2023].

¹⁶ 'Industrie 4.0 Maturity Index - Acatech - National Academy of Science and Engineering' <<https://en.acatech.de/project/industry-4-0-maturity-index/>> [accessed 24 March 2023].

¹⁷ 'Industry 4.0 Maturity Index | 2018-11-06 | ASSEMBLY' <<https://www.assemblymag.com/articles/94546-industry-40-maturity-index>> [accessed 24 March 2023].

¹⁸ Zhanybek Suleiman and others, 'Readiness Assessment of SMEs in Transitional Economies: Introduction of Industry 4.0', *ACM International Conference Proceeding Series*, 2021, 8–13 <<https://doi.org/10.1145/3447432.3447434>>.

¹⁹ Hein-Pensel and others.



ecosystem.

PROSPECTS 5.0 ambitions: PROSPECTS 5.0 is taking a significant step forward in advancing Industry 5.0 by developing an industry maturity model and digitised platform to assess companies' progress in adopting and maturing in Industry 5.0. Building upon the maturity model for Industry 4.0, PROSPECTS 5.0 is adding new dimensions including the level of integration between humans and machines, sustainability, resiliency, and socio-economic impact. The **digitised platform** and the **maturity model** being developed by PROSPECTS 5.0 will provide measurement tools to assess companies' progress in Industry 5.0 adoption and maturity, allowing them to identify areas for improvement and optimise their operations. **Linked objectives and WPs: Obj: 3& 4 WP: 3&4**

Focus area: Collaborative and open innovation:

Challenge: Industry 5.0 seeks to embed the Industry 4.0 approach into a broader context, promoting a regenerative purpose that benefits people and the planet. However, despite ongoing activities such as academic writing, industrial implementation, and EU-funded projects, there has yet to be a collaborative approach to innovation established. Based on the policy brief published By EU research office²⁰ it's necessary exploring open innovation and testing new forms of sharing research and innovation results about industry 5.0. Collaboration between companies, industry associations, and research institutions and sharing best practices, lessons learned, and strategies for overcoming common challenges can help overcome barriers and accelerate the adoption of Industry 5.0.

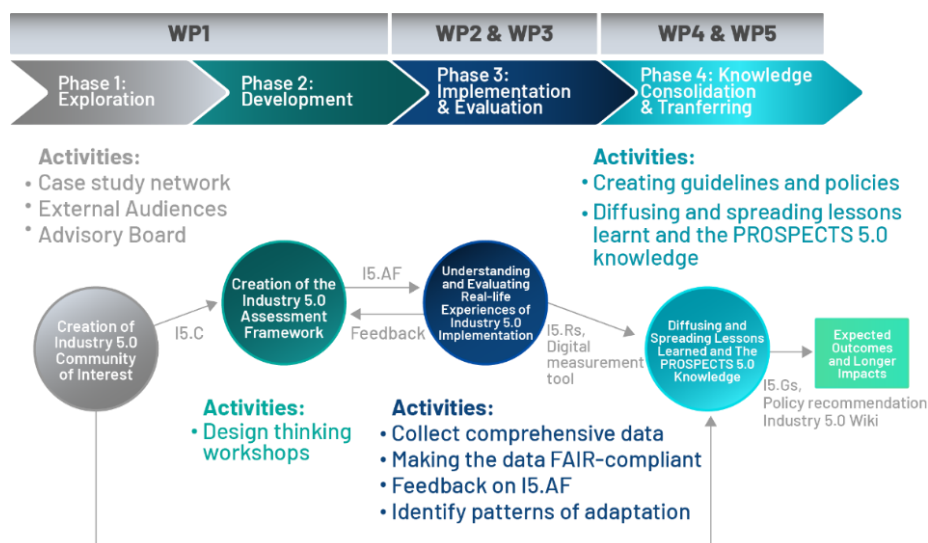
PROSPECTS 5.0 ambitions: PROSPECTS 5.0 fosters collaboration by promoting the sharing of knowledge, ideas, and resources across organisations and industrial sectors. Through open innovation, different stakeholders such as researchers, innovators, industrial stakeholders, can share their experiences, challenges, and success stories, and work together to overcome challenges and advance Industry 5.0. PROSPECTS 5.0 takes collaboration one step further by developing an online platform called **Industry 5.0 Wiki**, facilitating the sharing of research and innovation results related to Industry 5.0. In partnership with other researchers and industry stakeholders, PROSPECTS 5.0 also aims to promote a culture of knowledge sharing and open innovation.

Linked objectives and WPs: Obj1& 5, WP1&5.

#\$PRJ-OBJ-PO\$#

1.2 Methodology #@CON-MET-CM@# #@COM-PL-CP@#

1.2.1 Overall methodology



PROSPECTS 5.0 will develop, implement and validate smart study research. The overall design of the study proposed by PROSPECTS 5.0 will be well-deliberated and founded in a coherent framework, taking into account **multi-sectorial**, **multi-stakeholders** and **multidisciplinary** approaches, and considering human aspects. The proposed methodology is designed to be concrete and feasible within the project timeline, with a comprehensive analysis of each case to determine all relevant characteristics. Figure 1 illustrates the PROSPECTS 5.0 methodological framework.

Figure 1. PROSPECTS 5.0 methodology

The PROSPECTS 5.0 methodological framework will be focused on 4 phases main methodological phases:

- **Phase 1: Exploration** Creation of Industry 5.0 Community of Interest (**I5.C**)
- **Phase 2 :Development** Creation of the Industry 5.0 Assessment Framework (**I5.AF**), WP1,2,3
- **Phase 3: Implementation and evaluation:** Understanding and evaluating real-life experiences of Industry 5.0 implementation
- **Phase 4: Knowledge consolidation and transferring** Consolidating, diffusing and spreading lessons learned and the PROSPECTS5.0 knowledge

Exploration phase: Creation of an EU Community of Interest about I5.0 and definition of a high level framework

Gathering a critical mass around the project scope is fundamental to ensure the achievement of all project's objectives

²⁰ Breque, De Nul, and Petridis.



and expected impacts. Therefore, the project will start by focusing the efforts towards the creation of the I5.C. In WP1, PROSPECTS5.0 will establish an **I5.C** including:

- 1) The PROSPECTS5.0 Consortium, including **beneficiaries, affiliated entities and associated partners**
- 2) The **networks and actors collaborating in the use case areas, including the local (European) Digital Innovation Hubs**
- 3) **EU stakeholders**: including linked EU projects, relevant other EU associations and other EU sectorial initiatives.
- 4) **Advisory board**: PROSPECTS 5.0 will benefit from the guidance of an Advisory Board (AB), comprised of industry and academic experts who will steer the project towards success. (See section 3.3)

PROSPECTS 5.0 will ensure diversity and inclusivity in the I5.C, with representation from a range of stakeholder groups (e.g., industry, academia, policy makers, civil society, considering an ethical and gender diverse representation) and across different regions of the EU. Moreover, the project will consider incorporating mechanisms for ongoing learning and reflection within the Community of Interest, such as regular webinars or workshops to discuss emerging issues and challenges. The established I5.C will be relevant for defining the current approaches that are used in different sectors and different contexts to assess the main pillars of Industry 5.0. The Community of Interest will be invited to join a big event to kick start the discussion on the Industry5.0 Assessment Framework; the direct involvement with main stakeholders will be paired with desk research and Delphi surveys. The resulting analysis will therefore examine current assessment approaches and key performance indicators (KPIs) that are most relevant across various sectors. Towards the end of the project's duration, the partners will work on measures sustaining the I5.C beyond the project. As a result, a preliminary version of the Industry 5.0 Assessment Framework will be available as a starting point for the co-design and engagement process.

Development phase: Creation of the Industry 5.0 Assessment Framework through co-design and continuous stakeholders' validation

Several workshops will be organised in WP1 for **co-creating, discussing and validating the Industry 5.0 Assessment Framework (I5.AF)**: this involves organising different discussion rounds with stakeholders, to ensure that the I5.AF is validated and accepted and feasible for implementation in the PROSPECTS 5.0 use case areas and beyond.

The design thinking workshops will address two main topics:

- **TOPIC 1: KPIs**, that the framework will include. They will be drawn from literature review of T1.2 and a review executed here on the ESG and SDG evaluation frameworks as well as other frameworks.
- **TOPIC 2: Data Collection methodologies and measurement tools**

There will be *three streams* of co-creation processes:

- **Workshop with companies and actors of use-case areas**: The first stream of co-creation processes involves workshops with actors of use-case areas, which are the companies of the consortium and the local ecosystem. The workshops will be organised in each use-case area, with one design thinking workshop per area where both TOPIC 1 and TOPIC 2 will be addressed. The workshops will start with an introduction to the project and the scope of the workshop, followed by an interactive session where participants will be divided into small groups (5-6 people) to provide feedback on the KPIs identified in step 1 and to provide information on current approaches for data collection and available tools. These workshops can be conducted either online or onsite, depending on the choice of each case study area. If the workshops are conducted online, participants will be divided into virtual rooms and will use online tools for collaborative design, such as Miro Board. If the workshops are conducted with a physical presence, the premises of local partners will be used, and the relevant local partners will organise the logistics. In both cases, the planning and moderation of the workshops will be done by the relevant use case facilitators. All workshops will be solution-oriented by proposing sustainable measures for implementation.
- **Workshops with the Advisory Board of PROSPECTS 5.0**: The second stream of co-creation is a restricted group of experts that are part of the PROSPECTS 5.0 Advisory Board (see section 3.3). *Two workshops* will be organised, one for each TOPIC, where all members of the Advisory Group will be invited. The workshops will be organised online and moderated by the T1.3 task leader. These workshops will provide a deeper and detailed discussion with a restricted group of experts to gain valuable insights about the framework. A focus will be given on enabling AB members as multipliers of I5.0.
- **One Workshop with representatives of the EU associations and EU Initiatives**, to get additional feedback on the preliminary methodology and to discuss with them the conditions on how to have the Industry 5.0 Assessment Framework included within the strategies and roadmaps of the main EU bodies. This workshop will provide an opportunity to engage with external stakeholders and ensure that the Industry 5.0 Assessment Framework aligns with the broader EU context. It will also provide a vision on the speed of the implementation process and what additional measures, tools and financial incentives could be provided to enable a faster uptake.

The resulting Industry 5.0 Assessment Framework will provide main study questions, KPIs, and sectors of application for each impact area. For each KPI, the framework will define the necessary data, linked data collection tools, and KPI measurement approach. Additionally, the framework will include tools such as templates for databases, interview protocols, and examples of questionnaires. The framework will be adaptable to ecosystem changes, progress towards I5.0 and systemic disruptions to ensure long-leverity and applicability beyond the project's duration.

Implementation phase: Understanding and evaluating real-life experiences

PROSPECTS 5.0 aims to **collect comprehensive data from 14 innovative use cases study** (section 1.3.2) in WP2.



External stakeholders will provide relevant information, and the I5.AF will be used as the baseline to implement the data collection process effectively, the following steps will be followed.

- Mapping the local ecosystem of each area
- Defining the timeline for data collection and roles and responsibilities of data collectors
- Specifying the methodologies and tools for data collection, including adapting the Industry 5.0 assessment framework to local features
- Defining the data collection approach and tools for assessing external experiences
- Establishing procedures to monitor data collection and conduction monitoring based in the procedure

After elaborating the activities above, the **I5.AF** is going to be applied (WP2).

A holistic evaluation will be conducted in **WP3** to develop practical guidelines for Industry 5.0 implementation and to assess the effectiveness of the I5.Afs in guiding the implementation of Industry 5.0. The aim is to comprehensively evaluate the empirical implementations and take a holistic view of transitions towards Industry 5.0. The project will implement the following plan to analyse and synthesise the data collected during WP2:

- Preliminary analysis of data to determine gaps and problems with data collection, prompting for additional data collection.
- Determine the feasibility (accuracy, robustness) of measuring the KPIs of the Assessment Framework (used also in the platform discussed below) leading to an update of the framework.
- Making the data FAIR-compliant (findable, accessible, interoperable, and reusable).
- Determine different stakeholders' perspectives and organise them in viewpoints for determining attitudes, perceptions, and experiences regarding Industry 5.0 implementation.
- Present the above results to stakeholders and receive feedback leading to additional insights.
- Identify patterns: patterns of adoption and implementation across studied industry sectors and local innovation ecosystems will be identified and reported.

As a result, a set of Industry 5.0 Reports (I5.Rs) will be created:

- 1) **Industry 5.0 implementation practices (I5IP).** This report aims to provide an overview of the various modes of implementing Industry 5.0 principles in the studied references, including how companies can transform their operations with industry 5.0 principles. The report covers a wide range of topics related to Industry 5.0 implementation that are identified during data collection, such as the purposeful application of technology, work organisation and production, sustainable business models, and stakeholder engagement.
- 2) **Industry 5.0 Drivers and Impacts (I5DI):** This report reveals and outlines the drivers that motivate the studied references provided by the companies to adopt Industry 5.0 principles, including the trade-offs involved in their implementation. It also clarifies the role of public policies and regulatory environments in promoting or inhibiting the adoption of Industry 5.0, as well as the advantages that implementation of industry 5.0 principles has been provided for the studied companies in terms of global competitiveness, reputation, talent attraction, investment attraction, job creation, resilience to disruptions, and progress towards climate change objectives. This report will utilise the Sustainable Development Goals evaluation framework for impact assessment.
- 3) **Industry 5.0 Adaptation Factors (I5AF).** This report identifies factors that contribute to or hinder the adoption of Industry 5.0 principles of studied cases. It clarifies internal and external factors that enable or hinder uptake, worker acceptance of advanced technology, role of local community, factors that reinforce/diminish inequalities, and added value of sustainability in business strategy of studied cases. This report will be created using the SWOT (Strengths, Weaknesses, Opportunities, Threats) model.

Finally, the project will consolidate its knowledge into a **digital platform** that aims to digitise the I5.AF. The platform will be a **web application** that will allow users to input data about their current level towards Industry 5.0 adoption in the form of surveys (as conducted in data collection part) and the platform will provide a ranking. The ranking levels will be based on the use-cases ranking using the KPIs of the framework that will be executed as part of the data analysis described above. Furthermore, based on the ranking of a user, the platform will provide the description of use case that has achieved and surpassed the same ranking thus, making the platform a kind of companion of an organisation towards the journey to implementing Industry 5.0.

Knowledge consolidation and transferring phase: Diffusing and spreading lessons learned and the PROSPECTS 5.0 knowledge

The reports generated in the previous phase will be the base line and the road map for creating, in WP4, **guidelines, policy briefs and policy recommendations**. The so-called Industry 5.0 Guidelines (**I5.Gs**) will be applicable for different range of stakeholders, mainly from the Industry sector, including the ones belonging to the Industry 5.0 Community of Interests, and can be organised as follows:

- 1) **Industry 5.0 Maturity model (I5MM):** The maturity model provides a roadmap for organizations to progress towards Industry 5.0. It defines various levels of maturity, from basic to advanced, and outlines the key characteristics and **practices** that are necessary to reach each level. The model helps organisations to understand the gap between their current state and the desired state and provides a roadmap to bridge that gap.
- 2) **Industry 5.0 Best Practices Guide (I5BPG):** This guide provides a collection of best practices and recommendations to help organisations implement Industry 5.0. It covers various domains, such as Industry 4.0, digital transformation, and the circular economy, and provides practical guidance on how to apply these concepts



in an organisational setting.

- 3) **Industry 5.0 Adoption Toolkit (ISAT):** This toolkit provides a set of tools and templates that organisations can use to implement Industry 5.0. It includes templates for creating an Industry 5.0 strategy, assessing the current state of an organisation, identifying improvement opportunities, and tracking progress over time. The toolkit also includes a collection of industry-specific case studies that provide inspiration and guidance for organisations looking to implement Industry 5.0.
- 4) **Industry 5.0 Stakeholder Engagement Guide (ISSEG):** This guide provides a framework for engaging stakeholders in Industry 5.0 initiatives. It covers the key elements of stakeholder engagement, such as defining objectives, identifying stakeholders, engaging stakeholders, and monitoring and evaluating the engagement process. The guide provides practical guidance and best practices for organisations looking to engage stakeholders in Industry 5.0 initiatives.

PROSPECTS 5.0 will address the generated knowledge to support policy makers by means of the **Policy Recommendations**, that will take into consideration main relevant policies (e.g. the strategy and policy priorities set out in the “Green Deal”, “Europe Fit for the Digital Age”, “the New Industrial strategy for Europe”, as well as the projects developed by the European Commission to monitor the development of Industry 5.0 in industry) and will use them to identify main gaps to be addressed in the future.

PROSPECTS 5.0 will transfer knowledge in actionable form to relevant actors, including policy makers and social partners, as detailed in WP 5. In summary, the following items will serve to reach this goal:

- A long lasting **Industry5.0 “wiki”** tool to survive after the end of the project and where all stakeholders will be able to contribute. It will include the PROSPECTS5.0 knowledge as a baseline and will be welcoming input from the external audience.
- A communication and dissemination strategy which addresses continuous synergies and collaboration with main EU initiatives and includes a dense schedule of workshops, meetings, and events (with special focus on a **Final Event**)
- A set of **seminars/webinars** to disseminate evidence of the assessment work, addressed to the entire Community of Interest and extended to additional stakeholders
- **Training / knowledge transfer modules** addressed to industry, policy makers and innovation related stakeholders, aimed at transferring PROSPECT 5.0 results in the daily practice
- A **Final Event**, in collaboration with EC and all relevant EU associations, engaging the whole Industry 5.0 Community of Interest

1.2.2 Use case specification

In this section, we will present 14 use cases that demonstrate the versatility and relevance of our proposed project. Each use case is carefully selected based on criteria as follows:

1. **Diversity:** We selected cases that represent a diversity of **industrial sectors, company sizes, and countries**, including EU member states and countries associated with the Horizon Europe programme. This approach ensures that the results are relevant and applicable to a broad range of actors.
2. **Relevance:** We ensured that the selected cases are relevant to the **five research themes** including **implementation practices, drivers, success factors and bottlenecks, SMEs, start-ups, scale-ups and measurement tools** and demonstrate the implementation of **Industry4&5.0 principles** in practice.
3. **Level of maturity:** The **level of maturity** refers to the extent to which the use case integrated the principles and technologies of Industry 5.0 into its operations, resulting in improved productivity, efficiency, and competitiveness. We have considered the different **levels of maturity** of the implementation, the **challenges faced**, and the **potential for scaling up** and replication. The level of maturity of the use cases are as follows:
 - **Early Stage:** Companies exploring principles with some advanced tech but face challenges.
 - **Intermediate Stage:** Companies integrated AI, IoT, and robotics, and embracing human-centric approaches. Early sustainability efforts and building resilient operations.
 - **Advanced Stage:** Companies fully embracing principles, leading in advanced tech, human-centricity, sustainability, and resiliency. Highly automated, worker well-being, comprehensive sustainability, and highly resilient operations.
4. **Feasibility:** We ensured that the selected cases are feasible in terms of data availability and the willingness of the case providers to participate in the study.
5. **Enabling Technologies:** we gave preference to use cases that involve **Industry 4.0** such as IoT, big data analytics, artificial intelligence, robotics, and blockchain.
6. **Ethical considerations:** We considered **ethical and societal** aspects of the cases, including workers’ rights, environmental impact, and social inclusion. We ensure that the selected cases comply with ethical and legal requirements and promote sustainable and responsible innovation.

Each use case represents a unique implementation of Industry 5.0 principles across different industrial sectors and in a different EU Member State or country associated with Horizon Europe. To ensure the effective analysis of the use cases, we have assigned each use case provider with a partner in our consortium as a **use case facilitator**, who will work closely with the use case provider to collect and analyse data, ensuring a rigorous and consistent approach to the study. Through this multidisciplinary and sociotechnical analysis, we aim to identify the drivers and factors contributing to or hindering successful implementation of Industry 5.0, as well as the best practices and actionable knowledge that can promote the uptake of these principles in other enterprises and sectors.

The summary of the use cases is presented in Figure below:

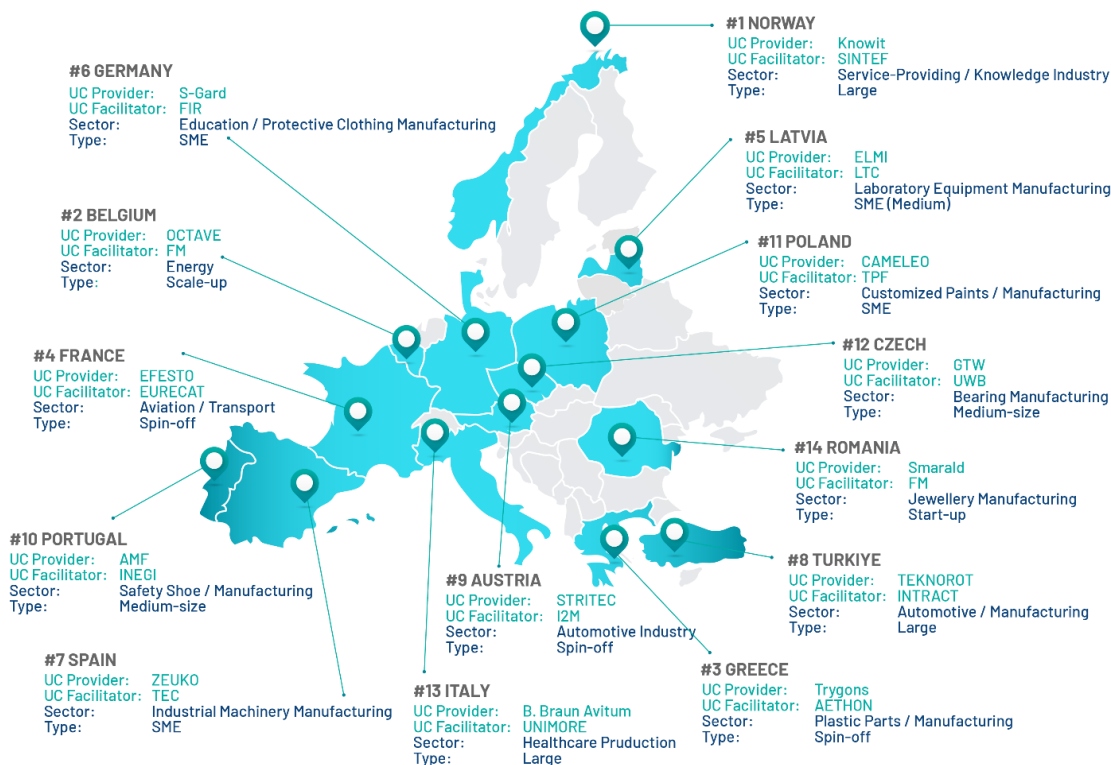


Figure 2. The summary of use cases.

Each use case scenario below, includes the portfolio and objectives of the use case providers, a short description of each use case. Furthermore, it is showcased the use case commitments to sustainability, human centricity, and resiliency by discussing the activities that we will undertake toward Industry 5.0 principles.

Use case 1: Knowledge Industry Workers and Digital Transformation. (Maturity level: Advanced stage)

Company portfolio and objectives: Knowit is a large consultancy firm that offers *digital transformation services* through a combination of IT, design, communication, and management. Their services are provided by four business areas: **Solutions, Experience, Connectivity, and Insight**. Knowit focuses on security solutions and offers cloud services, security services, and AI applications. They also prioritise *efficient use of material resources, well-functioning legal systems, and values related to human rights and environmental impact*.

Use case description: This use case provides a series of solutions to enable organisations to *transition towards a circular economy model and supports the twin transition*. One proposed solution is a *data-centric software* that views software professionals as agents of organisational transformation, with a focus on cross-functional teams, product-oriented software development, and end-user involvement. The software also supports data-democratisation and hybrid work models while leveraging ML technologies and new roles such as data scientists. Another solution is *delivering cloud and security services* for implementation and operation of AI applications while ensuring privacy. The use case also offers technical solutions to enable efficient use of *material resources* through servitization and smarter recycling.

Activities towards industry5.0: Knowit's services contribute to Industry 5.0 by focusing on the digital transformation of organisations.

Human centricity: Knowit aims to create human-centric approaches by prioritising both **customer** and **employee satisfaction**. **Customer satisfaction** is a strategic objective under the "**Value-Based Business Models**" stream, with the goal of being perceived as a partner that creates high business value. An annual survey will measure customer satisfaction, and metrics will be decided upon after the first survey is conducted in Q4 2022. The target for 2023 will be set based on the baseline. **Employee satisfaction** is another clear strategic objective under the "**Ecosystem for Growth**" stream, with the aim of being an attractive employer with the best possible conditions for people and partners to grow and create a difference together. Two focus areas will be measured: **engagement and retention**. Engagement will be measured using the Employee **Net Promoter Score (NPS)**, a global index that measures engagement and willingness to recommend an employer to others. The target for NPS is **>30 by 2030**. **Sustainability:** Knowit is committed to contributing to a sustainable and humane society. They have established strategic objectives aligned with the United Nations (UN) Agenda 2030, with a focus on environmental impact, climate change, and inclusion. Their objectives include 1) ensuring that **80%** of their net sales contribute to at least one of the UN sustainable development goals, 2) Knowit was a climate-positive company and it aims to **halving their CO2 emissions** before 2030, and 3) creating an **inclusive workplace** with an even gender distribution among executives. They also provide services that promote more efficient use of material resources and perform an annual sustainability



survey to measure and reduce their environmental impact.

Use case 2: Smart Circular Energy Storage with Second-life Batteries: (Maturity level: Intermediate stage) company size: SME

Company portfolio and objectives: OCTAVE, a cleantech start-up, aims to develop innovative circular business models that prioritize sustainability and waste reduction, putting the energy consumer at the centre of the energy transition while prioritizing the wellbeing of workers and the contribution of industry to society.

Use case description: This use case offers a circular solution for energy storage by repurposing used batteries from e-mobility to contribute the circular economy and reducing the CO2 footprint of battery production. Octave's breakthrough proprietary technology for Battery Energy Storage Systems (BESS) guarantees the safety, performance, and lifetime of second-life BESS. Additionally, a mechanical racking system has been designed that can host different types of EV battery modules, keeping testing and repurposing costs low. Another aspect of this use case is OCTAVE's Battery Cloud which collects and continuously monitors data from battery cells, enabling remote monitoring, charging optimization, and efficient and predictive battery swapping on their battery systems. By leveraging this data, they can improve the operation and efficiency of the second-life battery system, increasing lifetime and reducing system downtime to a minimum.

Activities towards Industry 5.0: OCTAVE implements Industry 4.0 technologies like IoT, cloud computing, AI, and machine learning to improve the system's lifetime and efficiency while offering enhanced product insight and energy storage system performance. Their second-life battery energy storage systems represent a practical application of Industry 5.0 principles in the energy sector.

Human centricity: OCTAVE's approach combines first life application data with operational data in the second life application and customer feedback to improve the design and functionality of their Battery Energy Storage Systems (BESS). This approach prioritizes customer needs and experiences, ultimately leading to a better user experience. Additionally, OCTAVE also provides training for workers and customers to increase digital skills, enhancing the human-centricity principle of Industry 5.0.

Sustainability: Octave's product addresses the sustainability principle of Industry 5.0 by repurposing used batteries from electric vehicles, contributing to the circular economy and reducing the need for raw materials. This helps to reduce the CO2 footprint of battery production and puts energy consumers at the center of the energy transition. Regarding CO2 reduction, we estimate this to be up to **1906 ton** of CO2/MWh of second-life battery energy storage system in operation for 10 years. Regarding waste management, OCTAVE has extended the lifetime of Li-ion battery cells with another 8-10 years on average, reducing Li-ion battery waste stream from electric vehicles with around 5 ton/ MWh of second-life energy storage system

Resiliency: OCTAVE's product improves the resiliency of industries by offering a cheaper solution compared to the use of first-life batteries and enables remote work to employees, which has become crucial during the Covid-19 pandemic. Their smart supervision system also analyses large amounts of big data collected from sensors to provide tools for performing predictive maintenance, thereby minimizing equipment downtime.

Use case 3: Implementing Industry 5.0 technologies to automate processes in large and complex composite parts manufacturing. (Maturity level: Intermediate stage)

Company portfolio and objectives: TRYGONS S.A. designs and fabricates large and complex reinforced plastic parts using cutting-edge technology. They have a wealth of composites material knowledge and have achieved record-breaking results. TRYGONS manufactures products for a number of industries. Their main activity has been the construction of **boats and boat parts**, as well diving equipment. TRYGONS has recently entered the automotive industry with the production of a large truck part. They are committed to implementing advanced technologies, digitalization, automation, and Industry 5.0 principles.

Use case description: Trygons demonstrates Industry 5.0 principles by using advanced technologies to automate industrial processes, reduce costs, and improve competitiveness. The company uses Industry 4.0 technologies such as **robots, AI, and IoT** to increase efficiency and mass production while reducing costs. AI helps determine optimal catalysts during production, and IoT devices collect data and manage air conditioning units. Trygons plans to combine its existing robots into one comprehensive robot to improve efficiency and save on space, as well as introducing AGV robots for improved flexibility and resilience.

Activities towards industry 5.0:

Human-centric approaches: TRYGONS, focuses on **less energy and less materials** used, more output with the same footprint and number of workers. Therefore, enhancing people's role during production and enabling them to work on more important aspects that require perception or critical thinking, rather than spending time on complex, repetitive and tiring tasks Estimated personnel.

Sustainability: This use case addresses sustainability by optimising the use of resources (personnel, equipment and materials) and minimizing errors that lead to additional time spent, as well as reducing the energy costs for heating and cooling (by moving to new facilities). **Estimated energy saving costs: 30%, Estimated reduction of human errors: 22%.**

Resiliency: This use case addresses resiliency by providing to Trygons the capability to adapt to changes in demand and other unpredictable factors that may disrupt the normal conditions. This ensures flexibility and the profitable operation of the company in a really competitive business environment. **Estimated robots use: 70%** (to leave room for new, ad-hoc demand).

Use case 4: Complex Hybrid Propulsion System for Sustainable and Resilient Aviation. (Maturity level:



Advanced stage)

Company portfolio and objectives: EFESTO is a spin-out arm of FIDIA Group, based in Paris, France. Their mission is to deliver **top-notch propulsion technology** while **respecting the environment**. They design and develop hybrid and full electric powertrains for the **automotive, aerospace, and marine industries**

Use case description: EFESTO energy aims to implement **complex hybrid architecture in aerospace** technology to move towards a **fully electric aircraft**. The goal is to **increase electric means of transport** adoption, **reduce oil consumption, climate-related emissions, and local air pollution** while **improving autonomy, power, and safety** of aircraft. The use case aligns with the three pillars of Industry 5.0, with human-centricity being a key driver in improving the comfort and safety of pilots and passengers. The adoption of the hybrid propulsion system has enabled six different modes Mode A: Electric motor as starter, **Mode B: Regular flight, Mode C: Electric flight, Mode D: Hybrid flight, Mode E: Battery charging Mode F: Thrust mode.**

Activities towards industry 5.0: EFESTO has implemented industry 4.0 technologies such as IoT, cloud, digital twins, big data, and analytics to improve productivity. They aim to transition towards Industry 5.0 by **focusing on key enabling technologies, including individualized human-machine interaction, data transmission and analysis, digital twins and simulation, and technologies for energy efficiency and autonomy**. The use case promotes sustainability, human-centricity, and the integration of renewable energy sources and Power-to-X technologies.

Human centricity: Having 6 modes will provide greater comfort and safety of pilots and passengers, contributing to the **human-centric** focus of Industry 5.0. for instance, Mode F increase instantaneously Thrust in take-off if emergency occurs by **20%**. Additionally, Mode E ensures that batteries are consistently charged during flight to ensure that electric on-board services and communication systems are always properly supplied with power.

Sustainability: The use of **electric assistive solutions in aviation** improves sustainability by **reducing noise and fuel consumption**. Mode D allows to save some **10% of fuel consumption**. Mode C in airport taxiing reduce to **ZERO** the noise produced by the moving aircraft

Resiliency: The adoption of this technology also enhances the **robustness of general aviation aircraft**. Moreover, **supplying larger autonomy and improved safety** to the aircraft will increase resiliency. Mode D increases the flight autonomy by some **15%**.

Use case 5: Sustainable, resilient and Human-Centric Approaches in ELMI's Laboratory Equipment Production. (Maturity level: Intermediate stage)

Company profile and objective: ELMI SIA is a Latvian company that specializes in producing laboratory equipment such as benchtop centrifuges, vortexes, microplate thermo shakers, magnetic stirrers, and microcentrifuges

Short Description of Use Case: This use case outlines ELMI's shift from technology-centred production to more **human-oriented, sustainable, and resilient approaches**. The first step was metal and plastic component manufacturing transfer from China back to Latvia. The next step – **building an in-house PCB manufacturing** department to, even more, **reduce dependence on Chinese** manufacturers and safeguard their know-how. Advanced technologies such as digital manufacturing machinery for metal and plastic part manufacturing have being integrated. The company is also transitioning towards **cobot** introduction and more personalized products manufacturing. Some of the company's products are ongoing testing phase before delivery to International Space Station. To **ensure quality**, a digital manufacturing record is being implemented to identify parts and issue updates or replacements. Additionally, ELMI is exploring collaborative partnerships with robotized assembling lines.

Activities towards Industry 5.0:

Human-Centricity: ELMI's use case contributes to Industry 5.0's **human-centric approaches** by prioritizing the development of specialized products for **unique needs**, rather than just customized products. This shift in focus demonstrates the company's commitment to meeting the unique needs of its customers. Furthermore, ELMI has implemented a **digital manufacturing monitoring** system and a pre-delivery testing device to ensure product quality. By doing so, the company is **prioritizing the safety** for its employees and the satisfaction of its customers. Additionally, ELMI's commitment to retraining staff or replacing production equipment to address any warranty issues related to staff quality shows a dedication to improving the overall quality and safety of their products, which is a crucial aspect of Industry 5.0's human-centric approach.

Sustainability: Until 2021, the production value chain at ELMI met the company's operational requirements. However, the company has since decided to **adopt more sustainable principles** to reduce energy consumption and corresponding carbon footprint. To achieve this, ELMI has obtained a new, more **energy-efficient building** and **optimized its in-house lighting**. Additionally, the company has replaced outdated machinery with newer, more energy-efficient models. Overall, all implemented activities allowed to **reduce energy** (both electricity and heating) consumption for more than **25%** and significantly improved the working conditions and overall productivity.

Resiliency: ELMI Ltd. is becoming focuses on **local (national) production** instead of decentralized production through building the company's in-house PCB. In this way ELMI optimizes its logistics value chain by reducing dependence on suppliers outside the EU and involving more local manufacturing companies in the process to improve resiliency against global changes.

Use case 6: Intelligent Sewing Machines for craft education and knowledge preservation (S-Gard). (Maturity level: Intermediate stage)

Company portfolio and objectives: S-Gard (Huber Schmitz GmbH) is a manufacturer of protective clothing for



the fire protection industry. The company's objective is to meet the demand for **quality and safety** by developing and designing products in Germany and producing them with trained sewers in the global market. It also implements digital solutions, such as SewGuide machines, **to enhance knowledge management and train experts** in development and sewing.

Use case description: The use case involves the development of **SewGuide digital sewing machines to train workers and preserve process knowledge**. These machines enable beginners to gain experience through a **digital learning application** that incorporates live data from the machine to provide feedback. The goal is to **sustainably replenish experts** in the industry and train new professionals while **preserving existing craft and process knowledge using digital solutions**. This helps to combat the diminishing number of experts in Germany, where the craft has historically been sourced, and to adapt to changing products and safety requirements at international sites. The SewGuide use case especially contributes to the measurement of **human-centricity** by evaluating the acceptance and effectiveness of the digital assistant in the learning process.

Activities towards industry 5.0: S-Gard is using SewGuide machines to enhance knowledge management and train future experts as part of its Industry 4.0 strategy. The company is also moving towards Industry 5.0 by incorporating digital solutions to **positively impact human workers, improve product quality, make the craft more attractive, and reduce the need for experts** through digital onboarding and training processes.

Human centricity: Human centricity is the main aspect of this use case within a hand-craft-centric industry. The **digital platform** is designed to be a **cooperative tool** instead of a watchdog in the human work, enabling free navigation and **comprising knowledge in wikis** to help workers learn and develop their own style of craft. Usability and accessibility are addressed by designing the education software to be language-independent, thereby making it accessible to workers with different lingual origins and a higher probability of illiteracy.

Sustainability: This use case addresses sustainability by aiming **to train experts for the future** and by reducing the need for outsourcing labour. It also incorporates digital solutions to conserve existing craft and processual knowledge, which contributes to long-term sustainability.

Resiliency: is addressed by digitally enhancing knowledge management to ensure the continuity of education and knowledge about processes, which reduces the likelihood of failure in the absence of experts. Additionally, training programs aim to **support the future number of available experts**, which helps to maintain resiliency within the workforce.

Use case 7: Improving Crane Sustainability and Resilience with Context-Aware Structural Health Monitoring (Maturity level: Intermediate stage)

Company portfolio and objectives: ZEUKO is undergoing a period of growth, expansion and organization, whereby new technologies are being integrated into its services to enhance the added value for clients. Already, ZEUKO has implemented Industry 4.0 technologies into its portfolio, and now it is taking steps towards Industry 5.0 based solutions. These steps involve enhancing sustainability and resiliency, as well as optimizing human labour with an emphasis on usability and inclusion during their implementation.

Use Case Description: The use case is focused on developing a predictive maintenance solution for crane structural health, which will be based on **Prognostics and Health Management (PHM)** approach. The solution will integrate various technologies and methods, such as data analytics, artificial intelligence, and software modules, to enable early detection, assessment, and prediction of failure progression. The project will also address the technical challenges of measuring structural damage in cranes by designing an analytical methodology for identifying critical measurement points and fusing different Structural Health Monitoring (SHM) technologies. Additionally, the solution's use of different monitoring technologies (**accelerometry, acoustic emission, ultrasound,...**) including combinations of these (**sensor fusion**) for the location and organization, of failures can enhance the safety and health of workers by enabling early detection and prediction of crane failures, reducing the risk of accidents and injuries focus.

Activities towards Industry 5.0: A step toward implementing Ind 5.0 and integrating its principles with ZEUKO activities, it proposes new solutions for sustainable and efficient industrial production processes while also considering the well-being of workers.

Human Centricity: The use case presented contributes to a human-centric approach by prioritizing the reliability and safety of cranes, thereby **reducing the risk of accidents and injuries**. To implement this use case, agile methodologies will be used, ensuring flexibility in mandatory projects. Moreover, the ZEUKO will empower workers using new technologies and endorse a human-centric approach to technology, with **training and involvement of workers** being taken into account from the beginning. By doing so, the project aims to ensure that workers can make the most of the new tools and be an integral part of the solution, contributing to its success.

Sustainability: The use case will contribute to **sustainability by promoting correct maintenance of assets**. It is estimated that asset useful life is extended by **15%** by the proposed maintenance solution. This can have a positive impact on sustainability by reducing resource consumption, waste generation, and energy consumption while also providing economic benefits for companies. This extension through appropriate maintenance can result in significant improvements in sustainability.

Resiliency: The use case will contribute to resiliency by ensuring the early detection and prediction of failures to **continuous operation** without breakdowns and downtime, which will **prevent supply chain** disruptions and enhance the overall resilience of the port and logistics operations.

Use case 8: Smart Vehicle Suspension Systems with high traceability and advanced data analytics. (Maturity



level: early stage)

Company portfolio and objectives: TEKNOROT, a leading European manufacturer of steering and suspension components for the automotive aftermarket industry, has established a dedicated Digitalization Department with a clear roadmap towards achieving Industry 5.0 goals.

Use case description: The use case focuses on integrating sensors into its products and collecting data from them, particularly for composite components with embedded sensor designs, to enhance the R&D and production processes. The collected data will be used to make improvements in design and production parameters, resulting in better-quality components with increased longevity. In addition, the data will be utilized for prognostics of component end-of-life, thereby preventing accidents. TEKNOROT aims to digitalise the whole process from design to use of products.

Activities towards industry 5.0: The use case proposes new solutions for data-driven production with valorising the data from usage.

Human centrality: The use case contributes to human centrality by incorporating digital *solutions to enhance the safety and longevity of their components*, thereby enhancing the design and manufacturing parameters in accordance with the collected data.

Sustainability: The use case will contribute longevity of products with saving raw material and energy. It will enhance the skills on data-driven manufacturing to widen it for future applications.

Resiliency: Use case will provide opportunity about prognosis of future manufacturing and design problems beyond diagnostics after the failure.

Use case 9: Human Knowledge Integration for AI-based Welding Process Optimization (Maturity level: Intermediate stage)

Company portfolio and objectives: STRITEC offers advanced Friction Stir Welding (FSW) solutions for demanding applications, serving the automotive and industrial sectors with high-quality machine tools, production lines, and tool development. Their MaXstir range provides standard and special tools known for their high functionality, exceptional wear resistance, and process reliability. STRITEC counts **leading market players** such as Siemens, Magna, and Audi among its satisfied customer base, and offers workshops, studies, and analyses to support its clients.

Use case description: This use case applies Industry 5.0 principles to improve weld quality and data-driven quality assurance for welding machines. It uses real-time data for predictive maintenance, root-cause analysis, and remote expert support. Smart AI agents capture and digitalize expert knowledge, with hybrid modelling, monitoring, and decision-making. KPIs/KVIs include **a 25% improvement in tool wear estimation, 25% faster feedback time, and 15% reduction in commissioning time**. The use case also considers ethical and safety aspects, with automated assessments and privacy-preserving data collection.

Activities towards industry 5.0: STRITEC is seeking to improve the quality and reliability of their welding machines and processes by leveraging Industry 5.0 principles and digital technologies to incorporate human expertise into ML/AI solutions. The use case described above can contribute to sustainability, human centrality, and resiliency.

Human centrality: The use case involves **capturing and digitalizing human expert knowledge**, which can be integrated into the ML/AI solutions for quality assurance. This approach not only leverages the expertise of the technical experts and control engineers but also promotes their involvement in the decision-making loop, ultimately leading to a more human-centric approach to manufacturing. Moreover, the use of AI agents and remote expert support can help reduce the need for on-site personnel, leading to a safer and more human-centric working environment.

Sustainability: The use case contributes to sustainability by **reducing tool wear by 25%**, which can lead to a reduction in waste and ultimately contribute to a more sustainable manufacturing process. Moreover, the use of data-driven quality assurance tools and machine learning can also lead to better and more consistent weld quality, which can reduce the need for rework and scrap, ultimately contributing to a more sustainable and efficient manufacturing process.

Resiliency: The use of remote expert support and consulting for new **product ramp-up** and **trouble-shooting** can increase resiliency by enabling quick and efficient problem resolution, **reducing downtime**, and **improving overall production efficiency**. The use of hybrid modelling and monitoring, simulation-based learning, and risk mitigation and assessment further strengthens the resiliency of the manufacturing process by providing accurate and timely information for decision making and problem-solving.”

Use case 10: Integrating smart technology for efficient and eco-friendly safety footwear (Maturity level: Early stage)

Company objective and profile: AMF Safety Shoes is a Portuguese company that produces high-quality safety footwear for industries including construction, agriculture, and logistics. Their aim is to offer the best security experience through design, technological innovation, and comfort, while prioritizing sustainability and eco-friendliness in their production processes.

Use case description: The AMF case study will apply the **Infinity technology**, an innovative shoe production model that **eliminates the need for sewing operations and reduces waste and energy consumption while increasing profitability**. This technology will feature a dedicated injection system, new injection equipment, and optimized moulds, which will enhance the durability, comfort, and quality of the products produced. These advancements aim to overcome the difficulties encountered in the first version and further improve the sustainability and efficiency of the shoe production process.



Activities towards industry 5.0: AMF Safety Shoes adopts Industry 4.0 with digital **technologies and automation** to enhance efficiency and reduce waste. They have developed methodologies and technologies internally and in collaboration with other companies to increase production efficiency and product quality, such as infinity technology and its customization simulator, production planning simulator, and waste reuse processes.

Human centricity: The Infinity technology adopted by AMF Safety Shoes not only **automates repetitive and hazardous tasks** like cutting equipment and transporting lasts, but also focuses on **improving human-machine interaction**. By using a simulation process, **workers can provide their input on design and production processes**, making the technology **more customizable and human-centric**. As a result, the technology aims to reduce physical strain on workers and improve their well-being, while also enhancing the efficiency and sustainability of the shoe production process. Additionally, the company provides necessary personal protective equipment to employees and offers an annual **training plan** with various activities for employees to acquire new skills. The adoption of Infinity technology automates complex, repetitive, and tiring tasks, saving an estimated **50% of personnel time**.

Sustainability: The use of the Infinity technology proposed by AMF plays a crucial role in a sustainable footwear project, aimed at providing **environmentally friendly alternatives** to traditional shoe production methods. AMF and another company in the group reuse production waste in the production of new soles for TOWORKFOR sustainable footwear. AMF also uses renewable energy sources and explores ways to repurpose waste for new products beyond safety footwear.

Resiliency: The AMF use case demonstrates its commitment to resiliency through the **implementation of risk management strategies** and data-driven diagnosis to mitigate potential risks in their manufacturing processes. By focusing on the development and resilience of their own brand, TOWORKFOR, they ensure long-term planning and maintain operationalization, regardless of external factors or other clients. This approach was exemplified during the COVID-19 pandemic in 2020, where AMF's timely reaction prevented any disruption to their objectives.

Use case 11: Exoskeleton solutions for human-centred production of customized decorative coatings (Maturity level: Early stage)

Company objective and profile: CAMELEO is a Polish family company that produces customized paints, decorative plasters, and floor decoration systems for commercial and public spaces. Their products are available in over 20 countries worldwide.

Use case description: The company is restructuring production using Industry 5.0 solutions, bypassing traditional Industry 4.0 approaches. Two parallel concepts utilizing exoskeletons will be introduced: (1) **At the Production Support level**, exoskeletons will enhance efficiency and **reliability of non-standard and frequently changing processes** while **reducing strain** on the worker's body and eliminating barriers for people with disabilities. (2) **At the Product Application level**, exoskeleton technology and **VR will eliminate dependence** on skilled professionals for on-site application of non-typical customized coatings, **reducing travel costs and time**. The industry 5.0 philosophy enables the use of a machine as a tool in the hands of a specialist decorator, allowing remote training and work performance. Both concepts prioritize human behaviour

Activities towards industry 5.0: Cameleo aims to improve the efficiency of their deco coatings production and application through automation, but they have not yet implemented Industry 4.0 solutions due to low economic feasibility and the need for frequent changes and human involvement in the production process. The emergence of Industry 5.0, with its human-centric approach, aligns well with CAMELO's specific needs and goals.

Human centricity: Both solutions (VR and exoskeleton) **are completely human-centred**, with the robotic tool remaining under the full control of the operator at all times. The proposed solutions focus on human centricity by eliminating barriers for people with disabilities, providing remote training, and reducing the burden on workers, as well as their exposure to injuries and stress. Additionally, the proposed technologies play a minor role, relieving humans and allowing them to concentrate on higher activities and creativity.

Sustainability: The use of the proposed solutions will contribute to the following achievements in the area of sustainability: (a) **reducing energy and media consumption** through increased work efficiency; (b) **minimizing waste** caused by human errors resulting from fatigue.

Resiliency: The use case focuses on **enhancing efficiency and reliability** of non-standard and frequently changing processes. The use of exoskeletons and VR technology also reduces dependence on skilled professionals, which can help companies adapt to unexpected events and disruptions in the workforce.

Use case 12: Innovative solutions for Efficient, human-centred and Sustainable Bearing Manufacturing. (Maturity level: Early stage)

Company profile and objective: GTW is a Czech-German company with over 25 years of experience producing hydrodynamic white metal bearings and complex bearing systems for various industries. Their products are delivered worldwide, and they have ISO certifications for quality, environmental management, and workplace safety.

Description of Use Case: GTW **produces complex bearing** systems for specific customer needs. To **improve product quality and identify** weak points in production, they modernized their machines and upgraded their enterprise information systems. The company also invested in non-destructive testing machines for quality assurance. In Industry 5.0, GTW aims to reduce material waste and energy consumption through technologies such as robot laser cladding and EDM wire cutting. However, they face obstacles such as financial requirements and competition from low-energy Asian companies.

Activities towards Industry 5.0:

Human Centricity: By implementing new technologies such as robot laser cladding, the company can reduce



material waste and create a safer and healthier working environment with **emission-free** and **noise-free zones**. The use of automation and digitalization can eliminate routine human work, allowing workers to focus on more creative and strategic tasks.

Sustainability: The implementation of robot laser cladding technology by the company can lead to a remarkable reduction in energy consumption up to **three times**, along with a significant decrease in material waste in non-ferrous and precious metals, up to **60%**.

Resiliency: The company's automation and digitalization efforts ensure key business infrastructure can be managed remotely using data, making them more **resilient to disruptions in the workplace**. The versatility of their machines supports the interchangeability of certain manufacturing processes, making them more adaptable to changing market demands.

Use case 13: Cobots-assisted and collaborative assembly of biomedical devices. (Maturity level: intermediate stage)

Company portfolio and objectives: The **B.Braun Avitum** Italy produces therapeutic systems for dialysis and other blood treatments, and operates its own network of dialysis centres. The company is transitioning to Industry 5.0 by adopting collaborative robotic cells and collecting manufacturing data to improve productivity and make small batches of customized products more effective.

Use case description: The use case involves the collaborative assembly of dialysis filters, where the **human operator is supported by cobots** to improve resiliency, sustainability, and human-centricity. The cobots are able to self-diagnose and adapt to product changes, simplify programming, and adapt safety measures according to human behaviour. This mixed approach of **cobots** and human operators aligns with the Industry 5.0 paradigm.

Activities towards industry 5.0: The company is currently operating in Industry 4.0 and is making progress towards Industry 5.0 by adopting **collaborative robotic cells**, **collecting manufacturing data**, and improving productivity through automation. The use of cobots in the assembly of dialysis filters represents an example of a mixed approach where **humans are supported** by cobots to improve production **efficiency (10% improvement in hourly production rate)** and **safety**. The company's focus on **resiliency, sustainability, and human-centricity** in its use case aligns with the principles of Industry 5.0.

Human centricity: Regarding human-centricity, the cobots are designed to work alongside human operators to improve their productivity and **reduce the time required to acquire the skills** to use the system by new operators. The cobots are also equipped with **active-safety measures** that enable them to **adapt to human behaviour**, ensuring a **safe and effective interaction** between human and robot. Finally, the human operator is responsible for the **quality assessment** of the final product, which ensures that the final product meets the necessary standards.

Sustainability: This use case addresses sustainability by improving the control of the assembly process and **reducing the amount of waste or scrap produced by 20 %**, which is important for producing biomedical products where scraps fail the pressure test required to contain biological fluids in a safe way. By adopting cobot solutions, the company is also able to **reconfigure the system for new small batches** with limited modifications, making the production more robust and sustainable.

Resiliency: In terms of resiliency, the company is capable of **self-diagnosis** by means of data collected along manufacturing phases and is able to **adapt to product changes**. The use of cobots also improves resiliency as they are able to assist human operators in **performing tasks and avoiding errors**.

Use case 14: Smart jewellery Factory: Autonomous Manufacturing with Collaborative Robots and Advanced Data Analytics. (Maturity level: Early stage)

Company portfolio and objectives: **TECH SRL** has an objective to use advanced technologies and digital systems such as autonomous robots, collaborative robots (cobots), and advanced data analytics to improve customization, efficiency and productivity of manufacturing process specifically in jewellery production .

Use Case Description: This use case involves advanced manufacturing processes for customized jewellery products using autonomous and collaborative robots and advanced data analytics. The company has an strategy to includes CAD design, 3D printing, robot collection of printed pieces, assembly, mould making, casting, final assembly, cutting, welding, stone setting, polishing, finishing, and packing.

Activities towards industry 5.0: The company has faced several challenges in implementing its ambition for a digitalized and autonomous jewellery manufacturing, however, in case of successful implementation, it can contribute to human centricity, sustainability and resiliency as follows:

Human Centricity: The use of autonomous technologies in the smart jewellery factory can help to make the work of human jewellers **easier, safer, and more efficient**. By automating repetitive and dangerous tasks, such as cutting and polishing, the factory can reduce the physical strain on workers and **improve their overall well-being**. Additionally, the use of collaborative **cobots**, can allow human workers to work alongside robots in a **shared workspace, promoting a human-robot collaboration** and enabling workers to focus on tasks that require more creativity and cognitive skills.

Sustainability: The smart jewellery factory can contribute to sustainability by **reducing waste and optimizing resources**. Additionally, the use of autonomous technologies, such as robots and cobots, can optimize the use of materials and reduce errors, resulting in a more efficient use of resources.

Resiliency: The use of autonomous technologies in the smart jewellery factory can **increase resiliency** by enabling the factory to quickly **adapt to changes in demand and market trends**. With the ability to quickly change the production process and automate tasks, the factory can respond to changing customer demands in real-time, resulting



in a more agile and resilient manufacturing process.

1.3 Links to other research and innovation activities

1.3.1 Synergies with relevant active and finalized projects/activities

PROSPECTS 5.0 includes a large consortium with a strong history of participation in relevant projects related to the CL4-Human01-52 call. The Table below highlights the most recent and relevant projects, to avoid an exhaustive list.

Table 2. Synergies with relevant active and finalized projects/activities

Previous Projects of the consortium that link the goal with the PROSPECTS 5.0	
Project: EARASHI – , ID: 1010699 (94 (2022-2026) Partner: INEGI, FM	
Relevance: EARASHI bring 4.0 technologies to industry, in an effort to improve health and safety at work and avoid accidents with manufacturing equipment's, with a focus on I5.0. The results and experiences can help PROSPECT 5.0 to recognize human centric approaches in manufacturing	
Project: Circular TwAIAn, ID 101058585 (2022-2025) Partners: TECNALIA, SINTEF	
Relevance: Circular TwAIAn brings a vision to the manufacturing and process industry value chain by lowering barriers for all stakeholders to adopt and make the most of trusted AI technologies. The experience will help PROSPECTS 5.0 to identify the potential barriers in adopting technologies and how to minimize it	
Project: PLUS ID –: 101058521(2022-2026) Partners: TECNALIA	
Relevance: PLUS aims to address the main features of the platform economy's impact on work, welfare and social protection through a ground-breaking trans-urban approach. The project will be relevant to PROSPECTS 5.0 since it focuses on this specific and meaningful segment and it summarizes all main opportunities and challenges for the future of work, social innovation and a fair growth.	
Project: Scienc2Society (S2S) (Horizon 2020) (2016-2019) Partner: KUL	
Relevance: Throughout this project, a variety of methodologies, guidelines, and policy briefs were developed to advance Open Science. This was accomplished through the implementation of 7 pilot initiatives, some of which were closely related to Industry 4.0, including co-creation, open innovation marketplaces, and big data. The lessons learned from this project can be applied by KUL in the development of guidelines, reports, and policy briefs for the PROSPECTS 5.0 project.	
Project: HuMan (2016-2019) Partner: SINTEF	
Relevance: The project aimed to define and demonstrate workplaces where automation and human workers operate in harmony to improve the productivity, quality, performance of the factory as well as the worker satisfaction and safety. The results can give insights to PROSPECTS5.0 about human centricity approaches.	
Project: H2020_EU 2.3 Industrial Leadership 101037866 Partner: TECNALIA, LTC	
Relevance: ADMA TranS4Mers (Advanced Manufacturing assistance and training for SME Transformation) drives the transformation of European manufacturing SMEs into Factories of the Future. The results can give insights to PROSPECTS5.0 about the challenges that SMEs face in ecological, digital, and societal aspects.	
Project: DITA, Erasmus Plus KA2(2019-2022) Partner: NSB	
Relevance: The project launched an online catalogue of Industry 4.0 training programs that can be used to upskill workforce in the field of digital enabling technologies that will be useful to provide insight about the existing upskilling trainings	
Project: FIT-4-NMP project (CSA) (2021-2023) Partner: TPF, LTC	
Link with PROSPECTS 5.0: In the FIT-4-NMP the analytical work on project/proposal participation was performed, specifically covering topics relevant to manufacturing. Additionally, the project organized survey of actors and has a task of formulating and communicating best practices and recommendations to relevant stakeholders. The outcomes of these activities and lessons learned can be shared with the PROSPECTS5.0 consortium via a common partners TPF and LTC.	
Project: SBI FOLLOW-UP (EASME/COSME/2016/018) (2017-2018) Partner: TPF	
Link with PROSPECTS 5.0: The project included surveys and interviews with representatives' social economy and traditional enterprises from 10 countries. TPF's experience on country-level and overall analysis of cooperation patterns and on analysis of best practice in methods of management can be applied in PROSPECTS5.0	
Project: I4.0-Maturity-Index (Acatech) (2016-2017) Partner: FIR	
Link with PROSPECTS 5.0: This research project focused on the creation of an Industry 4.0 maturity model. The maturity model enables companies to record their respective status in the implementation of Industry 4.0. Direct action measures are generated from the recording, which is presented in an individual implementation roadmap.	
Project: EnerMan (2021-2023) H2020 Project Partner: INTRACT	
Link with PROSPECTS 5.0: The project is about autonomous energy management system for future needs linked to the industry 5.0 and digital twin applications.	

1.4 Interdisciplinary approach

PROSPECTS 5.0 follows an interdisciplinary approach that involves collaboration and integration of multiple disciplines, such as technology, social sciences, humanities, and policy, in order to address the complex issues related to the uptake and implementation of Industry 5.0 principles. This approach will enable the consortium to consider



the technological, social, and human aspects of Industry 5.0, and provide a more comprehensive and holistic understanding of its benefits and challenges. In order to effectively contribute to the expected outcomes, the consortium will include participants with expertise in various fields such as 1) **technology and engineering**, 2) **research and analytical skills (to conduct data collection and data analysis)**, 3) **innovation management**, 4) **sustainable business models**, 5) **stakeholder engagement**, 6) **Ethics and Responsible Innovation**. Moreover, the consortium involves 7) **social sciences and humanities experts**, as well as experts in **gender studies**, to ensure that the gender dimension is properly taken into account in the content of the proposed research and innovation. Additionally, 8) experience in **Dissemination and Communication, as well as Exploitation Strategy and Implementation** are addressed to maximise the impact of obtained results in the industry.

1.5 Role of integration of social sciences and humanities (SSH) in the project

The integration of social sciences and humanities plays a crucial role in the PROSPECTS 5.0 project. The integration of social sciences and humanities plays a crucial role in the PROSPECTS 5.0 project. Social sciences can help understand how beliefs, attitudes, and expectations interact with digital tools and how the learning process can be steered, but not forced, through intentional skills development processes. Moreover, the SSH contribution will shed light on the concerns and fears toward new technologies which could result in individuals' negative psychological response to technical advancements. This integration serves to broaden the scope and deepen the understanding of the impact of Industry 5.0 on society. By incorporating perspectives from fields such as social and organizational psychology, economics, and communication the project is able to gain a more comprehensive understanding of the human dimensions of Industry 5.0. For instance, the integration of social sciences and humanities can provide insight into the ways in which Industry 5.0 is affecting individuals, groups, communities, and society. This understanding is crucial to effectively address potential challenges and ensure that the benefits of Industry 5.0 are accepted and distributed equitably and sustainably.

Moreover, by incorporating these fields, the project can better address the ethical and societal implications of Industry 5.0. This can include an examination of issues such as the impact of digitalization and automation on employment, privacy concerns related to the use of big data and artificial intelligence, and the responsibility of corporations in ensuring that Industry 5.0 is developed in a socially responsible manner.

Overall, by integrating social sciences and humanities, PROSPECTS 5.0 can contribute to the development of Industry 5.0 in a way that is sustainable, inclusive, and responsive to the needs and values of society.

Specifically, the SSH will be addressed in the development on the Industry 5.0 Assessment Framework:

- Approach to design and implement the workshops to assess the preliminary Assessment Framework in T1,3, which will be interactive and non-formal, based on collaborative design. A

A welcoming and stimulating environment will be created where everyone will feel comfortable in sharing visions, doubts, values and needs.

- SSH approaches will be included in the Assessment Framework itself:
- KPIs will be also related to social impacts, being this factor important in the three I5.0 impact areas.
- Data required for measuring KPIs may be "qualitative data": the methodologies for data collection and data analysis will therefore imply methodologies typical of SSH sciences.

Therefore, the SSH approaches suggested in the Industry 5.0 Assessment Framework will be applied in the project in WP2, for data collection (conduction of surveys, interviews, focus groups). SSH will be present also in WP3 for the analysis of quantitative and qualitative data.

1.6 Gender dimension in research activities

PROSPECTS 5.0 fully embraces the principles set forth in Directive 2006/54/EC, Gender Equality Strategy 2020-2025 (COM/2020/152 final), and Sustainable Development Goal 5, which promote equal treatment for women and men in all areas of employment. Gender equality is a fundamental principle in the PROSPECTS 5.0's approach to addressing gender issues. In terms of gender analysis PROSPECTS 5.0 will take all measures necessary to promote equal opportunities between men and women in the implementation of the action. To the extent possible, a gender balance will be ensured at all levels of personnel assigned to this project. Further, to address gender dimensions in the research activities of PROSPECTS 5.0, various steps will be taken:

1. **Gender-inclusive data collection and analysis:** PROSPECTS 5.0 will be ensured that data collected during research activities is representative of **both male and female** perspectives and consider gender as a key factor in data analysis.
2. **Gender-sensitive research design:** The Industry 5.0 transition depends on male-dominated fields like computer science and engineering, potentially causing a disproportionate effect on women seeking to enter the field. However, the industry-wide shift to more automation, big data and robotics may ultimately expand opportunities for women who lacked access to more traditional manufacturing roles, according to industry executives and observers. PROSPECTS 5.0 will ensure that research activities are designed in a way that is sensitive to gender-specific issues, such as gender roles and responsibilities in industry, and the different ways in which gender affects access to technology and training opportunities.
3. **Gender-responsive monitoring and evaluation:** Ensure that monitoring and evaluation of the implementation of PROSPECTS 5.0 is gender-responsive and takes into account the different ways in which women and men are affected by the uptake of Industry 5.0.
4. **Gender-responsive guidelines and reports.** Men and women may face different challenges during the transition to Industry 5.0. For example, Women will likely need higher educational attainment and different skills to make



successful transitions²¹. PROSPECTS 5.0 will ensure to elaborate on the specific challenges that women face in the industry in its report and guidelines, with a focus on promoting gender equality and ensuring that women can fully participate in the opportunities presented by Industry 5.0.

5. **Gender-balanced panels:** PROSPECTS 5.0 will implement several events. The panellist choice will be made by carefully addressing gender balance.

By taking these steps, PROSPECTS 5.0 will ensure that its research activities are gender-sensitive and responsive to the needs and perspectives of both men and women. It's worth noting that the PROSPECTS5.0 consortium has achieved gender balance among its members. This includes the **core partners**, **associated members**, and **advisory board members**.

1.7 Data management and management of other research outputs

The activities of the PROSPECTS5.0 will generate some amount of data and research outputs. Main amount of data will be collected in WP2 during the literature review and surveys with the use case providers. The data will be collected in the form transcripts of interviews, field notes, photographs, videos, and other forms of rich, descriptive data. Formats used for the datasets are anticipated to be: xml, txt, pdf/a, cvs, jpeg, mp3, csv, nvp, xls, dta. Moreover, all options of re-using pre-existing open research data, software, algorithms, or workflows will be examined carefully during the project. Data management will be organized in accordance with the Grant Agreement Article 17 regulations in line with the FAIR principles (Findable, Accessible, Interoperable, Reusable). The Data Management Plan (DMP) will be established as a deliverable within 3 months and updated regularly, in line with the progress of the project. The DMP will be based on the Horizon Europe (HE) DMP Template. Briefly, the following principles will be used:

- **Findability:** in addition to generic metadata elements, metadata elements describing the data will be used to optimize the potential of finding and potential re-use. Persistent identifiers (either DOI or URN) provided by the data repository will be generated and used in linking to datasets.
- **Accessibility:** Open access to some data linked with the public project results (reports, deliverables, guidelines, etc.) will be provided via an open data repository, i.e., AI4EU or Zenodo.
- **Interoperability:** to allow data exchange and re-use between researchers, institutions, organisations, countries, etc. the standards for formats, as much as possible compliant with available (open) software applications will be applied. Re-combinations with different datasets from different origins will be facilitated. The distinct and standard terminology and keywords will be used in all datasets and in descriptive metadata fields to allow accurate and quick indexing and retrieval of relevant data.
- **Reusability:** after the project completion, ownership of datasets belongs to the partner/s generating them, co-shared by the group of consortium members in accordance with the Consortium Agreement, or joint. Creative Commons license CC-BY-SA or CC-BY will be used for any opened datasets unless there are compelling reasons to select a more restricted type of CC-license. Licenses will by default include also a disclaimer of liability for the re-use of opened data.

The responsibility of the data management and quality assurance at the general project level will be on AETHON, who will lead the DMP preparation and revision.

#@CON-MET-CM@# #@COM-PL-CP@#

2 Impact #@IMP-ACT-IA@#

2.1 Project's pathways towards impact

PROSPECTS 5.0 is designed to create significant and meaningful impact in the short, medium, and long term, benefiting a wide range of stakeholders: the project is expected to become a reference point for future research on Industry 5.0 and for the development of new EU roadmaps and policies.

The main goal of PROSPECTS 5.0 is to “Accelerate the transition to Industry 5.0 by enhancing the uptake of Industry 5.0 principles and practices by companies, local innovation ecosystems, SMEs/start-ups/scale-ups and industrial sectors”. The establishment of an assessment framework, the aggregation and analysis of the data collected, the guidelines developed, the lessons learned, the policy recommendations, the development of the Industry 5.0 Wiki and the overall assessment of the Industry 5.0 technologies will act as the co-pilot for the transition to Industry 5.0. Therefore, the potential impact of Industry 5.0 might be different from that of Industry 4.0, and it's necessary to approach the analysis with a critical and exploratory mindset. In PROSPECTS5.0, 14 companies will be assessed during the implementation of PROSPECTS 5.0 to gain insights into their experiences with innovative Industry 5.0 practices. They will be directly impacted by the project and will benefit from the key achievements of PROSPECTS 5.0. Additionally, the project will establish a strong partnership to foster the development of a long-term ecosystem, creating a community of Industry 5.0 experts and other stakeholders. PROSPECTS 5.0's impact will be extended beyond its direct participants, engaging with local communities and major EU bodies and associations, making the results of PROSPECTS 5.0 project well-known in several EU regions. An additional focus will be given to the (E)DIH communities, since impact is envisioned to be hands on, if PROSPECTS 5.0 results are incorporated in existing EDIH service portfolios.

²¹ ‘The Future of Women at Work: Transitions in the Age of Automation | McKinsey’ <<https://www.mckinsey.com/featured-insights/gender-equality/the-future-of-women-at-work-transitions-in-the-age-of-automation>> [accessed 26 March 2023].



2.1.1 Target groups, scale and significance of the project's contribution to the expected outcomes and impacts

In terms of **scale**, the wide diversity (covering different sectors, sizes, countries and maturity levels) of the Target Groups (TG1-TG6) and the multiple benefits they will receive over time after using the PROSPECTS 5.0 results will lead to remarkably widespread outcomes and impacts. In terms of **significance**, the numerous benefits acquired through the adoption of the best practises developed in PROSPECTS 5.0 will pave the way towards Industry 5.0 and will create considerably added value to the target groups.

Table 3 presents the PROSPECTS 5.0 target groups divided into 6 stakeholders' groups, the related needs, and the expected impacts on each category. Additionally, Table 4 defines, for each main project result, the addressed TGs.

Table 3 Impact to Target Groups

TG#1: Large enterprises
Needs: Understanding the impact of innovation and technology on the main companies KPIs (operational, economic, social). Impact to TG: Provision of the impact assessment on the usage of innovation and technologies by considering the 3 main pillars of Industry 5.0. Provision of guidelines for future assessment as the Industry 5.0 Assessment Framework is adaptable
TG#2: SMEs and Micro enterprises
Needs: Understanding the impact of innovation and technology on the main companies KPIs (operational, economic, social). Understanding the requirements for facilitating the green and digital transition. Impact to TG: Inclusion of SMEs needs for the development of the Industry 5.0 Assessment Framework. Provision of guidelines for future assessment as the Industry 5.0 Assessment Framework is adaptable. Assessment of barriers for using Industry 5.0 principles in SME and micro-enterprises.
TG#3: Start-ups/scale ups
Needs: Understanding the impact of innovation and technology on the main companies KPIs (operational, economic, social). Including start-ups and scale-up perspective in the development on new methodologies. Impact to TG: Inclusion of Start-ups/scale ups needs for the development of the Industry 5.0 Assessment Framework. Provision of guidelines for future assessment as the Industry 5.0 Assessment Framework is adaptable. Assessment of barriers for using Industry 5.0 principles in Start-ups/scale ups.
TG#4: EU Associations, initiatives, platforms, clusters, existing and emerging networks, projects, including (European) Digital Innovation Hubs
Needs: Having a common assessment framework and common KPIs such as Operational efficiency, alignment with sustainability goals, customer satisfaction, workforce engagement, resiliency to unexpected changes in different sectors. Accelerating digital transformation of the specific region/sector. Publishing expert materials on new and relevant industrial trends. Providing dedicated trainings, seminars/webinars /webinars, conferences, and knowledge sharing to strengthen the national/regional industry. Impact to TG: Provision of a common framework to assess the impact of Industry 5.0 for different sectors, to allow for comparability at the EU level. Raising the awareness of industrial trends and their importance through dissemination of project materials.
TG#5: Policy Makers & EU Commission
Needs: Creating policies for boosting EU competitiveness and innovativeness (especially for SMEs). Supporting the development of innovative enterprises through funding schemes aimed at strengthening their selected capabilities. Impact to TG: Provision of policy recommendations and learnings to facilitate policy making related to Industry 5.0, as enabler of economic competitiveness and growth. Providing ideas and justification for support / funding schemes, new standards/regulations, instruments aimed at developing / strengthening key Industry 5.0-related capabilities.
TG#6: Research Community
Needs: Collecting state-of-the-art knowledge on industrial trends, transferring it to students, publishing. Facilitating development of new approaches/methods/methodologies in term of Industry 5.0. Developing valuable research to be addressed for journal, especially for high impact factor journals. Establishing long-lasting partnerships with companies. Impact to TG: Providing project materials as a base for development of curricula, for scientific publications and students' work. Making project materials available to a larger audience (students, researchers, industry).

Table 4. PROSPECTS 5.0 results and impacted TGs

PROSPECTS 5.0 result	Linked Objective	Linked WP	Impacted TGs
Industry 5.0 Community of Interest	O1	WP1/All	ALL
Industry 5.0 Assessment Framework	O2	WP1	TG#1, TG#2, TG#3, TG#4, TG#6
I5.Rs: I5.R 1: Industry 5.0 implementation practices (I5IP), I5.R 2: Industry 5.0 Drivers and Impacts (I5DI), I5.R 3: Industry 5.0 Adoption Factors (I5AF), I5.R 4: Industry 5.0 for Empowering SMEs/ start-ups/scale-ups (I5ES) 5: PROSPECTS 5.0 web application	O3	WP2/WP3	TG#1, TG#2, TG#3, TG#4



I5.Gs: I5.G 1: Industry 5.0 Maturity model (I5MM), I5.G 2 Industry 5.0 Best Practices Guide (I5BPG), I5.G 3 Industry 5.0 Adoption Toolkit (I5AT), I5.G 4 Industry 5.0 Stakeholder Engagement Guide (I5SEG)	O4	WP4	TG#1, TG#2, TG#3, TG#4
Policy Recommendations	O4	WP4	TG#5
Industry 5.0 Wiki	O5	WP5	ALL
Seminars/webinars and Training Modules	O5	WP5	TG#1, TG#2, TG#3, TG#6
Final Conference	O5	WP5	ALL

2.1.2 Contribution of the project towards expected outcomes.

Table 5 presents the structured relationships among the **key results** of PROSPECTS 5.0, the **expected outcomes**.

Table 5. PROSPECTS 5.0 contributions toward the Topic's expected outcomes:

Expected outcome 1: Increased uptake of the Industry 5.0 principles and practices across industrial sectors, achieved through improved understanding of its benefits for enterprises and society and actionable knowledge about factors of success and impediment;

Description: PROSPECTS 5.0 contributes to the expected outcomes of the project by providing essential tools, such as the **Industry 5.0 Assessment Framework**, **PROSPECTS5.0 web application**, the **Industry 5.0 Wiki**, **I5.Rs reports** and **I5.G guidelines**. These tools provide practical knowledge about the success factors and challenges of Industry 5.0 that can help organizations, especially SMEs, start-ups, and scale-ups, to adopt Industry 5.0 principles and practices more easily. By facilitating better understanding of the benefits of Industry 5.0 for enterprises and society, PROSPECTS 5.0 aims to promote the uptake of these principles and practices, leading to expected outcomes of the project. Moreover, PROSPECTS 5.0 offers seminars/webinars/webinars and training modules that contribute to the development of human capital in this field, increasing awareness and understanding of the benefits of Industry 5.0 across different industrial sectors. These efforts support the increased uptake of Industry 5.0 principles and practices, thereby contributing to the expected outcome 1 of the project.

Key results: **Industry 5.0 Community of Interest, Industry 5.0 Assessment Framework, I5.R, I5.G, In5.0 Wiki, seminars/webinars/webinars and training modules,**

Linked WPs: 1, 2, 3, 4, 5, **Target Groups:** TG#1, TG#2, TG#3, TG#4, TG#6.

KPIs: **Industry 5.0 Community of Interest** engaging representatives **KPI1.1** Number of EU Associations engaged: at least **5**, **KPI1.2** Number of Companies engaged: at least **20**, **KPI1.3** Number of Research Organisations and Universities engaged: at least **5**, **KPI1.4** Number of EDIHs engaged: at least **14** (1 in each participating country) - Verification: Letters of Intent collected in T1.1. **Co-creation meetings leading to the co-creation and validation of the Industry 5.0 Assessment Framework** **KPI1.5** Number of meetings: at least **5** - Verification: minutes of workshops. **Companies and industrial sectors assessed** **KPI1.6** Number of companies assessed: at least **14**, **KPI1.7** Number of companies' industrial sectors: at least **10** - Verification: finalization of WP2 and WP3, delivery of the I5.Rs. **Successful knowledge transfer** **KPI1.8** Number of companies that acquired knowledge: at least **10** - Verification: I5.G guidelines are shared to external companies by means of T5.4. **Actors (researchers, industrial partners, and policy makers, in the collaborative platform of In5.0 Wiki to exchange knowledge about Industry 5.0 by the end of the project)** **KPI1.9** Number of actors engaged: at least **10** - Verification: In5.0 Wiki visits. **EDIH collaborating with PROSPECTS 5.0 for knowledge transfer activities** **KPI1.10** Number of EDIHs: at least **10** - Verification: EDIH as partners or associated partners + participant lists of workshops and events. **Seminars/webinars/webinars organised within T5.4** **KPI1.11** Number of seminars/webinars/webinars : at least **5** - Verification: Seminar recordings. **Training modules successfully delivered in T5.4** **KPI1.12** Number of training modules: at least **3** - Verification: Videos

Expected outcome 2: Sound data and analysis of the uptake of Industry 5.0 in its different dimensions for policy makers at EU, national/regional and sectoral level

Explanation: By conducting a research study that includes use case studies, PROSPECTS 5.0 will gather data on the implementation of Industry 5.0 principles, the drivers of adoption, and the success factors and challenges associated with their adoption and implementation. This data will serve as a basis for analysis and policymaking at different levels. The project will analyse the collected data and provide insights into the adoption of Industry 5.0 principles in various dimensions. Based on this analysis, the project will develop **recommendations for policymakers, especially those engaged in planning, designing and implementing support measures (including regional, national, ERDF and EU funding schemes) dealing with smart specialization, digital industry and innovation**, to support the uptake of Industry 5.0 principles, thereby contributing to the first expected outcome of the project. **Key results:** **I5.Rs, Policy Recommendations, Final Conference, Linked WPs: 3, 4, 5, Target Groups: TG#5, TG#6**

KPIs: **Local, National and EU Policy makers engaged to transfer the result of the PROSPECTS5.0 assessment** **KPI2.1** Number of Policy makers: at least **4** - Verification: sharing of the I5.R with relevant policy makers. **Current EU Policies assessed to deliver Policy Recommendations** **KPI2.2** Number of EU Policies: at least **2** - Verification: T4.2 meetings minutes. **Local, national EU Sectorial and Industry Associations invited to provide feedback for the**



PROSPECTS 5.0 policy recommendations KPI2.3 Number of Associations invited: at least **6** – Verification: validation process of the policy recommendations occurring in T4.2. **Policy Bodies (Regional, National and EU level) attending the final conference KPI2.4** Number of representatives from Policy Bodies: at least **4** – Verification: Recording of the final conference

2.1.3 Impact related to the Horizon Europe Work programme

PROSPECTS 5.0 addresses the Horizon Europe Cluster 4 (Digital, Industry, Space), specifically to destination 6 “A human-centred and ethical development of digital and industrial technologies. The project will therefore address the following Expected Impact (EI) and Key Strategic Orientation (KSO):

- **EI:** A human-centred and ethical development of digital and industrial technologies, through a two-way engagement in the development of technologies, empowering end-users and workers, and supporting social innovation.
- **KSO D:** Creating a more resilient, inclusive and democratic European society, prepared and responsive to threats and disasters, addressing inequalities and providing high-quality health care, and empowering all citizens to act in the green and digital transitions.

PROSPECTS5.0 aims at contributing to a **human-centred and ethical** development of digital and industrial technologies, and more specifically to support a human-centred approach to **green and digital transition** of the EU Industry sector that is aligned with European social and ethical values. The project results will lead to a more **inclusive and sustainable EU Industry** and – indirectly – the project findings will **facilitate the understanding of the required skills** that are needed to support the twin transition; the project recommendations will include guidelines to support companies to satisfy the continuous training needs of their employees. High relevance will be given in translating project results into **usable and open publications**, while an **open-source tool**, the PROSPECTS5.0 wiki, will be developed and used not only to spread the project results, but also to engage the wide audience in knowledge sharing.

The PROSPECTS 5.0 assessment of the 14 use cases will include the analysis of companies’ experiences related to highly innovative technologies, such as **Artificial Intelligence and Extended Reality**. Also, the assessment will include an analysis of the companies’ attitude and experience towards **interoperability standard** and **ethical principles for human-centred algorithms** through international endorsed standards.

The Industry 5.0 Assessment Framework will be developed in collaboration with the **EIT and KIC Communities**, especially the EIT Manufacturing and the EIT Digital; these stakeholders will be engaged continuously during the project as they are relevant actors to whom the project’s recommendations and guidelines are addressed. Further, PROSPECTS 5.0 will align its framework in close collaboration with (European) Digital Innovation Hubs networks to make the framework easily applicable as an add-on to the service portfolios of EDIHs. In fact, PROSPECTS 5.0 will establish a **systemic and systematic approach** to define the drivers and success factors for progress towards Industry 5.0: the assessment framework will be developed with a co-creation approach, engaging different levels of employees of the case study companies, their local and regional partners (including the (European) Digital Innovation Hubs Network), international experts and the most relevant EU associations. This means that the project will develop and test a methodology with several actors and continuous exchanges between the Industry and Academia will take place. Such approach will facilitate the industrial and academic technologies’ developments to include and **integrate also non-technology innovation and social innovation** since the design phase.

2.1.4 Impact related to wider impacts, EU policies, SDG policies, strategies and programmes

PROSPECTS 5.0 will enable the facilitated achievement of EU objectives as explained in the following table. More specifically, Task T4.2 will define the gaps and provide **Policy Recommendations** in line with the described current policies and by keeping track of regulatory updates, during the project duration. Table 6 present the impact related to EU and SDG policies, strategies and programmes

Table 6. Impact related to EU and SDG policies, strategies and programmes

EU Priority 1: EU Green Deal:

Research and innovation driving transformative change. The PROSPECTS5.0 will gather not only the project Consortium, but also external actors with whom a continuous engagement will be activated. This implies the enabling of new partnerships at the local and international level, leading to new research and innovation ideas and new projects, after the end of PROSPECTS5.0. Moreover, the project will get in touch with several EU Associations for research and innovation: this will provide strong input to the development of new long term EU roadmaps, such as “Strategic Research and Innovation Agendas” created within several EU Partnerships.

EU Priority 2: A Europe fit for the digital age

The Path to the Digital Decade. The PROSPECTS 5.0 approach will support new technology development and deployment in the spirit of methods to integrate non-technology innovation and social innovation. Efforts will be pursued to help ensuring people are at the centre of the digital transformation, in line with EU values and principles.

Artificial Intelligence (AI). By taking a multidisciplinary approach and involving diverse stakeholders, including experts, ethics, policy, SSH expert, the usage of AI in use case companies will be deeply assessed and the findings on workers perceptions, attitude and expectations towards this technology will be considered as a relevant project outcome. This knowledge will contribute to the works and plans of the Public-Private Partnership on Artificial



Intelligence, Data and Robotics and to the (European) Digital Innovation Hubs Network. Moreover, the PROSPECTS 5.0 policy recommendations will be including emphasis on this topic to support the EU Coordinated Plan on AI.

European industrial strategy. The whole PROSPECTS5.0 concept is designed to support the EU Industrial strategy. Specifically, the main impact will be delivered to EU industries, including SMEs and start-ups by providing tools and methodologies to assess and implement Industry 5.0 concepts wisely and as means to emerge in terms of competitiveness. The EU single market will be enforced; furthermore, the continuous interactions between partners and the several events organized within the projects will facilitate the development of new strategic Industry Alliances.

EU Priority 3: An economy that works for people

Small and medium-size enterprises strategy. Thanks to the engagement of several Digital Innovation Hubs established in the countries of the consortium members, PROSPECTS5.0 will establish synergies with Enterprise Europe Network (EEN), to whom relevant input will be provided to improve building capacity and supporting SMEs in their transition to sustainability. This includes understanding the “human-centricity” KPIs related to the implementation of new technologies and defining the working force requirement.

Cohesion Policy & Smart Specialization Strategy (S3)

The PROSPECTS5.0 overall approach, and especially the Industry5.0 Assessment Framework, is both “people-based”, since it addresses needs and requirements that are valid on a global scale for several stakeholders’ categories, and it is also “place based”, as it allows to be adapted on local/regional needs. This is aligned with the pillars of S3 and – in general – it contributes to the good outcome of the EU Cohesion Policy. The PROSPECTS 5.0 use cases are geographically spread in the EU, including partners from Countries that can benefit from the Cohesion Funds.

European Institute of Innovation and Technology (EIT) and its Knowledge and Innovation Communities (KICs), in particular the EIT Digital and EIT Manufacturing

PROSPECTS 5.0 supports the EIT vision of engaging the stakeholders’ communities for addressing global challenges. Specifically, it deals with the “Digital” and “Manufacturing” stakeholders communities (the EIT Digital and EIT Manufacturing) common goals addressing social innovation, sustainability, and economic growth. The project will engage representatives of both communities not only for developing the Industry 5.0 Assessment Framework, but also it will establish a linkage to the members of the 2 communities in order to collect information from them. The communication and dissemination of the project will emphasise the synergies with the 2 communities, aiming to provide a common impact.

Digital Europe Programme

The project will create a strong synergy with the Digital Europe Programme, including the European Digital Innovation Hubs Network and the Digital Transformation Accelerator Programme. The idea is to gather common stakeholders in order to create a strong impact and to support the development of future policies and roadmaps. Furthermore, the format of the seminars/webinars /webinars and training modules have the potential to be re-used for future activities organised by the different DIHs.

Sustainable Development Goals

This project aims to design an Industry 5.0 Assessment Framework with a global vision on smart industry and digital technologies taking into account the principles of sustainability, resilience and human centricity, who are able to lead the changes that the new industrial 5.0 revolution implies. The project’s contribution towards **SDG 9 ‘Industry, innovation and infrastructure’** is paramount, since: 1) Promotes inclusive and sustainable industrialization, raises industry’s share of employment and gross domestic product, and increases its share in least developed countries. 2) Aims for upgraded infrastructure and retrofitted industries to make them sustainable, with increased resource-use efficiency and greater adoption of clean and environmentally sound technologies and industrial processes, with all countries taking action in accordance with their respective capabilities. 3) Supports domestic technology development, research and innovation in developing countries, including a conducive policy environment for industrial diversification and value addition to commodities. The project has also significant contribution to **SDG 17 ‘Partnerships for the goals’** related to strengthening the means of implementation by creating and reinforcing partnerships. In particular, the project: 1) Increases the urgency and pressure for change to achieve SDGs setting evidence-base awareness towards policy makers and citizens contributing to the developments of vision with policy makers, industry and citizens based on the case-studies and policy recommendations as an outcome of the project, 2) Stimulates the change needed to achieve SDGs by supporting competence development through the industry wiki which will be developed during the project. 3) Accelerates the change needed to achieve SDGs by building partnerships and networks between actors in the value chain, creating a EU Community of interest about industry 5.0 of thanks to the activities carried out for the diffusion of the project results. The projects partially tackle **SDG 8 ‘Decent work and economic growth’** by promoting sustainable economic growth, full and productive employment and decent work for all through the guidelines for the adoption and utilisation of Industry 5.0 technologies.

Contribution to Standardisation and EU Data Strategy

PROSPECTS 5.0 will provide recommendations to the European Commission and European standardisation organisations for future standardisation needs, especially for the following topics: Users’ acceptance of interoperability approaches that enable common standards; Data sharing and data exchange best practices: current



attitudes, requirement for more data sharing and economic expectations; Cyber-security: analysis of its uptake and its impact for resiliency; Data: current practices and future plans.

Contribution to Gender Equality and Inclusivity

As the world transitions to Industry 5.0, it is important to acknowledge that men and women may face different challenges during this process. PROSPECTS 5.0 project will consider gender elements towards Industry 5.0 acceptance and adoption. This involves elaborating on the specific challenges that women face in the industry in developed **report and guidelines**, with a focus on to ensure that women can participate in the opportunities presented by Industry 5.0. Moreover,, the project results will include dedicated analysis of how diverse types of people deal with technology and the impact it has on company sustainability and resilience. By taking into account gender differences and ensuring that women are not left behind in the transition to Industry 5.0, the PROSPECTS 5.0 project can help create a more inclusive and diverse industry that benefits all individuals, regardless of gender.

2.1.5 Potential risks, barriers, obstacles to achieve the expected impacts and ways to overcome them

In PROSPECTS5.0, potential barriers are assessed according to the PESTLE framework: Political, Economic, Social, Technological, Legal and Environmental, as summarized in the following Figure.

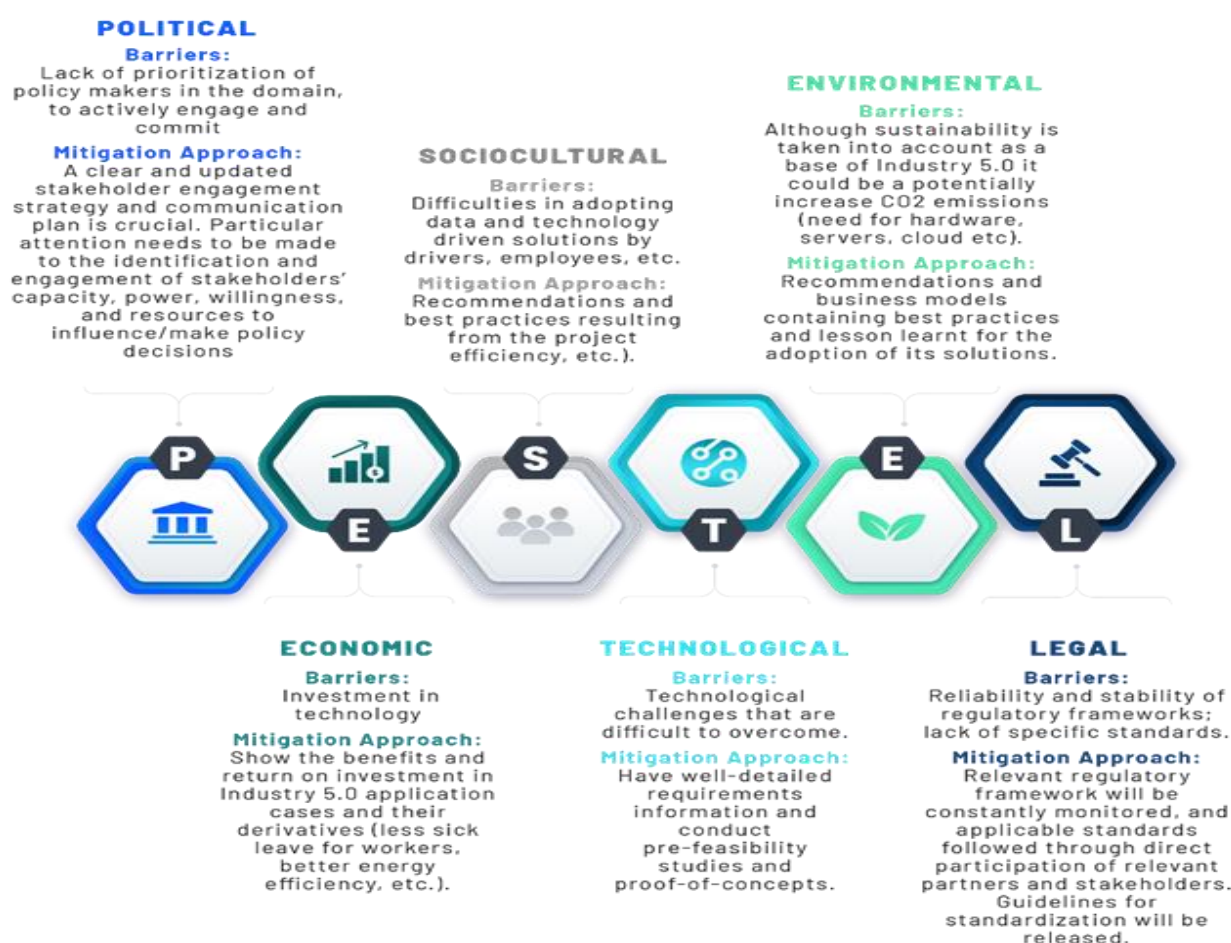


Figure 3. PESTLE framework: Political, Economic, Social, Technological, Legal and Environmental

2.2 Measures to maximise impact, Dissemination, exploitation and communication #@COM-DIS-VIS-CDV@#

2.2.1 Dissemination plan

To maximize impact, we carefully plan dissemination activities to ensure timely and widespread diffusion of project advancements to target groups. PROSPECTS 5.0 will implement an intensive dissemination strategy, engaging stakeholders early and identifying potential target groups (TGs), including **TG#1:** Large enterprises, **TG#2:** SMEs and Micro enterprises, **TG#3:** Start-ups/scale ups, **TG#4:** EU Associations & Consortia, **TG#5:** Policy Makers & EU Commission, **TG#6:** Research Community.



Table 7. PROSPECTS 5.0 target groups

Target Group	Examples of already identified players
TG#1: Large enterprises	Knowit Norway
TG#2: SMEs and Micro enterprises	Italy: the SME network belonging to SMILE-DIH and DIH-ER
TG#3: Start-ups/scale ups	Italy: the start-up network bin connection with UNIMORE, Confindustria and ARTER Latvia: Business incubator network
TG#4: EU Associations, initiatives, platforms, clusters, existing and emerging networks, projects, including European Digital Innovation Hubs	Poland: Future Industry Platform, Polski Przemysł (Polish Industry) .. , Polish Chamber of Commerce, Polish Cluster of Composite Materials,, Polish Chamber of Commerce for High Technology Spain: Spanish Maintenance Association : https://www.aem.es/ Spanish Manufacturers Association of construction and mining equipment (ANMOPYC) https://www.anmopyc.es/en UNIPOINT – PORT OF BILBAO CLUSTER: https://www.uniportbilbao.es/en/uniportbilbao/whats-uniport Italy: Digital Innovation Hubs (SMILE-DIH, ER2DIGIT, DIH-ER), SMACT Competence Centre, Confindustria Emilia Romagna, Confindustria Vicenza & Bergamo, COMET Cluster Friuli VG, ARTER Czechia: Business Innovation Centre Plzeň, Klastř mechatronika Latvia: Association of Mechanical Engineering and Metalworking Industries of Latvia, Machine Building & Metalworking Cluster, Investment and Development Agency of Latvia, Enterprise Europe Network, Latvian Chamber of Commerce and Industry
TG#5: Policy Makers & EU Commission	Austria: national funding agencies (FFG, SFG, aws), industry clusters (AC Styria, Green mobility Cluster, Healthtec Cluster) Poland: Industrial Development Agency, Polish Agency for Entrepreneurship Development, Ministry of Economic Development and Technology Ministry of Economic Development and Technology Spain: Ministry of Economic Affairs and Digital Transformation, CDTI-Centre for the Development of Industrial Technology, ACCIO – Agency for Business Competitiveness, SPRI- The Basque Business Development Agency Italy: Region Emilia Romagna Latvia: Ministry of Economics
TG#6: Research Community	Poland: Warsaw University of Technology, Mechanical / Technological Department Italy: University of Modena and Reggio Emilia, University of Parma, Interuniversity Consortium for Optimisation and Operation Research (ICOOR), Confindustria Ricerca, University of Padova, Venezia, Bergamo Czechia: University of West Bohemia Spain: Basque Research and Technology Alliance Latvia: Riga Technical University, Latvia University of Life Sciences and Technologies

The PROSPECTS 5.0 project's D&C Strategy will include:

- Definition of **specific and measurable objectives** for the dissemination and communication activities and linking these objectives with the appropriate target groups.
- Development, implementation of a solid, realistic and inclusive **D&C plan**.
- Setting up different **channels, tools and mechanisms** to reach the targeted audiences.
- Definition of the **guidelines and responsibilities** for the implementation of D&C actions
- Monitoring the **impact** of the D&C activities and applying corrective actions when necessary
- Identification of any **emerging opportunities** that can maximise visibility.
- Creating **strong liaison with the Exploitation strategy** to maximise the use of the results.

The Dissemination and Communication objectives are presented in the Figure.4.

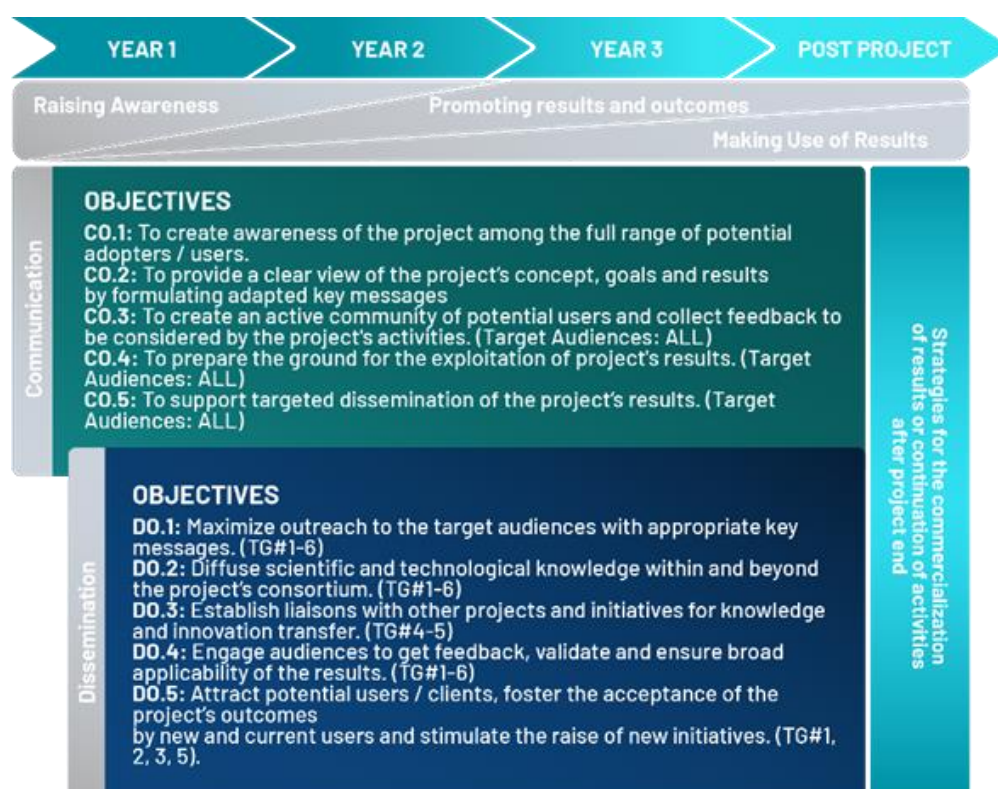


Figure 4. Dissemination and Communication objectives

The methodology of this section will be followed as early, middle, and late stage. In early-stage (**Month 0-9**) project website, social media accounts, video content, and digital assets will be developed and launched. In middle-stage (**Month 10-30**) the consortium will extensively implement planned D&C activities, will promote project outcomes as soon as they become available, the PROSPECTS 5.0 Wiki will be developed, launched, and promoted. The late stage (**Month 31-36 and post project**) is focused on transferring the project results to the identified key stakeholders at industry (including service and training providers) and policy levels. This will be the more active period in the whole D&C strategy and is strongly connected to Exploitation activities, described in next sub-section.

Online presence and promotion will be a key instrument of the D&C strategy, and will include the following components:

- An interactive **project website**, outlining project objectives, displaying use cases and containing key project outputs and public deliverables. The website's main language will be English, while other country languages will be added for selected information and materials to increase understanding of local stakeholders.
- Project presence in **social media** and regular SMM to promote project activities and events and engage stakeholders.
- **PROSPECTS 5.0 Wiki**, an easy-to-use, "updating-friendly" online tool for presenting project's knowledge base and experience sharing. This is a major innovative aspect of PROSPECTS 5.0, building up its value proposition. The wiki format is the key principle for an open-access case study database, allowing for continuous updates and providing a knowledge base serving both practitioners and researchers. The visitors will be able to edit the database pages, further building the PROSPECTS 5.0 wiki with their input and comments. This functionality will be moderated by PROSPECTS 5.0 partners, who will review the material before adding to the main body of a case or topic. Additional features can include calendar sharing, live video conferencing, RSS feeds and more. The close involvement of different actors, combined with the targeted dissemination of wiki updates and results, will ensure the successful and extended functionality of the PROSPECTS 5.0 wiki.

Other D&C activities, forming an initial D&C plan, and the envisaged channels and tools, are depicted in the Table. 8. To ensure the different dissemination and communication objectives are addressed effectively and expectations of the target audience groups are met, specific attention will be paid to adapt the tools and channels, the measures and the content both to the needs and knowledge levels of these groups, as well as to the status/progress and needs of the project.

Table 8. Draft Dissemination and Communication Plan

Channel/Tool description	Target Audience	Measure/Target (KPIs)
Visual identity: logo, fonts, colours and key visual messages will be	All	1 project manual distributed to partners



carefully developed to create the wide recognition of the project.		by M3 Deliverable template Project overview slides
Dissemination materials , including project leaflets, flyer, brochures, posters) to distribute in conferences, workshops, B2B events, etc.	All	1 set of materials in 6 printed concepts 500 + leaflets distributed 30 + posters displayed
Project website : Provision of general information regarding the project, objectives, concepts, progress/news	All	3000 visits per year 500+ downloads of reports and dissemination material Website ready by M3
Social Media : Project presence in LinkedIn, Twitter, YouTube to disseminate and communicate project, achievements, announcements, participate in groups, initiate discussions	TG2-5, GP	2+ accounts launched by M2 500+ followers in all media 100+ posts/platform by the end of project 500+ views for videos on YT
Project awareness press-releases including the most important information related to the project to be distributed by the project partners to their contact networks and widely published through their institutional websites and social networks.	TG4-5	3+ press releases communicated via 5+ relevant channels each
Project videos : a teaser of project describing the concept and goals published on the project website, social media, YouTube, plus informative videos based on the project results when available	TG1-3, 6	1 project teaser 3+ informative videos
E-Newsletters : will be developed every 6 month and distributed to audiences to update them on project news, events, results.	All	6+ newsletters, bi-annually -500+ recipients per one newsletter
Use cases individual stories : a story about each use case will be developed, in a video or text+photo format. The goal is to share experience, ideas and results in terms of I5.0	All	14 stories, 1 per each use case
Industry 5.0 Wiki : open-access case study database, allowing for continuous updates and providing a knowledge on Industry 5.0	TG1-3, 6	Ready by M13 20+ articles 50+ individual contributors 3000 visitors per year
Publications in science, industry and social science journals to widely disseminate the project outcomes and results	TG1-3, 6	5+ publications
Presentations at relevant events, like cluster meetings, conferences, local and national events, B2b and networking events, etc.	TG1-6	10+ presentation
Project workshops dedicated to rising awareness of Industry 5.0. Will preferably be organised as satellite events of international conferences/tradeshows/events to reach wider audience	TG1-6	-14 virtual/physical Workshops Reaching 50+ industry stakeholders
Project Final Event : An open event for dissemination the results in Brussels	TG1-6	1 event in M31-M36
Training modules : Trainings videos and webinars aimed at transferring PROSPECT 5.0 results in the daily practice releases in wiki and YouTube	TG1-3, 6	3+ Training modules (1 for industry, 1 for policy and 1 for innovation related stakeholders) 100+ participants in total

2.2.2 Exploitation strategy

An exploitable strategy for PROSPECTS 5.0 involves taking its results and outputs and transform them into tangible, commercial & non-commercial products, processes, or services. The following steps will be part of the process leading to commercial and non-commercial exploitation process:

Step #1: Finalise the list of all key exploitable results (KERs) and outputs and design their relationship with the Industry 5.0 Wiki

Step #2: Cluster them into attractive service bundles: a preliminary list includes

Industry 5.0 **business consulting service** (potential customers: industrial target groups of the project)

Industry 5.0 **innovation service support package** (potential customers: service providers like EDIHs, Business Support Services, research organizations, etc.)

Industry 5.0 **training academy** (potential customers: end users interested / involved in I5.0 investments)

Industry 5.0 **policy advisor package** (potential customers or end user: policy and decision makers)

Step #3: Perform a market analysis related to these identified scenarios

Step #4: Detail all commercial and non-commercial exploitation models

Step #5: Develop a preliminary business model and plan for each service bundle

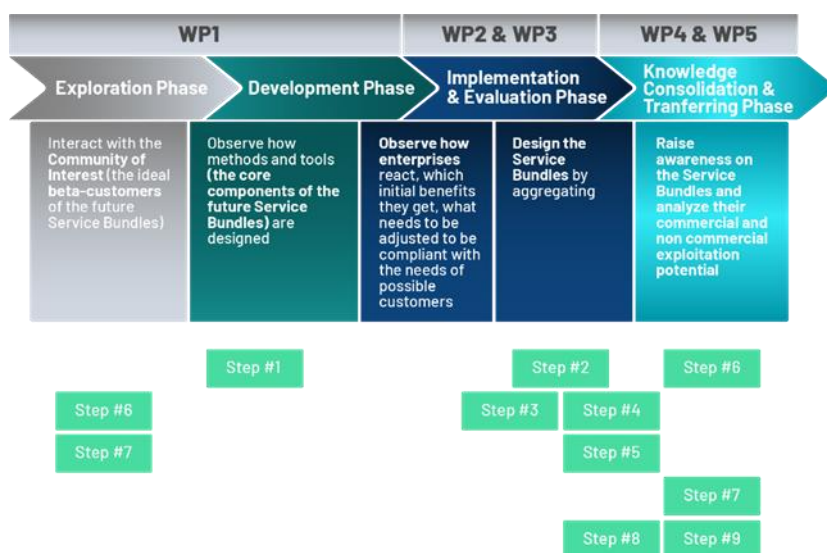
Step #6: Build partnerships and networks with relevant companies, organisations, and individuals and use them to validate / review the identified business models

Step #7: Reach out to involved Target Groups and stakeholders to activate 4 “demo sales” (an on-site trial of each of the 4 service bundles)

Step #8: Identify financial support from diversified funds that can be used to support direct and/or indirect commercial transformation, ranging from additional research activities to service improvement and upgrades.

Step #9: Evaluate the success of the exploitable strategy and adjust as necessary.

Figure.5 illustrates how these pillars are linked to the project phases and WPs.



The consortium recognises that 3 main exploitation models may be generated by the project: 1) **Commercial exploitation model** (i.e.: paid provision of results to end users), 2) **Research exploitation model**, (i.e.: re-utilisation of the research know-how acquired in future research activities), and 3) **Open Innovation support exploitation model**, (i.e.: re-utilisation of the know-how acquired to increase the quality of the innovation services provided by EU relevant stakeholders like EDIHs, DIHs, Living Labs, Technology Platforms, etc. and to improve Industry 5.0 innovation policies.

Figure 5. Exploitation steps and link to WPs

Table 9 lists the individual exploitation plan of PROSPECTS 5.0 KERs.

Table 9. Key exploitable results, addressed target groups and initial individual exploitation plans

Improve or add Services	Improve or add products & technology	Transform biz model	Increase customer satisfaction	Improve processes & knowledge	New educational & training offer	New Research patterns	Add value to running EU projects
KER: I5.0 Assessment Framework							
AETHON, EURECAT, INEGI, NSB, Octave, FIR	INEGI, Octave, FM	EFESTO	AETHON	EFESTO	INEGI	SINTEF	NSB, SINTEF, FM, INTRACT
KER: I5.0 Implementation practices and Best Practice Guide (I5IP)							
EURECAT, INEGI, NSB, SINTEF	INEGI, OCTAVE		FIR, LTC	EFESTO, PILOT LEADERS	INEGI, FIR	NSB, FIR	FIR
KER: I5.0 Maturity Model							
EURECAT, Octave, FIR						SINTEF	NSB, SINTEF
KER: I5 Adoption Toolkit and Stakeholder Adoption Guide							
EURECAT, INEGI			FIR, I2M, FM				NSB
KER: Industry 5.0 Wiki							
EURECAT, NSB			SINTEF	Use case providers	Use case providers		NSB
KER: Policy / Standardization Recommendations							
				ALL PARTNERS			
Project Outcomes as a whole							
TECNALIA, INEGI, KUL	I2M, INEGI, KUL, UGENT, LTC		TECNALIA, FM, I2M	TECNALIA, FIR, FM, KUL	UNIMORE, FIR, FM, KUL	TECNALIA, UNIMORE, INEGI, FIR	

2.2.3 IPR and Innovation Management

The Grant and Consortium Agreements will constitute the legal basis defining all aspects of the IPR management. Back- and foreground issues will be defined and agreed upon within these two contractual documents. IPR strategy will be followed by the consortium which will handle all aspects related to the prioritising of result ownership, access right, confidentiality exploitation, and dissemination of intellectual property arising from PROSPECTS 5.0's results. INTRACT will establish a clear understanding and agreement of all consortium members as early as possible to avoid later conflict. INTRACT will oversee the Innovation and IPR management, having the administrative and technical supervision of all such activities, progress and the successful mitigation of any issues that may occur. A workshop about IPR management will be held to raise awareness among the consortium members. An analysis and mapping of the patent landscape will be performed by INTRACT to facilitate avoidance of any infringement, and expectations of the consortium. Finally, INTRACT will characterize and facilitate the management of any potential cases of co-ownership of results (IP), adequately describing their nature and enabling the post-project exploitation to be as frictionless as possible. In such cases, bilateral agreements will be encouraged, when necessary or favourable, to be signed among partners within the framework of the proposed work, further supporting the project's exploitation potential and its direct impact. INTRACT will perform Technological Watch to catch the technological signal about project idea.

2.2.4 Business case

2.2.4.1 The potential market size of Industry 5.0 assessment and consulting services

Literature argues that Industry 5.0 will be able not to eliminate but to 'upgrade' the concept of Industry 4.0. This means that to gain insights about the size of a potential market for PROSPECTS5.0 KERs, we need to observe the combined trends of I4.0 & 5.0 digital and process consulting services. The global digital transformation consulting services market size was USD 53.30126 billion in 2021. The market is expected to reach USD 111.91124 billion in 2027, exhibiting a CAGR of 13.16 % during the forecast period.²² Businesses are driven to participate in the digital transformation by the desire for company expansion, to reduce operational costs and increase operational efficiency, as well as to track the real-time business operations.

The Industry 5.0 concept introduces digital sustainability as a new and synergic field of action for both training, consulting and service providers. The Sustainability Consulting market is expected to hit USD 3.70 Billion by 2021 from USD 1.78 Billion in 2016 at a CAGR of 10.8% (Sustainability Consulting Market Report, by A2Z Market Research, 2022). Key factors driving this market include rising awareness regarding environmental issues, growing pressure on businesses to generate value while reducing their carbon footprint, the evolution in working practices coupled with the growth of technology adoption and the need of using digital transformation improve the quality of work and how people interact with each other as humans. The Figure below illustrate the SWOT analysis of industry 5.0 market.



Figure 6. SWOT analysis.

Value proposition and preliminary business analysis

Figure 7 visualises the KERs of the projects and the different bundles that can be designed out of them. Each bundle can be exploited by adopting one of the 3 identified models.

The way KERs will be assembled and integrated into the different service bundles will be identified 1) while observing the interaction with the real cases and 2) thanks to an iterative market analysis with the potential "end users".

²² 'Digital Transformation Consulting Services Market Size Report, 2028' <<https://www.businessresearchinsights.com/market-reports/digital-transformation-consulting-services-market-102619>>

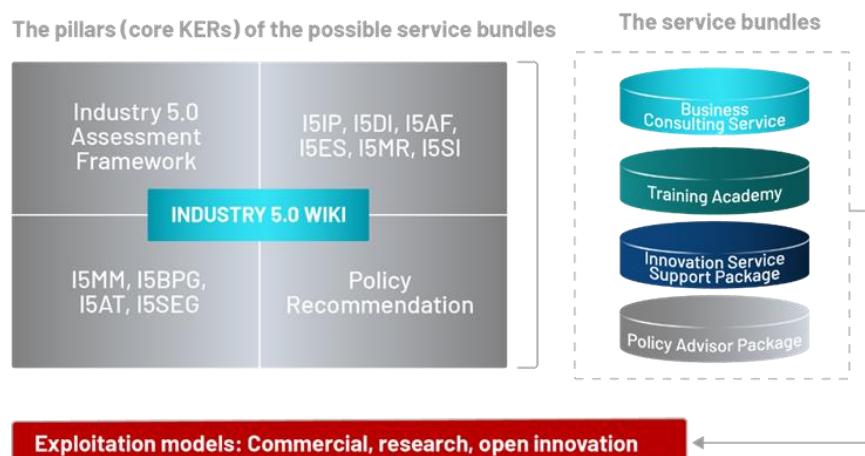


Figure 7. PROSPECTS 5.0 KERs and the possible service bundles

A preliminary business model is presented in Table below.

Table 10. A preliminary business model

PROSPECTS5.0 - Initial Lean Business Canvas Model				
Problem Industry 5.0 is a new concept which leads to: Research gaps; Limited understanding of its potential at industry level; Minor role of innovation ecosystems in supporting industries.	Solution A comprehensive set of assessment frameworks, tools, guidelines, and recommendations to support the implementation of Industry 5.0 Top 3 features 1: Industry 5.0 Assessment Framework; 2: 6 WP3 reports with findings; 3: 4 WP4 Guides/Toolkits.	Value Proposition PROSPECTS5.0 is the knowledge hub to guide Industry 5.0 investments, research, and policies in the EU.SME The identified service bundles deploying this value proposition: 1) Business Consulting, 2) Training Academy, 3) Innovation Support Services, 4) Policy Advisor Package.	Unfair Advantage The set of frameworks, tools, and guidelines a) requires an initial investment which is hard to replicate, b) is based on the analysis of real cases	Customer Segments <u>Industry:</u> LEs, SMEs, start-ups. <u>Ecosystems:</u> Industry Associations, CoC, EDIHs & DIHs, Competence Centres, etc. <u>Research & Education:</u> R&D organizations, Universities, Training Organizations
Cost structure Commercialization of the service bundles. Update research evidence and extend it to other sectors. Train consultants / service & training partners. Maintenance of core knowledge (5.0 Wiki).		Revenue Streams Consultancy fees. Fees for Standard or Customized Training Packages.		

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2.3 Summary

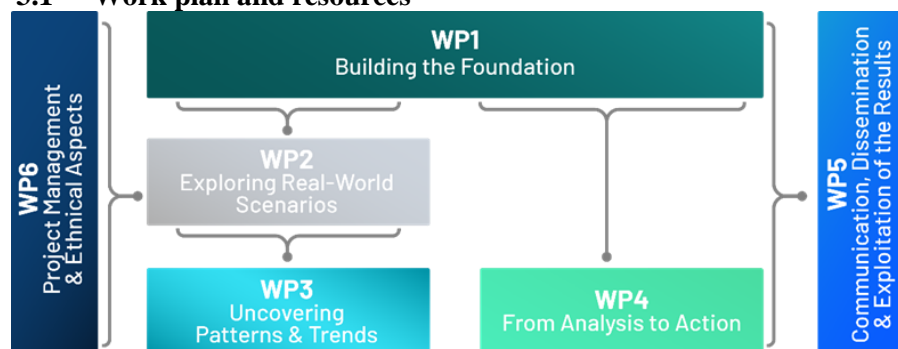
SPECIFIC NEEDS	EXPECTED RESULTS	D & E & C MEASURES
<ul style="list-style-type: none"> Increasing the uptake of industry 5.0 principles and practices across industrial sectors Improving the understanding of industry 5.0 benefits for enterprises and society Increasing actionable knowledge of drivers and factors contributing to or hindering successful implementation of industry 5.0 Organization policies that stimulate the uptake of the Industry 5.0 principles of sustainability, resilience and human-centricity and facilitate their implementation, A need for sound data and analysis of the uptake of Industry 5.0 in its different dimensions for policymakers at the EU, national/regional and sectoral level 	<ul style="list-style-type: none"> Industry 5.0 Community of Interest Industry 5.0 Assessment Framework I5.Rs: I5.R 1: Industry 5.0 implementation practices (I5IP), I5.R 2: Industry 5.0 Drivers and Impacts (I5DI), I5.R 3: Industry 5.0 Adoption Factors (I5AF), I5.R 4: Industry 5.0 for Empowering SMEs/ start-ups/scale-ups (I5ES) I5.Gs: I5.G 1: Industry 5.0 Maturity model (I5MM), I5.G 2 Industry 5.0 Best Practices Guide (I5BPG), I5.G 3 Industry 5.0 Adoption Toolkit (I5AT), I5.G 4 Industry 5.0 Stakeholder Engagement Guide (I5SEG) Policy Recommendations Industry 5.0 Wiki Training modules Seminars/webinars /webinars Final Conference 	<ul style="list-style-type: none"> Conferences and Workshops: Presenting the results of the project at relevant conferences, workshops and seminars/webinars /webinars to reach out to scientific, policy making and industrial stakeholders, and the wider public. Publications: Publishing the research findings in peer-reviewed journals to reach a wider audience and to contribute to the scientific literature in the field. Online Platforms: Creating an online platform such as Industry 5.0 Wiki, a project website or social media profiles to disseminate the results of the project and to engage with the stakeholders and wider public. Stakeholder Engagement: Engaging with relevant stakeholders, including industry, policy makers, and other relevant organizations, to ensure the uptake and implementation of the project results. Policy Briefs: Preparing and distributing policy briefs that highlight the key findings and recommendations of the project to policymakers, stakeholders and wider public. Dissemination Events: Organizing dissemination events such as roundtable discussions and training sessions to disseminate the results of the project and to engage with stakeholders. Knowledge Transfer: Encouraging the transfer of knowledge and expertise from the project to relevant stakeholders through training, capacity-building activities and content (e-newsletters & factsheets)
TARGET GROUPS	OUTCOMES	IMPACTS
<ul style="list-style-type: none"> Large enterprises SMEs and Micro enterprises Start-ups/scale ups EU thematic Associations, Initiatives and platforms, Clusters, Existing and emerging networks, Synergic projects Digital and European Innovation Hubs, Competence Centres Policy Makers & EU Commission Research Community General public 	<ul style="list-style-type: none"> The findings of PROSPECTS 5.0 can be used by industries to increase the uptake of Industry 5.0 and to overcome any challenges related to its implementation. Policymakers can use the results o to inform policy decisions related to Industry 5.0 and to promote its adoption in a way that maximizes benefits for all stakeholders. The academic community can use the results of the project to further their research in the field of Industry 5.0 and to advance the state-of-the-art in this area. R&D institutions can use the results of the project to inform their research and development activities in Industry 5.0. The general public can benefit from the results of the project by having a better understanding of Industry 5.0 and the impact it can have on various aspects of society. Other stakeholders, such as industry associations, professional organizations, and civil society groups, can also benefit from the results of the project by using the findings to advance their own objectives and priorities. 	<ul style="list-style-type: none"> Providing a framework to enable the EU Industry sector to evaluate the Industry 5.0 experiences Promotion of open-knowledge, results sharing and awareness raising about Ind. 5.0 Practical support to end users of Industry 5.0 (for implement EU policies Guidance to policymakers for the development of regulations enabling the uptake of Industry 5.0 principles Promoting the adoption of Industry 5.0 principles by SMEs/start-ups/scale-ups and create new economic growth Creating new partnerships and collaborations Reskilled/ upskilled workers and researchers through trainings and workshops Inclusive, human-centred and ethical development of digital and industrial technologies Creating a more resilient, prepared and responsive society ready to face future challenges, empowering everyone to act in the green and digital transitions. Increased efficiency, competitiveness and sustainability Research and innovation driving transformative change Development of new digital technologies to support the EU Industrial strategy Contribution to Standardisation and EU Data Strategy

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3 Quality and efficiency of the implementation #@QUA-LIT-QL@# #@WRK-PLA-WP@#

3.1 Work plan and resources



The proceedings of Prospects 5.0 are separated into six work packages (WP) structured into four consecutive WPs and two concurrent WP accompanying the project with management input and publication output. The structure is shown in Figure 8 (PERT CHART).

Figure 8: Pert Chart of PROSPECTS 5.0

The work packages are further subdivided into smaller task as shown in Figure. 9 (GANTT CHART) with respective temporal planning.

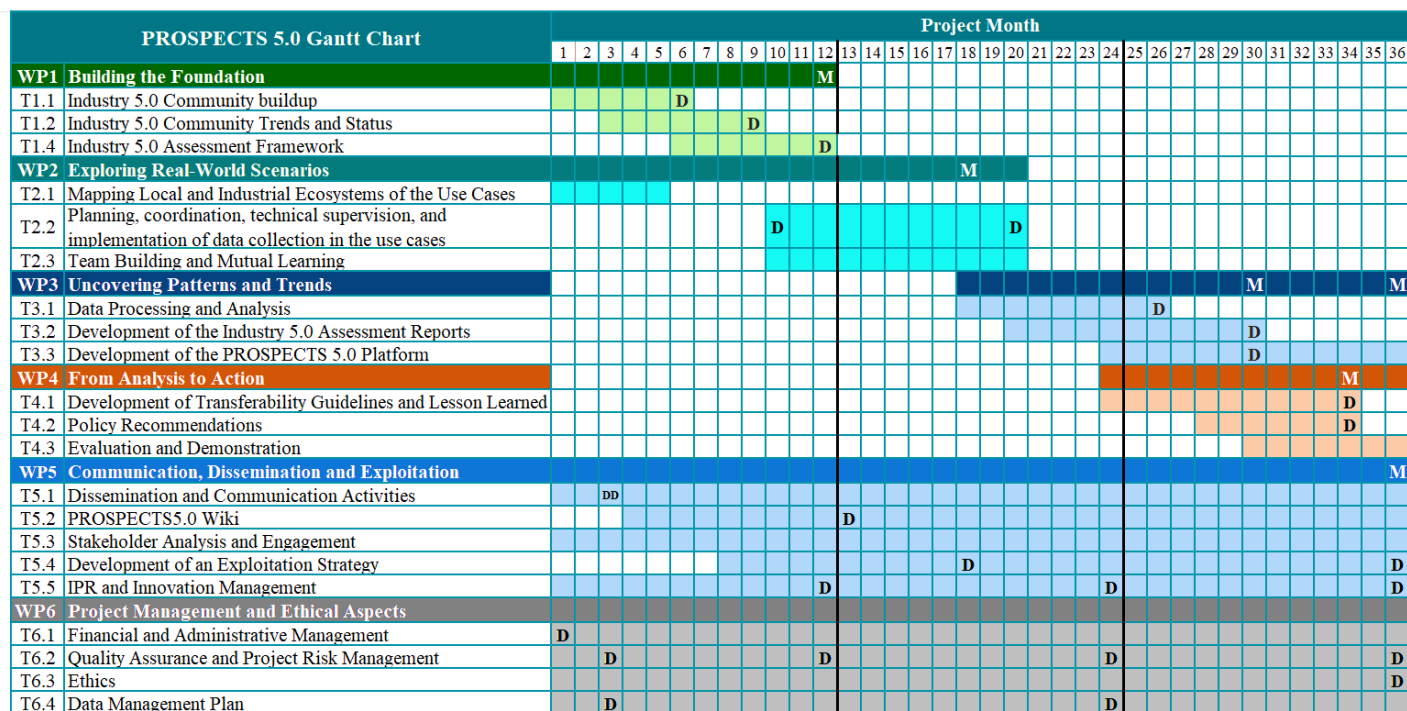


Figure 9. PROSPECTS 5.0 Gantt chart. (D: Deliverable , M: Milestone)

Table 11. List of work packages

WP	WP Title	Lead Participant Short Name	PM	Start	End
WP1	Building the Foundation: Developing an Assessment Framework for Industry 5.0"	UNIMORE	50,2	M01	M12
WP2	Exploring Real-World Scenarios: Collecting Data and Fostering Mutual Learning in Use Cases	TEC	127,0	M01	M20
WP3	Uncovering Patterns and Trends: Results Aggregation and Analysis	AETHON	49,0	M18	M36
WP4	From Analysis to Action: Developing Policy Briefs and Guidelines	EURECAT	56,8	M24	M36
WP5	Communication, Dissemination and Exploitation of the Results	NSB	118,5	M01	M36
WP6	Project Management and Ethical Aspects	FM	73,7	M01	M36
Total PMs			475,2		



3.2 Detailed work description

Table 12. Work package description

Work package number	01	Leader: UNIMORE	M01-M12
Work package title	Building the Foundation: Developing an Assessment Framework for Industry 5.0”		
Objectives: This WP will: 1) Establish and engage an Industry 5.0 Community of Interest (I5.C) made of relevant representatives; 2) Study and analyse main trends linked to Industry 5.0 and the most relevant KPIs to be considered; 3) Co-create an adaptable and transferable Industry 5.0 Assessment Framework (I5.AF), valid for several sectors and validated by relevant stakeholders.			
Task 1.1 Industry 5.0 Community Build-up [Leader: FM; Partner: All core partners]; [M01-M06]			
This task will create the community that will be engaged throughout the project and will perform part of data collection for T1.2. The first action will be mapping, connecting and engaging all actors that are invited to join (sign Letter of Intent) the Industry 5.0 Community of Interest (I5.C), in collaboration with WP5 (WP5 will be responsible for continuously engaging the I5.C throughout the project following the end of T1.1). The invited actors will be requested to participate in a dedicated event to discuss and provide feedback on the current practices and ongoing studies linked to the assessment of Industry 5.0 principles. The feedback from the event will be used the Review of T1.2, while the event will allow awareness raising for the project and engagement acceleration. Regarding the composition of the I5.C, the consortium will request the participation of: i) The network of Companies providing a PROSPECTS 5.0 case study, ii) The Digital Innovation Hubs of the PROSPECTS5.0 Consortium and those having linkages with the PROSPECTS 5.0 partners, iii) The PROSPECTS 5.0 Advisory board and iv) The most relevant EU working groups covering Industry 5.0 concepts. The consortium partners, including FM, NSB, TEC, EURECAT, and TFP, are actively engaged in various EU initiatives and associations, such as the AI-Data-Robotics Association, EIT Digital, EIT Manufacturing, A.SPIRE, Processes4Planet, European Digital SME Alliance, AMPlatform, Vanguard Initiative (in cooperation with 4 regions), EPOSS, and AENEAS. These organizations play a crucial role in facilitating outreach to relevant stakeholders and building a strong industry 5.0 community of interest.			
Task 1.2 Industry 5.0 Community Trends and Status [Leader: FIR; Partner: UNIMORE; LTC, FM, UWB, AETHON, UGENT]; [M03-M09]			
This task aims to provide a Review on approaches and methodologies for adoption and implementation of Industry 5.0. The Review has three points of input. First, the task will receive the feedback from the event executed in T1.1. Second, the task will perform desk research for collecting information from literature and other media. Finally, the task will execute a Delphi survey with use cases’ partners. The Delphi survey will be executed using a custom format e.g., Word document. The document will provide a question for the first interviewee that will require an answer. This answer will be sent to the next interviewee for review and then to the next. This process will allow opinion extraction from experts defining trends in Industry 5.0 and future projections using in T1.2. The above work will provide a comprehensive and coherent basis for understanding the concepts and phenomena related to Industry 5.0 and its impact on sustainability, resilience, and human-centricity. The analysis direction of this task includes Identification of commonalities in different sectors and methodologies, Identification of methodological gaps in comparison to existing models and frameworks to be addressed in the common Industry 5.0 assessment and Definition of technological and non-technological trends in Industry 5.0 adoption and implementation. SSH experts with a different background will be actively involved in this task so that the identification of communalities and methodological gaps and the definition of KPIs can be led by a more humanistic approach.			
Task 1.3 Industry 5.0 Assessment Framework [Leader: UNIMORE; Partner: ALL]; [M06-M12]			
This task aims to develop the first iteration of Industry 5.0 Assessment Framework (I5.AF). The process of the I5.AF creation starts with the definition of KPIs that the framework will include. KPIs will be drawn from literature review of T1.2 and a review executed here on the ESG and SDG evaluation frameworks as well as other frameworks. Following the above, the task will follow a collaborative process to create the I5.AF. The KPIs will be presented to I5.C to ensure it is well accepted and validated by them. Therefore, in order to assess the principles defined in Task 1.2, they will be evaluated and discussed with the I5.C, with a focus on two key topics: Topic 1 – achieving consensus on the most relevant KPIs to be included in the Industry 5.0 Assessment Framework; Topic 2. Assessing and mapping the tools and methodologies available for collecting the necessary data to measure the defined KPIs.			
The process of co-creation and validation will be achieved through dedicated workshops, which can be held either online or in person. The workshops will be scheduled and planned at the beginning of the task through WP5. The task expects to execute one workshop with each use case, the advisory board and one workshop with specific partners from the I5.C that are not part of the advisory board or the use-cases. The group of experts in SSH will be particularly involved in the organization of the workshops. The presence of an interdisciplinary research group will contribute to create a stimulating environment in which all participants will feel comfortable of sharing visions, values, doubts and needs. Following the above, the task will develop the I5.AF comprising of the KPIs , a list of tools to be used for data collection (e.g., surveys, focus groups) and the main approaches and methodologies to conduct the data analysis. Furthermore, the task will provide a preliminary analysis of the feasibility of collecting the KPIs leading to a list of potential risks that will be assessed in T2.2 and T3.1.			



Work package number	02	Leader: TEC	M01-M20
Work package title	Exploring Real-World Scenarios: Collecting Data and Fostering Mutual Learning in Use Cases		
<p>Objectives: The main objective of this WP is to efficiently and collaboratively implement the analysis framework established in WP1 in the selected 14 use cases. In addition, this WP aims to provide a collaborative platform for the use case providers to enable mutual learning and exchange of knowledge and practices in the journey towards implementing Industry 5.0. The specific objectives of WP2 include:</p> <p>1) Identifying all relevant actors and stakeholders in the local and industrial ecosystem of the use cases who need to be involved in the data collection process. 2) Collecting relevant data on the implementation practices of Industry 5.0 in companies and innovation ecosystems, the drivers for adopting Industry 5.0 principles, and success factors and barriers that may impact the uptake of those principles. Special attention will be drawn to SMEs/start-ups and scale-ups, explicitly including the in the use cases’ data collection activities. 3) Coordinating the data collection process to ensure consistency in following the analytical framework set in WP1, as well as maintaining coherence among all use cases. 4) Fostering collaboration between the use case providers and the use case facilitators” to enable the exchange of experiences, practices and knowledge, and to promote mutual learning among all involved partners. The collaboration of experts from different disciplines, especially SSH, will be fundamental to enrich this knowledge acquisition process</p>			
Task 2.1 Mapping Local and Industrial Ecosystems of the Use Cases [Leader: INTRACT; Partners: All]; [M01-M05]			
<p>This task involves conducting a mapping exercise, supported by desk research and qualitative interviews, to obtain an overview of local and industrial ecosystems around each selected use case. The mapping will identify innovation context, key actors, relations, and networks, while interviews with policymakers, customers, academia, research organizations, and social partners will identify involvement and interest in Industry 5.0 and their interrelations. Based on the mapping exercise and interviews, a target group of stakeholders will be identified for further activities of PROSPECTS 5.0, particularly T2.2 and other workshops. This mapping exercise will also serve to identify key stakeholders at local, national, EU, and international levels to form the Industry 5.0 Community of Interest, which will provide feedback on the Industry 5.0 assessment framework developed in T1.3.</p>			
Task 2.2 Planning, coordination, technical supervision, and implementation of data collection in the use cases [Leader: TEC; Partners: All]; [M10-M20]			
<p>This task aims to plan, coordinate, and implement the Industry 5.0 Assessment Framework in use cases, ensuring valid and comparable data collection and results based on the framework developed in WP1. While each use case will have its own requirements and is linked to its specific context, all use cases must comply with the analytical framework set in WP1, compiling comparable sets of data. To ensure this homogeneous approach to data collection, each use case will develop a tailored and detailed plan specifying how the analytical framework will be implemented. These data collection plans will set a timeline, methodologies for data collection, roles and responsibilities, and milestones. To facilitate the data collection process, each use case provider will assign a specific partner from the core partners' list, called use case facilitators, to provide assistance. The Task 2.2 leader will ensure that all use case facilitators and use case providers follow a common data collection template developed in WP1. In addition to efficient planning of the data collection process, T2.2 will steer and monitor the progress of each use case's data collection process and ensure consistency between them. It will also clarify the methodological approach for data collection and underline partners' responsibilities. Periodical meetings with use case providers and use case facilitators will be organized, tentatively on a monthly basis, to share information, align activities and support the data collection process. During these meetings, the previously defined data collection process will be monitored to correct any potential deviation and implement mitigation measures. The Task 2.2 leader will organize and coordinate these meetings. Additionally, the data collection will incorporate an investigation of the longevity of the investigated use cases, once the core data points were captured and the data analysis phase has started. In this phase a feedback loop with data analysis (WP3) will be considered to ensure the capturing of missing or additional data points.</p>			
Task 2.3 Team Building and Mutual Learning [Leader: TEC; Partners: All]; [M10-M20]			
<p>The use cases represent a diverse range of experiences in the implementation of Industry 5.0 principles, encompassing various company sizes, industrial sectors, adopted technologies, and local contexts. This heterogeneity presents an excellent opportunity for use case providers to access a wealth of knowledge and practices on the implementation of Industry 5.0 by other companies, as well as a wide network of actors involved in the adoption of Industry 5.0. To fully leverage this opportunity, this task aims to provide a space for team building, mutual learning, and knowledge exchange among the use case providers. Through this team building events, they can share insights regarding the implementation of Industry 5.0 in different sectors and companies, as well as learn from the experiences of other use cases. Remote workshops will be organized every six months, covering various topics, such as barriers for Industry 5.0 implementation, the role of local ecosystems, drivers, and success factors. These workshops will allow participants to share and discuss their experiences and insights. The outcomes of these workshops will also complement the work in T2.2 and contribute to defining the lessons learned in T4.1.</p> <p>Furthermore, this mutual learning process among the use cases will be open to other relevant actors in the use</p>			



cases' ecosystems and the Industry 5.0 Community of Interest. This will help disseminate real-life experiences and best practices in the implementation of Industry 5.0 principles more widely. The details on the activities carried out in each use case, the data collection process, the problems encountered, and the solutions applied will be reported in D2.1. Moreover, all the **data gathered** from these activities will be presented in this report.

Work package number	03	Leader: AETHON	M18-M36
Work package title	Uncovering Patterns and Trends: Results Aggregation and Analysis		
Objectives: The main objective of this WP is to gather information and data collected from WP1/2 and analyse them in order to create the Industry 5.0 Assessment Reports (I5.R). The specific objectives of WP3 include: 1)Aggregate the collected data and organize them also ensuring that they are FAIR-compliant; 2) Process and analyse the data to answer the main study questions (achieve the expected results) of the Industry 5.0 Assessment Framework and to provide necessary inputs for the I5.Rs; 3) Identify patterns in Industry 5.0 adoption and implementation; 4) Generate the I5.Rs 5) Create the PROSPECTS 5.0 platform.			
Task 3.1 Data Processing and Analysis [Leader: INEGI; Partners: FM, EURECAT, AETHON, UNIMORE, SINTEF]; [M18-M26]			
<p>This task is responsible for analysing the data collected in WP2. Additionally, since WP2 conducted data collection based on the Industry 5.0 Assessment Framework, this task will review the data collection process and may lead to additional data collection activities, evaluate and update the Assessment Framework, and make it more feasible to implement. This task aims to generate insights that will contribute to the development of practical and evidence-based recommendations for companies, policymakers, and other stakeholders to improve the uptake of Industry 5.0 principles in WP4. The data will be analysed both quantitatively and qualitatively. Quantitative analysis will involve quantifying the collected data based on the Key Performance Indicators (KPIs) of the Assessment Framework. This will lead to a review of the framework's implementation to determine potential accuracy of data collection, the robustness of the Assessment Framework across use cases and industries, gaps in the framework (given the data collection experience), and how to amend them. Techniques such as regression analysis, principal component analysis (PCA), and association techniques will be used, depending on the data type and preliminary analysis results. Qualitative data analysis aims to identify patterns, themes, and relationships in the data. This analysis will provide insights into the attitudes, perceptions, and experiences of use cases regarding Industry 5.0 implementation from different perspectives, representing the particular viewpoint of one or more stakeholders into the subject. These perspectives will empower pattern recognition by organizing findings per stakeholder's views (opinions, needs, and requirements). Qualitative data analysis may also involve recursive Delphi-like interviews, where the results will be presented to stakeholders to unravel their views, yielding an improved understanding of the results or even new insights. Finally, the data will be made compliant with the FAIR guidelines. This means that the data will be organized in a standardized format, with metadata that enables easy discovery, retrieval, and reuse by other researcher. The contribution of the SSH approach will be fundamental during the quantitative and qualitative data analyses.</p>			
Task 3.2 Development of the Industry 5.0 assessment reports [Leader: AETHON; Partners INEGI, FM, LTC, FIR, UNIMORE]; [M20-M30]			
<p>This task will create the Industry 5.0 Assessment Reports (I5.R) which are intended to help synthesize and analyse the results of the project. The reports are targeted towards companies and organisations that want to implement and adopt Industry 5.0 paradigm. Each report will include a certain level of analysis as shown below (also see section. 1.2.1 for a description and full contents of each report):</p> <ul style="list-style-type: none">• I5IP: Definition of principles and recommendations for the implementation of Industry 5.0 given the analysis executed in T3.2. Presentation of best practices of Industry 5.0 implementation in a narrative context (answering Why and How Industry 5.0 was implemented);• I5DI: Identification and discussion of impacts through the presentation of how use-cases rank using the Industry 5.0 Assessment Framework. This will include the viewpoints determined in T3.2. In addition, this report will organize the Impacts according to Sustainable Development Goals evaluation framework.• I5UF: Execution of a SWOT analysis for the determination of the factors. The report will also include the Cost-Benefit analysis of T3.2 cross-examined with other quantitative analysis found in literature, quantified using the Industry 5.0 Assessment Framework.• I5ES: This report tackles the subject for I5DI and I5AF from the viewpoint of SMEs and local innovation ecosystems (innovation hubs, accelerators, incubators).			
Task 3.3 Development of the PROSPECTS 5.0 platform [Leader: AETHON; Partners: I2M, INEGI, FM, TEC, EURECAT]; [M24-M36]			
<p>This task aims to develop the PROSPECTS 5.0 platform for organisations that want to assess their progress in Industry 5.0 adoption. Essentially, the task will provide a web application where a user can login, provide information about Industry 5.0 adoption (similarly to the data collection process of WP2 including the updates from T3.1), receive his/her ranking based on the provided data and also receive the use cases descriptions of organisations that are at the same and next level and how they evolved (starting from a pool of the project's use-cases) including recognized patterns from T3.1. The latter will allow retrieval insightful information on next steps of Industry 5.0 adoption. The web application will be created using standard web application frameworks (e.g.,</p>			



React or Svelte) allowing subscription, login, profile management and deletion of account. Furthermore, the data collection in the platform will be based on the Industry 5.0 Assessment Framework, digitising and generalising the existing data collection methods (surveys) of T3.1 and T2.2. The progress assessment will be based on the Assessment Framework's roadmap that will allow the ranking of an organisation based on existing rankings (from T3.1, ranking of use case partners). Use case descriptions of organisations will be provided by the industry 5.0 wiki in T5.2. The task will also provide support for the platform throughout its demonstrations in T4.3.

Work package number	04	Leader: EURECAT	M24-M36
Work package title	From Analysis to Action: Developing Policy Briefs and Guidelines		
<p>This work package focuses on presenting the results of the PROSPECTS 5.0 project in a manner that is easy to understand and actionable for policymakers (especially those in charge of innovation and investment policies, including the management of specific regional – national and EU funding schemes), industry stakeholders, and practitioners. The objective of this work package is to collect the lessons learned gained throughout the entire project implementation (needs identification, contact with use cases companies, use case development, tech and business support, etc) and to convert the complex technical findings of the project into concise and impactful policy briefs, technical guidelines and tailor made use-case scenarios that can be used to drive the implementation of Industry 5.0 principles.</p>			
Task 4.1 Development of transferability guidelines and lesson learned [Leader: EURECAT; Partner: TEC, I2M, UWB, UGENT, UNIMORE]; [M24-M34]			
<p>Following the implementation of each project’s activity, the consortium will perform a quality check evaluation intended to review the usefulness of the actions done, the adequacy and the contents, among other criteria. The quality check evaluation will have the form of a questionnaire to be completed by the participants of the main activities performed in the project, especially in the Uses Cases. Based on this evaluation, the consortium draft a set of lessons learned deriving from all the key activities planned on how the members of the consortium could provide better technical assistance and business support to industries as well as for SMEs/start-ups/scale-ups for the green and digital transition of the Industry 5.0</p> <p>In this task, the analysed data collected from previous work packages and the I5Rs will be used to generate the inputs required for the I5.G guidelines. (See section 1.2.1)</p>			
Task 4.2 Policy Recommendations [Leader: LTC; Partner: TEC, INTRACT, KUL]; [M24-M34]			
<p>Starting from the lessons learned (task 4.1) and analysis of current European policies around the existing mechanisms to support industries particularly SMEs/start-ups/scale-ups in the green and digital transition of the Industry 5.0 with resilience, sustainability and human centric approach the consortium will carry out a gap analysis and identify the weak points to produce relevant policy recommendations for the EC. The analysis of current EU policies on technical and business support to SMEs/start-ups/scale-ups will consider mainly the existing mechanisms (paid and in-kind) provided by the EC and the directives that are active. The Policy recommendations will take into consideration the strategy and policy priorities, such as the ones mentioned in section 2.1.5. Furthermore, the ongoing regulatory framework will be monitored. The main Industry and Sectoral associations will be invited to support the development of the Policy Recommendations by means of online consultations and F2F discussions organized in collaboration with WP5.</p>			
Task 4.3 Evaluation and Demonstration [Leader: EURECAT; Partner: AETHON, NSB, INEGI, TPF, KUL]; [M30-M36]			
<p>This task will perform a demonstration of the I5.Rs and testing of the PROSPECTS 5.0 platform with the goal to generate a report on the improvement of the platform through results of its testing and receive feedback on the I5.Rs that can assist on their dissemination following project, maximizing long term impact of the project. Specifically, through a series of workshops with use case partners and beyond, the project will perform a demonstration of the I5.Rs to the community of the project to receive general remarks on the perceived feasibility. At the time of publication, the I5.Rs will be the de facto comprehensive review of Industry 5.0 implementation. Thus, the reception by stakeholders is important to assess their interest towards Industry 5.0 direction that can govern marketing and communication towards adoption of Industry 5.0. Furthermore, the task will perform testing of the PROSPECTS 5.0 platform during the workshops. The testing will determine the acceptability of the platform which will allow better understanding of the platform design (provides insights to user stories) leading to requirements for new functionalities.</p>			

Work package number	05	Leader: NSB	M01-M36
Work package title	Communication, Dissemination and Exploitation of the Results		
Objectives: The objective of this WP is to effectively communicate, transfer, disseminate and exploit the project results and data to relevant stakeholders. Specifically, through its strategic and actions plans and activities, WP5 will raise awareness among SMEs, start-ups and scale ups on the potential of Industry 5.0 principles; facilitate the understanding and transfer of existing and new tools for measuring Industry 5.0 progress; help industry, its workforce and other relevant stakeholders (including local innovation ecosystems) to identify ways to find possible skill gaps that prevent the adoption of Industry 5.0 principles; contribute to improve policies supporting the uptake of Industry 5.0. Last but not least, WP5 will identify the exploitation strategies and business potential of the			



findings, methods and tools developed during the project.

Task 5.1 Dissemination and Communication Activities [Leader: TPF; Partners: All]; [M1-M36]

The first activity of the project is to create a Dissemination and Communication Plan in collaboration with all partners within the initial 3 months (**D5.1, delivered in M3**) and review it annually during all consortium meetings to share and adjust results as necessary. All dissemination and communication activities will follow the plan. Simultaneously, INTRACT will develop the project identity and website, including an attractive logo, document templates, presentation slides, and visual messages for project recognition. The website will provide information on the project's objectives, concepts, progress, and news (to be launched by **M3**) with a user-friendly and attractive design. INTRACT will also create social media accounts in platforms relevant to the target audience following preliminary analysis. Other dissemination activities include biannual e-newsletters, at least two press releases in different languages, presentation in eight European events, six publications in science, industry, and social science journals, video teasers of use case stories, and TV and mass media communications. TFP will oversee daily dissemination activities with support from INTRACT and active participation from all partners.

Task 5.2 PROSPECTS 5.0 Wiki [Leader: INTRACT; Partner: All]; [M4-M36]

INTRACT will implement a collaborative online tool, in the form of a Wiki, that is easy to use and can be updated regularly. The Wiki will serve as a knowledge base for the project and facilitate sharing of experiences. Visitors will be able to edit the database pages and contribute to building the PROSPECTS 5.0 Wiki. The moderation of this functionality will be carried out by the PROSPECTS 5.0 partners, who will review the material before adding it to the main body of a case or topic. The Wiki can also include additional features such as calendar sharing, live video conferencing, RSS feeds, and more. By involving various actors and sharing regular updates, the PROSPECTS 5.0 Wiki will ensure successful and extended functionality.

Task 5.3 Stakeholder Analysis and Engagement [Leader: NSB, Partner: All]; [M1-M36]

This task has the primary responsibility of nurturing the Industry 5.0 Community (I5.C) created in T1.1 and expanding its reach throughout the project. It will also coordinate and organize all workshops requested by other tasks of the project (such as T2.2 and T1.3), acting as the single point of contact between stakeholders and the project, minimizing communication errors and ensuring engagement is streamlined.

In addition, the task will be responsible for expanding the I5.C. To achieve this, a detailed stakeholder analysis will be conducted to connect with the right organizations. The task will also connect PROSPECTS 5.0 with other relevant projects, leveraging stakeholders for the I5.C and promoting collaboration and knowledge sharing. A dedicated strategy will be developed, starting with those listed in Table. 7, to identify **cross-cutting topics, potential partnerships** (e.g. through Cordis, at a national and regional levels thanks to the help of project partners, through authors who published their works on the Open Access platform on the EC, etc iv), and the implementation of proposed activities such as drafting white papers on common practices for Industry 5.0, reporting on standardization barriers in the manufacturing sector, and organizing workshops to understand the stimuli that prompt people to adopt innovation changes. The goal is to form concrete partnerships with at **least three projects/initiatives**.

Finally, the task will maintain a continuous connection with the **Advisory Board (AB)**, who will play a special role in providing strategic and technical guidance throughout the project's execution and in bringing the results of **partnerships** (e.g. through Cordis, at a national and regional levels thanks to the help of project partners, through authors who published their works on the Open Access platform on the EC, etc iv) PROSPECTS 5.0 to the market in providing strategic and technical guidance all over the project execution. INTRACT is responsible for the organisation of specific meetings/workshops.

Task 5.4 Development of an Exploitation Strategy [Leader: NSB; Partner involved: All]; [M8-M36]

Building on the findings and results of WP2, WP3 and WP4 (especially I5AFMM, I5BPG, I5AT, I5SEG) and in close cooperation with the key stakeholders – particularly regarding the real case scenarios, the exploitation planning task aims to outline all the necessary aspects for the uptake of the proposed PROSPECTS 5.0 results during and beyond the project lifetime. The first version of the Exploitation Strategy (**D5.4, delivered in M18**), will provide guidelines and action items to prepare exploitation during the project and keep track of exploitable results (i.e.: publications, reports, guidelines, roadmaps, recommendations, data & databases, etc) while the second version (**D5.5, delivered in M36**), will describe the exploitation scenarios (including detailed business plans) linked to marketable consulting, innovation and training services that can be designed based on the project results. The report will also include a market analysis and a map of initial European end-users of these services, such as EDIHs, Living Labs, etc. The exploitation scenarios will undergo testing with the identified Target Groups.

Task 5.5 IPR and Innovation Management [Leader: INTRACT; Partners: All]; [M1-M36]

This task is crucial for the effective management of knowledge and intellectual property generated throughout the PROSPECTS 5.0 project. INTRACT will oversee the implementation of the IPR management strategy (D5.6), ensuring that all partners' IPR is characterized and integrated with the project's exploitation planning. In cases of co-ownership, detailed descriptions will be provided to facilitate their exploitation with minimal legal risks and encourage legal agreements between consortium members. To avoid potential infringement issues, INTRACT will conduct a patent mapping analysis using state-of-the-art tools such as Espacenet, Patbase, and platforms such as EPO, UPSTO, and FPO. Innovation management activities will track all activities to prevent IPR loss and motivate partners to define novel results for the KER list. INTRACT will perform technological watch to capture technological signals about project ideas. Overall, this task will ensure that the project's knowledge and IPR are



managed optimally, mitigating risks, and encouraging innovation.

Work package number	06	Leader: FM	M01-M36
Work package title	Project Management and Ethical Aspects		
Objectives: The goal of this work package is to oversee the ethical and effective management of the PROSPECTS 5.0 project. This will involve establishing clear communication procedures and monitoring and controlling project activities to ensure a multi-disciplinary approach is taken. The work package will also oversee reports, evaluate results, and support the consortium in achieving their expected impacts.			
Task 6.1 Financial and Administrative Management [Leader: FM; Participant: All]; [M1-M36]			
FM will act as the main contact with the EC, arranging meetings with the officer in charge of the project when required. FM will distribute the funds among partners according to the Grant Agreement (GA) and the Consortium Agreement (CA). As a rule, the pre-financing will not be distributed until the CA is signed by the whole consortium. FM will be in charge of commissioning and applying effectively the designed governance structure and the communication flows and methods. These will be presented in the KoM and gathered in the Project Manual deliverable (D6.1) for common understanding and follow-up. The Project Manual will be an internal document that will set the basis for the governance structure, the communication channels, and methods, as well as the periodicity of the reporting to the task and WP leaders, the PC, and the EC. It will also establish conflict-solving methods. The document will include gender and ethics issues to be followed during the whole project. This will be a living document that may change depending on the project's needs during its whole lifecycle. T6.1 will contribute to the Manual by creating the next contents: quality requirements for the project, organisational structure, general measures, and actions taken, planning and control, conflict handling and IPR (according to CA), risk management, files, and archives. PROSPECTS 5.0 will make use of management tools, specially designed for European collaborative projects, with online workspaces, mailing lists, etc. to facilitate partners' cooperation. To facilitate the management, FM will acquire the licenses for an intranet system to support the coordination tasks and monitor the project progress. To save costs from travel and improve the internal communication of the project, FM will also acquire a teleconference system license for the exclusive use of the consortium members. A user guide will be available for the partners to ease the understanding of the tools' features, the condition of use, and how the principal features will be utilised or accomplishing project management according to the Project Manual: e.g., how to report meetings, how to report advance of tasks, how to carry out the interim reports, how to place commitments, or where to find/place the internal documents for work. This document will give the consortium the possibility of suggesting improvements concerning the support tool performance.			
Task 6.2 Quality Assurance and Project Risk Management [Leader: INTRACT; Participant: WP leaders]; [M1-M36]			
INTRACT will implement a Project Quality and Risk Management Plan (D6.2) to ensure that project deliverables meet standards. This will include: (i) Impact monitoring and control of deliverables: The coordinator will organize impact monitoring work sessions every 6 months to ensure the standards outlined in the project plan are being met. The outcomes of these sessions will be presented as detailed SWOT analyses and updated roadmaps toward expected impacts. (ii) Peer review of deliverables: Experts will be assigned to review each deliverable and ensure they meet quality standards. The review will focus on aspects such as accuracy, credibility, consistency, readability, and presentation. (iii) Checklist for monitoring deliverable quality: A checklist will be provided to ensure the deliverables meet the agreed-upon quality standards. This checklist will cover topics such as synopsis, logical reasoning, data analysis, language, figures and tables, appearance, and resubmission. (iv) Regular reporting and analysis: The INTRACT will regularly report on the project's progress and include an analysis of any quality issues that may arise. This information will be used to continuously improve the Quality Management Plan and processes. In addition, the coordinator , INTRACT, and WP leaders will assess, monitor, and prioritise the follow-up of project risks in accordance with the Project Quality and Risk Management Plan (D6.2). Moreover, the progress reports will be released monthly within the consortium. Risks will be constantly assessed and evaluated within the whole project duration. The methodology to be followed for risk management consists of four steps: (i) Risk identification: areas of potential risk will be identified and classified; (ii) Risk quantification: the probability of events will be determined, and the consequences associated with their occurrence will be examined; (iii) Risk response: methods will be produced to reduce or control the risk and (iv) Risk control and report: lessons learned will be documented. The risk table will be updated whenever needed.			
Task 6.3 Ethics [Leader: FM; Partner: All]; [M01-M36]			
An Ethics plan work will be prepared by FM within D6.1, detailing the forthcoming actions and responsibilities to ensure that all ethics requirements are satisfied. As Industry 5.0 gains traction, there is a need to consider the ethical implications of this transformational technology. The project will identify and address the ethical and social implications of implementing Industry 5.0. Ethical concerns such as the ethical use of AI, a human-centric approach, environmental impact, GDPR compliance for data privacy and security, and societal implications will be taken into account to ensure that Industry 5.0 benefits society as a whole. To this end, PROSPECTS 5.0 will engage stakeholders and experts to integrate ethical considerations into the project. D6.3 will provide recommendations and guidelines for ensuring that Industry 5.0 is implemented in an ethical and responsible manner, taking into account societal, environmental, and privacy concerns.			


Task 6.4 Data Management Plan [Leader: AETHON; Partner: All]; [M01-36]

A Data Management Plan (DMP) (D6.4) will be defined with the objective of establishing the measures for promoting the findings during the project's life. In this sense, the DMP will set the basis for the dissemination and exploitation, which is of utmost importance, and the procedures for the sharing of data of the project. DMP will follow the FAIR principles and respect the rights of consortium members to maintain data openness or privacy as needed. This task will evolve during the project's lifetime to present the updates of PROSPECTS 5.0 in data management. PROSPECTS 5.0 DMP will consider: 1) Data set reference and name. 2) Data set description: Description of data, origin, nature, scale as well as information on the existence (or not) of similar data and the possibilities for integration and reuse. 3) Standards and metadata: Reference to existing suitable discipline standards (in case it is) or suggest how create new ones. 4) Data sharing: Considering how data will be shared, embargo periods, and outlines of technical mechanisms for dissemination, identification of repository and related information, etc. In case the data set cannot be shared the reasons and justification should be mentioned as well. 5) Archiving and preservation (including storage and backup): Describing the procedures for long-term preservation. 6) The 'ethics requirements' that the project must comply with.

Table 13. List of Deliverables

#	Name	Short description	WP	Leader	Type	Dissemination level	Delivery
D1.1	The I5.C	The del. will provide information on the engagement of the I5.C (who and why) and the feedback collected from the event.	WP1	FM	R	P	M6
D1.2	Industry 5.0 Community Trends and Status	The del. will provide the results of the approaches and methodologies for adoption and implementation of Industry 5.0 review.	WP1	FIR	R	P	M9
D1.3	The I5.AF	The del. will provide the information of the I5.AF including the KPIs, list of data collection tools, data analysis approaches and the actions executed towards creating the I5.AF.	WP1	UNIMORE	R	P	M12
D2.1	Planning the implementation of the I5.AF	Description of the process of implementing the Industry 5.0 Assessment Framework in all use cases	WP2	TEC	R	C	M10
D2.2	Data collection process description and datasets	Report on data collection activities and collection of data gathered	WP2	TEC	R	P	M20
D3.1	Data Processing and Analysis	Report on the outcomes of data analysis including an evaluation and update of the Assessment Framework and its implementation, and the patterns recognized from the use case partners.	WP3	INEGI	R	P	M26
D3.2	The I5.Rs	A report consisting of 4 different and independent parts one per I5.R.	WP3	AETHON	R	P	M30
D3.3	PROSPECTS 5.0 web application	The PROSPECTS 5.0 web application.	WP3	AETHON	DEM	P	M30
D4.1	Guidelines	The lesson learnt and the reports about the four guidelines.(I5MM I5BPG, I5AT, I5SEG)	WP4	EURECAT	R	P	M34
D4.2	Policy recommendations	Report with policies around the existing mechanisms to support SMEs/start-ups/scale-ups in the green and digital transition of the Industry 5.0	WP4	LTC	R	P	M34
D5.1	Dissemination and Communication Strategy and Plan	The initial communication strategy and plan	WP5	TPF	R	P	M3
D5.2	Project Communication	The set of tools and materials to be used during project communication and	WP5	INTRAC T	R	P	M3



	Materials	dissemination					
D5.3	Prospects5.0 Wiki	An online collaborative platform	WP5	INTRAC T		P	M13
D5.4	Exploitation Strategy & Plan	The first version, including guidelines and action items to prepare exploitation during the project and keep track of exploitable results	WP5	NSB	R	C	M18
D5.5	Exploitation Strategy & Plan	The final version describing all commercial and non- commercial exploitation scenarios	WP5	NSB	R	C	M36
D5.6	IPR management plan and execution reports (V1, V2, V3)	First, second and final version of IPR management plan and execution reports	WP5	INTRAC T	R	P	M(12,2 4,36)
D6.1	Project Manual	A live document which is regularly updated and provides an overview of objectives, implementation, and interactions within Work Packages for successful exploitation.	WP6	FM	R	P	M01
D6.2	Project Quality and Risk Management Plan	Quality Management procedures, risk management, including risks identified, materialised, and mitigated.	WP6	INTRAC T	R	P	M03,12 ,24,36
D6.3	Ethics assessment for Industry 5.0	A document to identify and evaluate ethical implications and risks associated with the implementation of Industry 5.0.	WP6	FM	R	P	M36
D6.4	Data Management Plan	A live document to ensure FAIR principles and respect the rights of consortium members to maintain data openness or privacy as needed.	WP6	AETHO N	DMP	P	M03, M24

Table 14. List of milestones

#	Milestone name	WP	Due date	Means of verification
MS1	PROSPECTS Industry 5.0 Assessment Framework completed	WP	M12	D1.2 submitted and the platform shared among all partners
MS2	PROSPECTS data collection process completed	WP	M20	Collected data set available for WP3 in D2.2
MS3	The industry 5.0 reports are delivered	WP	M30	Submission of D3.2.
MS4	PROSPECTS 5.0 web application is ready to be published	WP	M30	The web application is published, D3.3 is submitted.
MS5	Guidelines and policy briefs are available	WP	M34	The I5.Gs and policy briefs are submitted in D4.1 & 4.2
MS6	Communication & Dissemination strategy and materials available	WP	M3	Partners are provided with guidelines and tools to actively support communication & dissemination activities

Table 15. Critical risks for implementation (Low: L, Medium: M, High: H)#@RSK-MGT-RM@#

Description of risk/ WPs/ Proposed risk-mitigation measures / Likelihood/ Impact		
Risk: Lack of stakeholder engagement and participation in the development of the assessment framework. Work package(s) involved: WP1, WP2, WP3, WP4, WP5 risk-mitigation measures Engage stakeholders early and establish clear communication plan for ongoing commitment. Develop outreach strategies emphasizing relevancy of contribution to framework, policy briefs, and guidelines. Involving EDIHs in the consortium.	L	M
Risk: Poor data quality and data availability, Work package(s) involved: WP2, WP3, WP4 Risk-mitigation measures; Develop a standardized data collection process that follows the analytical framework set in WP1. Establish quality control measures to ensure consistency and accuracy in data collection. Provide training and assign use case facilitators support to use case providers to ensure they are able to collect high-quality data.	M	H
Risk: Unwillingness of the involved parties to supply data due to sensitive concept of information leakage Work package(s) involved: WP1,WP2 Risk-mitigation measures: Use case providers have been chosen for their willingness to share relevant information. Further planning and protection of data will be defined in a standard agreement.	M	H



Risk: Poor involvement in the collaborative platform of industry5.0 Wiki and moderating the provided input after the end of project. Work package(s) involved: WP5	M	L
Risk: Lack of attention from the stakeholders and poor impact of dissemination and exploitation actions due to socio-economical context (Energy crisis, Russian war, etc.) Work package(s) involved: WP4, WP5 Risk-mitigation measures: Diverse pool of partners from different countries and linked to several European association and EDIHs will contribute to mitigate this risk.	M	L
Risk: Low adoption of the project outputs due to lack of resources and/or prioritisation to invest in Industry 5.0; Work package(s) involved: WP4, WP5 Risk-mitigation measures: One of the main strengths of the project is to show clear benefits from actions to take to meet Industry 5.0 (e.g. obj. 5: Accelerating adoption of results through knowledge transfer, supported by Industry 5.0 Adoption Toolkit) and maximise users adoption by implementing co-creation activities.	M	L
Risk: Low quality of outputs, procrastinating in milestones or deliverables, low commitment of partners. Work package(s) involved: WP6 Risk-mitigation measures: FM will observe continuously the performance and the quality of the progress and will report each quarter to mitigate the risk.	L	M

#§RSK-MGT-RM§#

Table 16. Summary of staff effort

	WP1	WP2	WP3	WP4	WP5	WP6	Total PMs
FM	3,3	4,0	6,00	1,00	4,00	13,50	31,80
SINTEF	2,00	5,5	2,00	2,00	3,50	2,50	17,50
AETHON	3,5	5,5	11,00	2,00	5,00	5,5	32,50
INEGI	2,00	5,5	9,00	2,00	3,50	2,5	24,50
UNIMORE	8,5	5,5	4,00	2,00	3,5	4,00	27,50
TECNALIA	2,00	11,5	2,00	4,00	3,5	4,00	27,00
UWB	3,5	5,5	0,00	2,00	3,5	2,5	17,00
EURECAT	2,00	5,5	4,00	10,00	3,5	4,00	29,00
LTC	3,5	5,5	2,00	7,00	3,5	2,5	24,00
FIR	7,00	5,5	0,00	2,00	3,5	2,5	20,50
I2M	1,00	5,5	2,00	2,00	3,5	2,5	16,50
UGENT	2,00	0,5	0,00	1,00	2,00	2,00	7,50
INTRACT	2,00	8,00	0,00	4,00	14,50	6,00	34,50
TPF	2,00	5,5	0,00	2,00	11,00	2,5	23,00
KUL	1,00	0,5	0,00	2,00	2,00	2,00	7,50
NSB	2,00	5,5	0,00	2,00	13,5	4,00	27,00
OCTAVE	0,30	3,00	0,50	0,7	2,50	0,8	7,80
Knowit	0,20	3,00	0,50	0,7	2,50	0,8	7,70
Trygons	0,20	3,00	0,50	0,7	2,50	0,8	7,70
AMF	0,20	3,00	0,50	0,7	2,50	0,8	7,70
B.BRAUN	0,20	3,00	0,50	0,7	2,50	0,8	7,70
ZEUKO	0,20	3,00	0,50	0,7	2,50	0,8	7,70
GWT	0,20	3,00	0,50	0,7	2,50	0,8	7,70
ELMI	0,20	3,00	0,50	0,7	2,50	0,8	7,70
S-Gard	0,20	3,00	0,50	0,7	2,50	0,8	7,70
STIRTEC	0,20	3,00	0,50	0,7	2,50	0,8	7,70
EFESTO	0,20	3,00	0,50	0,7	2,50	0,8	7,70
SMARALD	0,20	3,00	0,50	0,7	2,50	0,8	7,70
TEKNOROT	0,20	3,00	0,50	0,7	2,50	0,8	7,70
CAMELEO	0,20	3,00	0,50	0,7	2,50	0,8	7,70
Total PMs	50,2	127,0	49,00	56,8	118,5	73,7	475,2

Table 17. 'Other costs categories' items (e.g. internally invoiced goods and services)

FM		
	Cost (€)	Justification
Other goods, works and services.	63.500€	Organization of kick-off meeting , final event , consortium meeting , advisory board meeting , event with I5 community of interest and event with EU associations and other partnerships.
Remaining purchase costs (<15% of pers. Costs)	35.500€	
Total	94.000€	



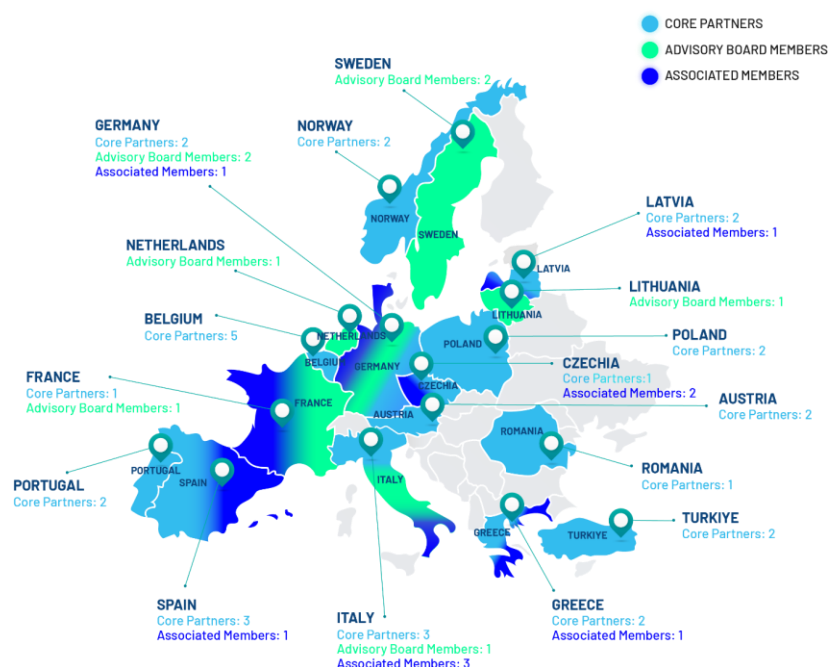
AETHON		
	Cost (€)	Justification
Travel and subsistence	12.500€	Participating in 6 consortium meetings; Final event; I5. Community of interest workshop, participation to EU events to exploit results and connect to synergic initiatives, event with EU associations and other partnerships and two review meetings in Brussels
Remaining purchase costs (<15% of pers. Costs)	7.500€	
Total	20.000€	
EURECAT		
	Cost (€)	Justification
Travel and subsistence	12.500€	Participating in 6 consortium meetings; Final event; I5. Community of interest workshop, participation to EU events to exploit results and connect to synergic initiatives, event with EU associations and other partnerships, and two review meetings in Brussels.
Remaining purchase costs (<15% of pers. Costs)	7.500€	
Total	20.000€	
NSB		
	Cost (€)	Justification
Travel and subsistence	12.500€	Participating in 6 consortium meetings; Final event; I5. Community of interest workshop, participation to EU events to exploit results and connect to synergic initiatives, event with EU associations and other partnerships, and two review meetings in Brussels.
Remaining purchase costs (<15% of pers. Costs)	7.500€	
Total	20.00€	
UWB		
	Cost (€)	Justification
Travel and subsistence	12.500€	Participating in 6 consortium meetings; Final event; I5. Community of interest workshop, participation to EU events to exploit results and connect to synergic initiatives, event with EU associations and other partnerships, and two review meetings in Brussels.
Remaining purchase costs (<15% of pers. Costs)	0.00	
Total	12.500€	
TEKNOROT		
	Cost (€)	Justification
Travel and subsistence	8.500€	Participating in consortium meetings; Final event; I5. Community of interest workshop, participation to EU events to exploit results and connect to synergic initiatives, event with EU associations and other partnerships, and two review meetings in Brussels. + Visa application
Remaining purchase costs (<15% of pers. Costs)	0,00	
	8.500€	
AMF		
	Cost (€)	Justification
Travel and subsistence	6.250€	Participating in consortium meetings; Final event; I5. Community of interest workshop, participation to EU events to exploit results and connect to synergic initiatives, event with EU associations and other partnerships, and two review meetings in Brussels.
Remaining purchase costs (<15% of pers. Costs)	0.00	
Total	6.250€	
GTW		
	Cost (€)	Justification
Travel and subsistence	6.250€	Participating in consortium meetings; Final event; I5. Community of interest workshop, participation to EU events to exploit results and connect to synergic initiatives, event with EU associations and other partnerships, and two review meetings in Brussels.
Remaining purchase costs (<15% of pers. Costs)	0.00	
Total	6.250€	
EMI		
	Cost (€)	Justification
Travel and subsistence	6.250€	Participating in consortium meetings; Final event; I5. Community of interest workshop, participation to EU events to exploit results and connect to synergic initiatives, event with EU associations and other partnerships. events to exploit results and connect to synergic initiatives,



		and two review meetings in Brussels.
Remaining purchase costs (<15% of pers. Costs)	0,00	
Total	6.250€	
SMARALD		
	Cost (€)	Justification
Travel and subsistence	6.250€	Participating in consortium meetings; Final event; I5. Community of interest workshop, participation to EU events to exploit results and connect to synergic initiatives, event with EU associations and other partnerships, and two review meetings in Brussels.
Remaining purchase costs (<15% of pers. Costs)	0,00	
Total	6.250€	
TRYGONs		
	Cost (€)	Justification
Travel and subsistence	6.250€	Participating in consortium meetings; Final event; I5. Community of interest workshop, participation to EU events to exploit results and connect to synergic initiatives, event with EU associations and other partnerships, and two review meetings in Brussels.
Remaining purchase costs (<15% of pers. Costs)	0,00	
Total	6.250€	
CAMELEO		
	Cost (€)	Justification
Travel and subsistence	6,250€	Participating in consortium meetings; Final event; I5. Community of interest workshop, participation to EU events to exploit results and connect to synergic initiatives, event with EU associations and other partnerships, and two review meetings in Brussels.
Remaining purchase costs (<15% of pers. Costs)	0,00	
Total	6,250€	

#\$QUA-LIT-QL\$# # \$WRK-PLA-WP\$#

3.3 Capacity of participants and consortium as a whole # @CON-SOR-CS@# # @PRJ-MGT-PM@#



The PROSPECTS 5.0 consortium is composed of **16 core** partners from academia, RTOs, industries and SMEs, and **14 use case** providers from various industrial sectors, including service provision, different types of manufacturing, education, automotive, aviation and transport, and renewable energy. The selected industrial sectors are significant drivers for the adoption of Industry 5.0, as they are crucial to the European economy and utilize enabling technologies. The use cases from these sectors will ensure a focused and effective transition to Industry 5.0 in Europe. The consortium also includes **9 associated partners**, strategically distributed across Europe to maximize the project's reach. Moreover, PROSPECTS 5.0 will use the valuable insights of **9 advisory board** members, including five industry representatives from **Siemens AG** (Germany), **Volvo** and **Ericsson** (Sweden), **Damen** (the Netherlands), and **VAIOE** (Lithuania). Additionally, there are two

Figure 10. The geographical distribution of PROSPECTS 5.0 partners

academic representatives from the University of Padova and SMILE EDIH (Italy), as well as one Research & Technology Organisation (RTO) member from Fraunhofer IWU - Germany, and one from EIT Manufacturing (France). It's notable that we have already received the letter of interest from the AB members. This selection the selection of these advisory board members has been strategic and well thought out, with the aim of maximizing the project's reach and gathering valuable insights from a diverse range of experienced professionals and organizations



across Europe. The combination of industry representatives, academic experts, and RTO members is expected to bring in a well-rounded perspective to the project and ensure its success. Moreover, we will expand the list of ABs by including a member from a civil society.

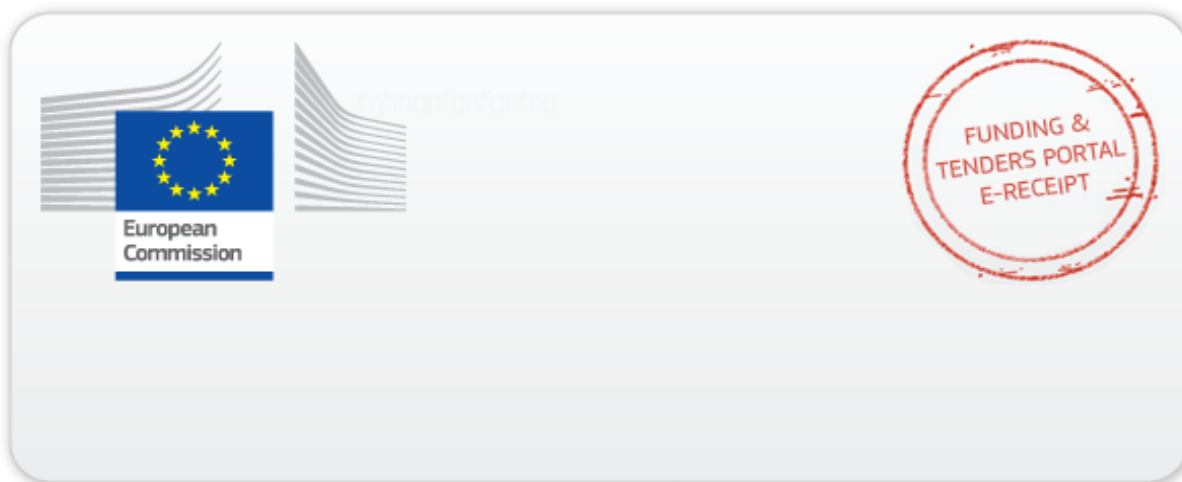
The geographical distribution of partners is depicted Figure.10. As shown in the Figure, there is a clear pan-European distribution of partners. This helps disseminate the PROSPECTS 5.0's findings to a wider audience, thus increasing awareness of Industry 5.0.

To achieve the project's objectives and deliver expected outcomes, the PROSPECTS 5.0 consortium partners possess the **expertise, resources, and capacities** necessary to carry out the project effectively. The consortium has a **multidisciplinary composition**, covering all **relevant areas of expertise** required for successful implementation of the project. Table. 18 summarizes the main competencies, expertise, and benefits provided by PROSPECTS 5.0 partners, which will result in the successful implementation of the project and transferring its results to a broad range of audiences. PROSPECTS 5.0 also focus on having the member of (E)DIH communities in its consortium to incorporating the results of the project into existing EDIH service and thus maximizing the impact of project's results. Several core partners such as FM, INEGI, EURECAT, TEC, FIR are member of EDIH. Additionally, EDIH from Italy, Germany, Czechia integrated into PROSPECTS 5.0 consortium as associated partners to benefit from the services and resources they offer.

Table 18. Complementarity of the consortium partners relating to the know-how and expertise required in the project.

Partners	Expertise, competency and the value bring to the PROSPECTS 5.0
Core partners	
Technical expertise: This includes expertise in Industry 4.0 technologies and principles such as digitalization, artificial intelligence, cyber-physical systems, and advanced manufacturing.	
Partner: FM, AETHON, INEGI, I2M, TEC, EURECAT, TPF, LTC, SINTEF, UNIMORE, FIR	
Research and analytical skills: The ability to design, implement, interpret and analyse research studies, including use cases, and collect and analyse data.	
Partners: INEGI, EURECAT, TPF, SINTEF, UNIMORE, TEC, UWB, KUL,UGENT, FIR, AETHON	
Policy analysis: The ability to analyse the policy landscape and provide actionable policy recommendations	
Partners: EURECAT, TPF, LTC, UNIMORE, KUL	
Project management: The ability to manage a large and complex research project, including the coordination of activities and the efficient use of resources Partners: FM, AETHON, INTRACT	
SSH: SSH experts in different stage of implementing PROSPECTS 5.0 Partner: UNIMORE	
Ethical considerations: The ability to understand and consider ethical implications of both research activities and digital and industrial technologies, including privacy, security, and human rights Partners: LTC, TPF, FM, INTRACT	
Stakeholder engagement and Knowledge transferring: The ability to engage and communicate with stakeholders, including industry, policymakers, workers, and civil society organizations, to understand their perspectives and needs and to effectively disseminate and exploit the results of the research, including through publication of scientific articles, policy briefs, and other communications materials. Partners: NSB, SINTEF, UNIMORE, INEGI, TEC, FIR, TPF, INTRACT, EURECAT, LTC	
Use case providers	
Industry 5.0 Insight. Insight about human-machine interaction, sustainability and resiliency Partners: All use case providers	
Domain knowledge and Technical proficiency: Solid foundation of domain knowledge and technical proficiency. This includes expertise with the latest technologies related to Industry 5.0, such as artificial intelligence (AI), machine learning, the Internet of Things (IoT), and robotics. Additionally, you should have relevant experience in the industry domain that you are providing the use case for. Partners: All use case provider	
Associate partners	
1)Providing feedback and advice on project developments, 2) contributing to outputs that will best serve the different types of stakeholders, 3) Participating to local workshops and events organised in the area of interest 4) Promoting PROSPECTS5.0's events through their network.5) Facilitating the establishment of synergies between the PROSPECTS5.0 project and projects led by their members. 6) Assisting PROSPECTS5.0 in engaging their members in surveys, questionnaire, interviews and similar. Partners: All associated Partners	
providing valuable contributions in PROSPECTS 5.0, including scoping SME needs and challenges, identifying opportunities and threats for industrial policy recommendations, sharing guidelines and lessons learned on technical assistance and business support, and making policy recommendations on Industry 5.0 at EU, member state, and regional levels. Partners: All associated Partners	
Advisory boards	
1)Provide general feedback and advice on project developments. 2) Attending and pro-actively contribute to the Advisory Board online meetings, aiming to monitor, assess and validate the main project findings. 3) Supporting the PROSPECTS 5.0 events and workshops, being a panellist or a speaker, when invited 4) PROSPECTS 5.0 can profit from valuable insights into the latest trends in implementing industry 5.0 principles and advancements, as well as the challenges faced by businesses as they transition to Industry 5.0 All members Partners: All AB members	

##QUA-LIT-QL## ##WRK-PLA-WP##



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