



## **WP1 – MIND4MACHINES framework development and mapping and analysis exercise**

### *D1.5 Mapping of investment sources and requirements*

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**TO BE CITED AS**

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## MIND4MACHINES PROJECT

MIND4MACHINES aims to facilitate the cross-sectoral and cross-border support needed by manufacturing SMEs to test and adopt the latest digital technologies for transformation towards smarter, greener and more resource-efficient manufacturing, aligned with the latest EU policies. This will be done in a systemic approach which will **foster cross-border and cross-sectoral ecosystems creation, new emerging industries, and/or reinforcement in the targeted regions, with the final aim of establishing large-scale demonstrators to test a range of digital solutions which can allow manufacturing SMEs engaged within the project to meet both digitalisation and sustainability industry challenges.**

The large-scale demonstrators will be implemented by MIND4MACHINES thanks to:

- **Direct financial support through open calls** in order to facilitate that SMEs – or groups SMEs and other stakeholders – develop, test and fine-tune solutions so they can bring successful innovations to the market, boosting the generation of new industrial value chains. The innovations tested, supported and scaled up within these open calls will be selected according to criteria based on the **MIND4MACHINES Joint Strategic Agenda**, a co-created guiding document establishing the main challenges and goals in the selected regions towards the transformation of manufacturing industries into digital, sustainable ones. This will ensure that the funded projects jointly contribute to the large-scale demonstrator objective, validating and scaling up new cross-sectoral and cross-regional value chains.
- **Tailored innovation and go-to-market accelerator programmes.** MIND4MACHINES understands that investment sourcing is key to allow SMEs to undertake digital-based transition projects. This is why project partners will invest their resources into a series of activities (bootcamps, mentorship, e-learning, etc.) to train digital and manufacturing SMEs to detect, engage and obtain successfully the financial sources they need. This work line, complementary to the direct financial aid, will multiply the chances of success of the companies. Additionally, 4 Venture Capital firms have shown their interest in the project, willing to evaluate successful projects in a case-by-case basis.
- **Engaging clusters as key actors to foster cross-sectoral and cross-border new value chains.** Clusters are regional innovation ecosystems with a great potential for the replication of new digitalisation solutions funded by MIND4MACHINES, reason why the project partners (already clusters and industry associations) will engage and evangelize other regional clusters to maximise the project's impacts in Europe through dissemination activities and a specific **MIND4MACHINES Programme**.

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## LIST OF ABBREVIATIONS AND DEFINITIONS

<b>BA</b>	• Business Angels
<b>CVC</b>	• Corporate Venture Capitals
<b>EIB</b>	• European Investment Bank
<b>EIF</b>	• European Investment Fund
<b>EBAN</b>	• European Business Angels Network
<b>DIH</b>	• Digital Innovation Hub
<b>SME</b>	• Small & Medium Enterprise
<b>ROI</b>	• Return of Investment
<b>VC</b>	• Venture Capital

<b>WP</b>	<ul style="list-style-type: none"> <li>• Work Package as in MIND4MACHINES Project</li> </ul>
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### ***PROJECT PARTNERS SHORT NAME***

<b>AECIM</b>	<ul style="list-style-type: none"> <li>• ASOCIACION DE EMPRESARIOS DEL COMERCIO E INDUSTRIA DEL METAL DE MADRID</li> </ul>
<b>BWCON</b>	<ul style="list-style-type: none"> <li>• BWCON GMBH (Germany)</li> </ul>
<b>EVIC</b>	<ul style="list-style-type: none"> <li>• INDUSTRIALEN KLASSTER ELEKTROMOBILI (Bulgaria)</li> </ul>
<b>F6S</b>	<ul style="list-style-type: none"> <li>• F6S NETWORK IRELAND LIMITED (Ireland)</li> </ul>
<b>ICI</b>	<ul style="list-style-type: none"> <li>• ISTANBUL CHAMBER OF INDUSTRY (Turkey)</li> </ul>
<b>IPA SA</b>	<ul style="list-style-type: none"> <li>• SC IPA SA (Romania)</li> </ul>
<b>IDA</b>	<ul style="list-style-type: none"> <li>• ISTANBUL DEVELOPMENT AGENCY</li> </ul>
<b>MESAP</b>	<ul style="list-style-type: none"> <li>• CENTRO SERVIZI INDUSTRIE SRL (Italy)</li> </ul>
<b>NWRDA</b>	<ul style="list-style-type: none"> <li>• NOERTH-WEST REGIONAL DEVELOPMENT AGENCY (Romania)</li> </ul>
<b>SISAX</b>	<ul style="list-style-type: none"> <li>• SILICON SAXONY E.V. (Germany)</li> </ul>
<b>VTT</b>	<ul style="list-style-type: none"> <li>• TEKNOLOGIAN TUTKIMUSKESKUS VTT OY</li> </ul>

## **1. EXECUTIVE SUMMARY**

The preliminary activities in Work Package 1 – MIND4MACHINES framework development and mapping and analysis exercise, include Task 1.4, Mapping existing investment sources and revealing their requirements, which aim at identifying existing regional, national and EU investment sources in the partner regions, as well as analysing their requirements. The results aim to be a valuable input for the development of business acceleration programmes offered by partners to SMEs later on in WP4.

The steps performed included identification and collection of information on available sources of investment, public and private, by means of desk research focusing on diverse relevant online sources, including policy documents, white papers, study reports, investors' websites, and others, at regional, national and European level, to which all partners have contributed, especially on that information on regional or national level.

## **2. INTRODUCTION**

MIND4MACHINES aims to facilitate cross-sectoral and cross-border support for manufacturing SMEs to adopt the latest digital technologies for the transformation towards smarter, greener and more resource-efficient manufacturing.

This deliverable - report is part of *Work Package 1 MIND4MACHINES framework development and mapping and analysis exercise*, was elaborated and coordinated by NWRDA with the input from all partners, in particular the parts related to the regional & national funding opportunities.

This deliverable was realized by project partners from the corresponding countries & regions:

**TURKEY**

- TR10 İstanbul

**GERMANY**

- DE11 Stuttgart
- DED2 Dresden

**SPAIN**

- ES30 Madrid

**ROMANIA**

- RO11 North-West
- RO31 South Muntenia
- RO32 Bucharest-Ilfov

**ITALY**

- ITC1 Piemonte

**BULGARIA**

- BG41 Yugozapaden

**FINLAND**

- FI1B Helsinki-Uusimaa

**IRELAND**

- IE06 Eastern and Midland

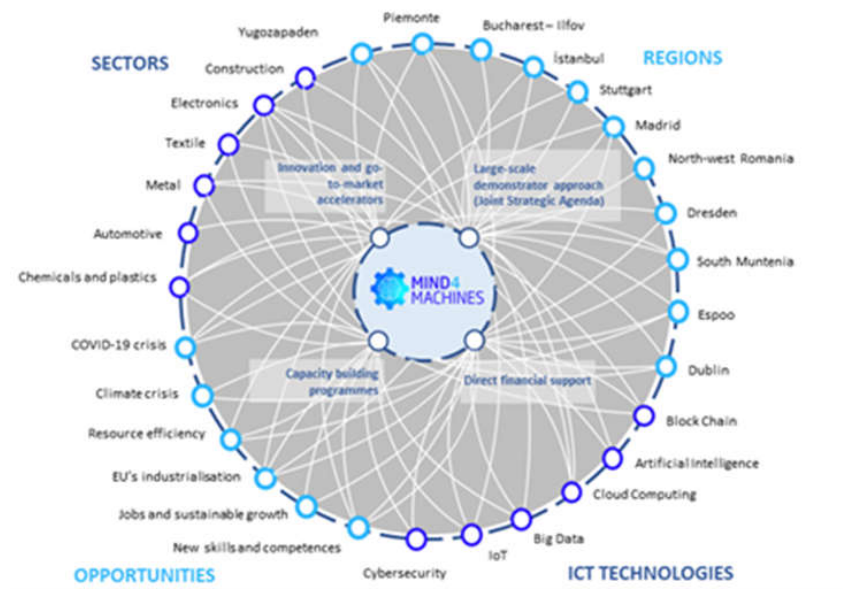


Figure 1 MIND4MACHINES target ecosystem [partner regions, target sectors, target goals]

The information provided in the report will have a double role:

- **Valuable input for the development of business acceleration programmes** to be offered by MIND4MACHINES consortium further on in WP4.
- **Public & private funding sources & opportunities** to complement the MIND4MACHINES grants to SMEs in order to develop further on the innovative solutions to be supported via MIND4MACHINES. For this purpose, the Master table inventory will be updated periodically, in order to serve better the interest of SMEs to be enrolled in MIND4MACHINES acceleration programmes.

MIND4MACHINES project aims to facilitate the cross-sectoral and cross-border support needed by manufacturing SMEs to validate and adopt cross-cutting digital technologies provided by ICT SMEs and start-ups, particularly by addressing holistically the entire digitalisation value chain, combining manufacturing and novel and ITC based disruptive solutions.

Therefore, the mapping took into account the project target sectors, from both sides, manufacturing needs and digital & technology offer:

- **Manufacturing sectors:** in particular metal, mechanics, automotive, hybrid and electric vehicles, mechatronics but extended to factories from any manufacturing field (including for ex. agrifood, textile), which need technology upgrade.
- **Digital & Technology related sectors:** hardware, software, services and connectivity, Big Data, Cloud Computing, Artificial Intelligence, Blockchain, IoT and Cybersecurity, Robotics, Automation.

MIND4MACHINES aims to establish a large-scale demonstrator approach to show the potential of the **latest ICT solutions** (AI, Big Data, Cloud Computing, IoT, etc.) to be used as a lever towards the transformation of the European **manufacturing industry** into an innovation-led sector able to **cope with the societal challenges of our era**: climate change, bioeconomy, circular economy, energy efficiency, etc.



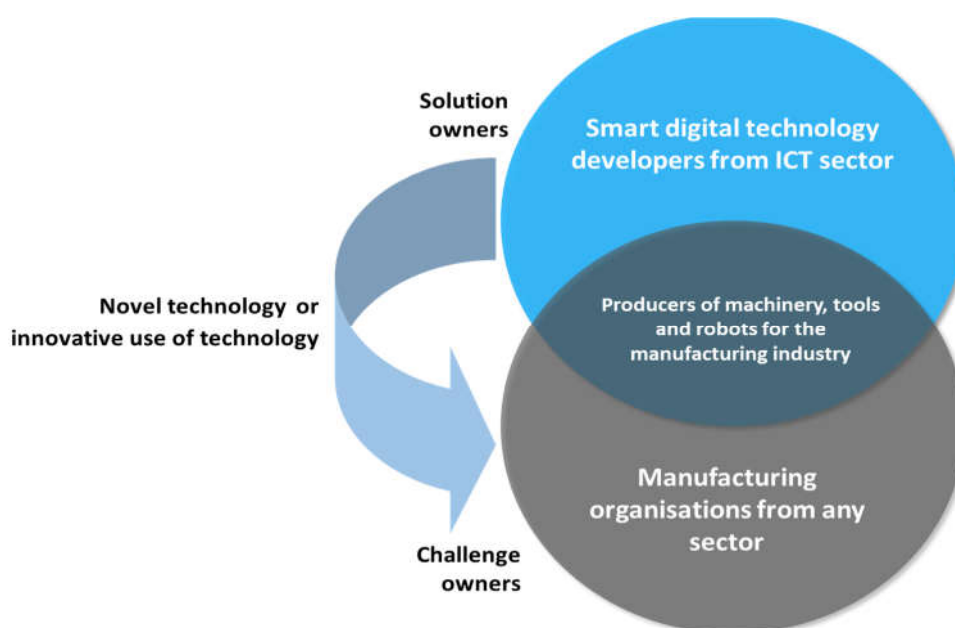


Figure 2. MIND4MACHINES target sectors, both technology request and offer

### 3. EUROPEAN LEVEL FUNDING INFORMATION SOURCES

#### 3.1. PORTALS, PLATFORMS, NETWORKS

PORTALS, PLATFORMS, NETWORKS as continuous information sources for funding opportunities and digital matching. There is a wide range of information sources on funding opportunities across Europe. To facilitate regular updates and checks on the subject, the main sources can be summarized below, via portals, platforms or even networks of SMEs supporting organisations:

INFO SOURCE	Details	Link
EU Participant Portal	Main EU funding opportunities portal	<a href="https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/home">https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/home</a>

<b>European Cluster Collaboration Platform (ECCP)</b>	Main cluster collaboration platform, opportunities for SMEs members also. In addition to standard cluster recommended actions the cluster database could be used identify potential B2B partnership opportunities for SMEs who need to access digital technology suppliers.	<a href="https://clustercollaboration.eu/">https://clustercollaboration.eu/</a>
<b>Enterprise Europe Network</b>	The biggest support network for internationalisation and innovation support to SMEs	<a href="https://een.ec.europa.eu/">https://een.ec.europa.eu/</a>
<b>Advanced Technologies for Industry Portal</b>	Valuable source for following the trends and policies including funding opportunities. Source of business intelligence on the technology level. The platform could be used for awareness raising events and benchmarking activities at the regional level.	<a href="https://ati.ec.europa.eu/">https://ati.ec.europa.eu/</a>
<b>EDIHs - European Digital Innovation Hubs Network</b>	One-stop shops that help companies dynamically respond to the digital challenges and become more competitive	<a href="https://digital-strategy.ec.europa.eu/en/activities/edih">https://digital-strategy.ec.europa.eu/en/activities/edih</a>
<b>DIHNET.EU</b>	The network can be followed to help SMEs seeking digital transformation at the national level and cannot identify an EDIH working on specific sectoral needs.	<a href="https://dihnet.eu/">https://dihnet.eu/</a>
<b>European DIGITAL SME Alliance</b>	The largest network of ICT SMEs in Europe, the joint effort of 30 national and regional SME associations from EU member states and neighbouring countries	<a href="https://www.digitalsme.eu/">https://www.digitalsme.eu/</a>
<b>FAB LAB Network</b>	Acces to digital fabrication laboratories, to play, create, learn, mentor, invent, providing access to the environment, skills materials and to the advanced technologies.	<a href="https://fabfoundation.org">https://fabfoundation.org</a>
<b>European Green Digital Coalition</b>	Initiative by the European Parliament, supported by the European Commission, to green the ICT sector itself and bring the emission-reducing potential of its solutions to bear on all other sectors.	<a href="https://digital-strategy.ec.europa.eu/en/news/companies-take-action-support-green-and-digital-transformation-eu">https://digital-strategy.ec.europa.eu/en/news/companies-take-action-support-green-and-digital-transformation-eu</a>
<b>START-UP Europe Partnership</b>	EU initiative helps start-up companies in digital technologies. It would be a source for technology developing SMEs to grow their services and access EU markets	<a href="https://startupeuropeclub.eu/">https://startupeuropeclub.eu/</a>
<b>JRC - Joint Research Centre</b>	The Competence Centre on Technology Transfer (CCTT) is the single reference point for expertise and services in technology transfer (TT) at the European Commission.	<a href="https://knowledge4policy.ec.europa.eu/technology-transfer_en">https://knowledge4policy.ec.europa.eu/technology-transfer_en</a>
<b>AI WATCH Portal</b>	Monitor the development, uptake and impact of Artificial Intelligence for Europe.	<a href="https://knowledge4policy.ec.europa.eu/ai-watch_en">https://knowledge4policy.ec.europa.eu/ai-watch_en</a>

<b>RobMoSys &amp; ROSIN Platform</b>	Out of an EU funded cascade project (2017-2020) focusing on Robotics + RobMoSys Academy	<a href="https://robmosys.eu/newsrobmosys-rosin-towards-an-eu-digital-industrial-platform-for-robotics/">https://robmosys.eu/newsrobmosys-rosin-towards-an-eu-digital-industrial-platform-for-robotics/</a>
<b>A European AI On Demand Platform and Ecosystem</b>	From AI4EU project - first European AI On-Demand Platform and Ecosystem that shares resources, tools, knowledge, algorithms, boosting innovation and technology transfer, accelerate the growth of start-ups and SMEs, and fulfil the needs of the European AI community.	<a href="https://www.ai4eu.eu/">https://www.ai4eu.eu/</a>
<b>RAMS Platform</b>	Developed by VTT, used by several cascade funded projects as marketplace – Accelerate productivity through Robotics	<a href="https://www.ramp.eu/#/">https://www.ramp.eu/#/</a>
<b>National Contact Points for Horizon Europe</b>	The main structure to provide guidance, practical information and assistance on all aspects of participation in Horizon Europe	<a href="https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/support/ncp">https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/support/ncp</a>
<b>TETRAMAX</b>	Former cascade funded Horizon 2020 project, offering data base for digitalisation support organisation based on industry competences.  23 TETRAMAX Competence Centers on Customized Low-Energy Computing (CLEC) for Cyber-Physical Systems and the Internet of Things. Each Competence Center is connected to further Local Ecosystem Partners (LEPs) and DIHs.	<a href="https://www.tetramax.eu/">https://www.tetramax.eu/</a> <a href="https://www.tetramax.eu/brokerage/#/network/">https://www.tetramax.eu/brokerage/#/network/</a>
<b>ORGALIM</b>	European-level federation represent the EU's largest manufacturing sector, comprised of 770,000 innovative companies spanning the mechanical engineering, electrical engineering and electronics, and metal technology branches. European-level federation that engages with EU policymakers on behalf of our membership, speaking for 29 national industry associations and 18 European sector associations.	<a href="https://orgalim.eu/">https://orgalim.eu/</a>
<b>WMM World Manufacturing Forum</b>	Open platform aiming to enhance and spread industrial culture worldwide, as a means to ensure economic equity and sustainable development, promoting innovation and development in the manufacturing sector.	<a href="https://www.worldmanufacturingforum.org/">https://www.worldmanufacturingforum.org/</a>
<b>CECIMO</b>	CECIMO Community is an umbrella organisation that serves the common interests and values of the European Machine Tool Industries and related Manufacturing Technologies at EU and global level, since 1950.	<a href="https://www.cecimo.eu/">https://www.cecimo.eu/</a>
<b>EFFRA</b>	Industry-driven association promoting the development of new and innovative production technologies, previously known as 'Factories of the Future public-private partnership and	<a href="https://www.effra.eu/calls-proposals">https://www.effra.eu/calls-proposals</a>

	nowadays of the Made in Europe partnership under the newest European framework programme "Horizon Europe". The Partnership contributes to a competitive, green, digital, resilient and human-centric manufacturing industry in Europe, at the center of twin ecological and digital transition.	
<b>F6S Platform</b>	F6S is the leading platform for application management for commercial, corporate, government, university and other accelerator programs, helping more than 17.000 such initiatives worldwide. Every year F6S processes more than 700,000 applications and delivers about €2 billion to startups/SMEs per year!	<a href="https://www.f6s.com/programs">https://www.f6s.com/programs</a>

**Table 1.** Main funding information sources at European level

### 3.2. EUROPEAN UNION INITIATIVES AND PROGRAMMES

#### 3.2.1. European Initiatives

There are various initiatives funded by EU bodies, aiming to support disruptive innovations, SMEs digitalisation and beyond.

INITIATIVE	Details	Link
<b>European Green Digital Coalition</b>	Initiative by the European Parliament, supported by the European Commission, to green the ICT sector itself and bring the emission-reducing potential of its solutions to bear on all other sectors.	<a href="https://digital-strategy.ec.europa.eu/en/news/companies-take-action-support-green-and-digital-transformation-eu">https://digital-strategy.ec.europa.eu/en/news/companies-take-action-support-green-and-digital-transformation-eu</a>
<b>START-UP Europe Partnership</b>	EU initiative helps start-up companies in digital technologies. It would be a source for technology developing SMEs to grow their services and access EU markets	<a href="https://startupeuropeclub.eu/">https://startupeuropeclub.eu/</a>
<b>JRC - Joint Research Centre</b>	Smart Specialization Platform for Industrial Modernisation <ul style="list-style-type: none"> <li>➤ Interregional partnership for Smart Specialisation: SMEs INTEGRATION TO INDUSTRY 4.0: <a href="https://s3platform-legacy.jrc.ec.europa.eu/sme-integration-to-industry">https://s3platform-legacy.jrc.ec.europa.eu/sme-integration-to-industry</a></li> </ul>	<a href="https://s3platform.jrc.ec.europa.eu/industrial-modernisation">https://s3platform.jrc.ec.europa.eu/industrial-modernisation</a>

		<p>24 S3 Partnerships:  <a href="https://s3platform.jrc.ec.europa.eu/s3-industrial-modernisation-partnerships">https://s3platform.jrc.ec.europa.eu/s3-industrial-modernisation-partnerships</a> out of which some addressing same topics as MIND4MACHINES:</p> <ul style="list-style-type: none"> <li>▪ <a href="https://s3platform.jrc.ec.europa.eu/artificial-intelligence-and-human-machine-interface-ai-hmi-">https://s3platform.jrc.ec.europa.eu/artificial-intelligence-and-human-machine-interface-ai-hmi-</a></li> <li>▪ <a href="https://s3platform.jrc.ec.europa.eu/high-performance-production-through-3d-printing">https://s3platform.jrc.ec.europa.eu/high-performance-production-through-3d-printing</a></li> <li>▪ <a href="https://s3platform.jrc.ec.europa.eu/sme-integration-to-industry-4.0">https://s3platform.jrc.ec.europa.eu/sme-integration-to-industry-4.0</a></li> <li>▪ <a href="https://s3platform.jrc.ec.europa.eu/smart-regional-investments-in-textile-innovation">https://s3platform.jrc.ec.europa.eu/smart-regional-investments-in-textile-innovation</a></li> </ul>
<b>European Innovation Council</b>	<p>The EIC aims to identify and support breakthrough technologies and game changing innovations to create new markets and scale up internationally</p>	<p><a href="https://eic.ec.europa.eu/">https://eic.ec.europa.eu/</a></p>
<b>European Research Council</b>	<p>Flagship component of Horizon Europe, based on scientific excellence of the researchers.  <b>Proof of Concept Call 2021</b> – until 14/11/2021  <b>Proof of Concept Call 2022</b> - from 16/11/2021, 3 cut-off dates: 15/02/2022, 19/05/2022 si 29/09/2022:</p>	<p><a href="https://erc.europa.eu/">https://erc.europa.eu/</a></p> <ul style="list-style-type: none"> <li>▪ 2021:  <a href="https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/erc-2022-poc1">https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/erc-2022-poc1</a></li> <li>▪ 2022:  <a href="https://erc.europa.eu/timeframe-erc-proof-concept-evaluation-erc-2022-poc2">https://erc.europa.eu/timeframe-erc-proof-concept-evaluation-erc-2022-poc2</a></li> </ul>
<b>European Institute of Innovation &amp; Technology (EIT)</b>	<p>The 7 sectoral arms provide periodical funding &amp; accelerating opportunities.</p>	<p>EIT Manufacturing: <a href="https://eitmanufacturing.eu/">https://eitmanufacturing.eu/</a>  EIT Digital: <a href="https://www.eitdigital.eu/">https://www.eitdigital.eu/</a>  EIT Health: <a href="https://eithealth.eu/">https://eithealth.eu/</a>  EIT Food: <a href="https://www.eitfood.eu/">https://www.eitfood.eu/</a>  EIT Climate-KIC: <a href="https://www.climate-kic.org/">https://www.climate-kic.org/</a>  EIT InnoEnergy: <a href="https://www.innoenergy.com/">https://www.innoenergy.com/</a></p>

		<p>EIT RawMaterials: <a href="https://eitrawmaterials.eu/">https://eitrawmaterials.eu/</a></p> <p>EIT UrbanMobility: <a href="https://www.eiturbanmobility.eu/">https://www.eiturbanmobility.eu/</a></p>
<b>European Innovation Radar</b>	<p>EU Commission’s Initiative which helps any citizen, public body or business professional to discover cutting-edge EU-funded innovations being developed by Europe’s leading researchers and innovators, represented under 4 categories based on the technology maturity level: "Exploring", "Tech ready", "Business ready", "Market ready". The Platform serves as the ground for development of a dynamic ecosystem of incubators, entrepreneurs, funding agencies and investors who can get the EU-funded innovations faster to market.</p>	<a href="https://www.innoradar.eu/">https://www.innoradar.eu/</a>

**Table 2.** Main European level initiatives supporting innovation & digitalisation of SMEs

### 3.2.2. European Programmes 2014 – 2020 as funding opportunities

There are programmes available from former programming period that still offer funding opportunities, especially those under running innovation support cascade funding projects. Some calls available until autumn 2021 are addressing the MIND4MACHINES target sectors, especially those which are implemented under 'VANGUARD INITIATIVE - 'ICT Innovation for Manufacturing SMEs (I4MS) initiative [<https://i4ms.eu> ] or some managed by the F6S partner: <https://innovation.f6s.com/opportunities/>. They can be analysed while drafting the project calls, to offer complementary services & grants mechanism.

PROGRAMME	Details	Link
<b>HORIZON 2020 Cascade funding project calls</b>	Competitive calls for third parties. Addressing specific sectors, usually offer grants/ innovation vouchers up to 60.000 euro / 100.000 euro for individual or collaborative applications and also coaching and mentoring services for business & development and innovation	<a href="https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/competitive-calls">https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/competitive-calls</a>
<b>AI REGIO - “Regions and Digital Innovation Hubs alliance for AI-driven digital transformation of European Manufacturing SMEs [ I4MS]</b>	Objective for the first open call of AI REGIO project is to select up to 8 SME-driven experiments to complement AI REGIO in the extension of the current portfolio of “AI for Manufacturing” solutions; and benefiting directly SMEs in underrepresented regions, with the perspective to join the VANGUARD Initiative. The project aims for 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. <i>[deadline 30/09/2021]</i>	<a href="https://www.airegio-project.eu/">https://www.airegio-project.eu/</a>

<b>ITT4SME - Platform-enabled KITs of arTificial intelligence FOR an easy uptake by SMEs [ I4MS]</b>	<p>KITT4ME provides SMEs with scope-tailored and industry-ready hardware, software and organisational kits, delivered as a modularly customisable digital platform that seamlessly introduces artificial intelligence in their production systems. KITT4SME invites the AI-developer community with a proposition for the manufacturing industry to present new AI-based solutions (&gt;TRL5) and participate in an Open Call and receive up to €100.000 in funding per solution. <i>[deadline 15/09/2021]</i></p>	<p><a href="https://kitt4sme.eu/">https://kitt4sme.eu/</a></p>
<b>Change2Twin - Bringing Digital Twins to Manufacturing SMEs [ I4MS]</b>	<p>The call aims at manufacturing SMEs and mid-caps that are in search of finding solutions to digitise their processes and are established in the EU or other eligible countries. <i>[deadline 15/09/2021]</i></p>	<p><a href="https://www.change2twin.eu/">https://www.change2twin.eu/</a></p>
<b>SMART4ALL - Selfsustained Cross Border Customized Cyberphysical System Experiments for Capacity Building among European stakeholders</b>	<p>Digitized Transport, Environment, Agriculture, Anything. Focused Technology Transfer Experiments (FTTEs), focusing on one of the four defined underrepresented areas, will give the opportunity to form synergies, accelerate product orient projects and offer guidance towards successful commercialisation; It's a short-term (6-9 months) PAEs between two different entities from two different EU Countries: one Academic and one Industrial or two industrials. Within these type of experiments, one party transfers to the receiving partner a specific Hardware (HW) or Software (SW) technology to enable improved product or processes.</p>	<p><a href="https://smart4all-2nd-ftte.fundingbox.com/">https://smart4all-2nd-ftte.fundingbox.com/</a></p>
<b>Zero Defects Manufacturing Platform (ZDMP)</b>	<p>The open calls will allow SMEs and start-ups to produce, or adapt, technical solutions and conduct pilots using the ZDMP platform, services and applications. This will enable them and ZDMP to gain insight into the platforms' performance, acceptance and viability, whilst seeding initial commercial relationship for the ZDMP business model. <i>[deadline 1/10/2021]</i></p>	<p><a href="https://www.zdmp.eu/">https://www.zdmp.eu/</a></p>
<b>BETTER FACTORY - Grow your manufacturing business</b>	<p>Collaborations between Manufacturing Companies, Artists, and Technology Suppliers can take on many forms and deliver a wide variety of outcomes. At a technical level, the focus will be to minimise the impact on production cost and to create more value by: Reducing waste, energy and other production resources; Optimising factory logistic; Using robots to support workers; Production preplanning and simulation. RAMP platform useful for matchmaking. <i>[2<sup>nd</sup> call opening Sept 2022]</i></p>	<p><a href="https://betterfactory.eu/">https://betterfactory.eu/</a></p>

<b>BOWI: Boosting digital innovation in Europe</b>	<p>BOWI 3<sup>rd</sup> Open Call to be opening at the beginning of 2022: Call Cross-border Experiments.</p> <p>Applicants can submit experiment proposals for the following technological areas of interest: low energy computing powering CPS, cyber-physical and embedded systems, internet of things, flexible and wearable electronics, man/machine interfaces, advanced or high-performance computing, robotics for manufacturing, additive manufacturing technologies, modelling and simulation, CPS for manufacturing, digital twins, data sharing, autonomous factories, cloud computing or artificial intelligence. The proposals must address technologies that have a high readiness level situated between level 5 – technology validated in relevant environment – and level 7 – system prototype demonstration in operational environment.</p>	<p><a href="https://bowi-network.eu/">https://bowi-network.eu/</a></p>
<b>bonApps</b>	<p>Helps SMEs digitalize by allowing them to access, implement and make use of Artificial Intelligence in an easy and affordable way through Bonseyes Marketplace Platform, building an ecosystem of excellence that can support the development and uptake of AI across the European Union that will interoperate with the AI on-demand platform (AI4EU).</p>	<p><a href="https://bonsapps-1oc-ai-talents.fundingbox.com/">https://bonsapps-1oc-ai-talents.fundingbox.com/</a></p>
<b>DIGI CIRC</b>	<p>DigiCirc is an innovation support programme that accelerates innovation by identifying cutting-edge circular economy solutions and by promoting business development and start-up growth. (Circular Cities, Bioeconomy and Blue Economy)</p>	<p><a href="https://digicirc.eu/open-calls/">https://digicirc.eu/open-calls/</a></p>
<b>IOT-NGIN</b>	<p>IoT-NGIN introduces novel research and innovation concepts, acting as the “IoT Engine” which will fuel the Next Generation of IoT as a part of the European Next Generation Internet. IoT-NGIN uncovers a patterns based meta-architecture that encompasses evolving, legacy, and future IoT architectures.</p> <p>The project also optimizes IoT/M2M and 5G/MCM communications, including using secure-by-design micro-services to extend the edge cloud paradigm. Moreover, it enables user and self-aware, autonomous IoT systems through privacy-preserving federated ML and ambient intelligence, with AR support for humans. Distributed IoT cybersecurity and privacy, for example, using Self-Sovereign Identities and interconnected DLTs to implement Meta-Level Digital Twins, are also among the main priorities of IoT-NGIN. <i>[1<sup>st</sup> Call open until 31<sup>st</sup> of December 2021, a 2<sup>nd</sup> one during 2022]</i></p>	<p><a href="https://iot-ngin.eu/index.php/open-calls/">https://iot-ngin.eu/index.php/open-calls/</a></p>
<b>HUBCAP</b>	<p>HUBCAP has a €3.2 million equity-free fund for SMEs to experiment and innovate with digital technologies.</p>	<p><a href="https://www.hubcap.eu/open-calls">https://www.hubcap.eu/open-calls</a></p>



	<p>The HUBCAP open calls aim to upgrade the capacity of SMEs to leverage Model-Based Design (MBD) technology in Cyber Physical Systems (CPS) and ultimately deliver new products and services in multiple application domains. The programme provides services and technical expertise by seven Digital Innovation Hubs, and offers financial support for European SMEs to experiment in highly innovative, cross-border experiments. HUBCAP will organise three series of open calls throughout 2020-2022.</p>	
<p><b>REACH</b></p>	<p>REACH, the “EuRopEAn incubator for trusted and secure data value Chains”, is an Innovation Action project funded by the European Commission launched in September 2020. REACH is a second-generation Big Data incubator, building on the successful efforts of EDI – European Data Incubator to accelerate data-driven innovation in Europe, towards the vision of the Common European Data Space and developing the European Data Market.</p> <p>REACH will support +100 business ideas from SMEs and select among them 30 solid business cases through a total of three open calls in the coming three years, distributing a total amount of €3.5M.</p>	<p><a href="https://www.reach-incubator.eu/open-calls/">https://www.reach-incubator.eu/open-calls/</a></p>

**Table 3.** *Examples of cascade funding Horizon2020 running projects offering grants & innovation support services to SMEs in the MIND4MACHINES target sectors*

### 3.2.3. European Programmes 2021 – 2027 as further funding opportunities

The following programmes could offer funding opportunities addressing the target sectors of MIND4MACHINES and their open & forthcoming calls will be continuously monitored by project partners in order to address complementary funding information to the beneficiary SMEs.

#### A. HORIZON EUROPE

Horizon Europe is the EU’s key funding programme for research and innovation for the period 2021- 2027. The programme facilitates collaboration and strengthens the impact of research and innovation in developing, supporting and implementing EU policies while tackling global challenges. It supports creating and better dispersing of excellent knowledge and technologies.

[https://ec.europa.eu/info/research-and-innovation/funding/funding-opportunities/funding-programmes-and-open-calls/horizon-europe\\_en](https://ec.europa.eu/info/research-and-innovation/funding/funding-opportunities/funding-programmes-and-open-calls/horizon-europe_en)

The programme is structured on 3 main Pillars:

- **Pillar1: Excellent Science** – addressing fundamental and experimental research projects, including RDI infrastructure
- **Pillar2: Global Challenges and European Industrial Competitiveness** - strengthening the impact of research and innovation in developing, supporting and implementing EU policies, and support the uptake of innovative solutions in industry and society to address global challenges
- **Pillar3: Innovative Europe** – scaling up breakthrough and market-creating innovation through a new European Innovation Council (EIC) as well as activities aimed at enhancing and developing the overall European innovation landscape. It will also include support to the European Institute of Innovation and Technology (EIT).

And a complementary part of **Widening participation & strengthening the European Research Area**.

Opportunities for Innovative SMEs in Horizon Europe

#### Horizon Europe - Pillar 2

Cluster 1 - Health	Cluster 2 - Culture, Creativity and Inclusive Society	Cluster 3 - Civil security for Society	Cluster 4 - Digital, Industry and Space	Cluster 5 - Climate, Energy and Mobility	Cluster 6 - Food, Bioeconomy, Natural Resources, Agriculture and Environment
<ol style="list-style-type: none"> <li>1. Staying healthy</li> <li>2. Living &amp; working in a health-promoting environment</li> <li>3. Tackling diseases &amp; reducing disease burden</li> <li>4. Innovative, sustainable and high-quality health care</li> <li>5. Unlocking the full potential of new tools, technologies and digital solutions for a healthy society</li> <li>6. Maintaining an innovative, sustainable &amp; globally competitive health industry</li> </ol>	<ol style="list-style-type: none"> <li>1. Democracy and Governance</li> <li>2. European Cultural Heritage and the Cultural and Creative Industries</li> <li>3. Social and Economic transformations</li> </ol>	<ol style="list-style-type: none"> <li>1. Better protect the EU and its citizens against Crime and Terrorism</li> <li>2. Effective management of EU external borders</li> <li>3. Protected infrastructure</li> <li>4. Increased Cybersecurity</li> <li>5. A Disaster-Resilient Society for Europe</li> <li>6. SSRI (Strengthened Security Research and Innovation)</li> </ol>	<ol style="list-style-type: none"> <li>1. Climate neutral, circular and digitised production</li> <li>2. increased autonomy in key strategic value chains for resilient industry</li> <li>3. world leading data and computing technologies</li> <li>4. digital and emerging technologies for competitiveness and fit for the green deal</li> <li>5. open strategic autonomy in developing, deploying and using global space-based infrastructures, services, applications and data</li> <li>6. a human-centred and ethical development of digital and industrial technologies</li> </ol>	<ol style="list-style-type: none"> <li>1. Climate sciences and responses</li> <li>2. Cross-sectoral solutions for the climate transition</li> <li>3. Sustainable, secure and competitive energy supply -2021-2024</li> <li>4. Efficient, sustainable and inclusive energy use</li> <li>5. Clean and competitive solutions for all transport mode</li> <li>6. Safe, Resilient Transport and Smart Mobility services for passengers and goods</li> </ol>	<ol style="list-style-type: none"> <li>1. Biodiversity and Ecosystem Services</li> <li>2. Fair, healthy and environmentally-friendly food systems from primary production to consumption</li> <li>3. Circular economy and bioeconomy sectors</li> <li>4. Clean environment and zero pollution</li> <li>5. Land, oceans and water for climate action</li> <li>6. Resilient, inclusive, healthy and green rural, coastal and urban communities</li> <li>7. Innovative governance, environmental observations and digital solutions in support of the Green Deal</li> </ol>

Figure no 3. The Clusters of Pilar 2 from Horizon Europe Programme

**Pillar 2** is of particular interest in supporting innovation and competitiveness, therefore including SMEs capacities, skills and innovation infrastructure.

Pillar 2 is structured on 6 so-called Clusters, as in the Figure below. Out of them, the open and forthcoming calls in particular under **Cluster 4** and **Cluster 5** will be of interest focus for heading the project to-be supported SMEs towards further funding for developing the innovative solutions in the future.

Some of the open and forthcoming calls within these clusters are highlighted in the table below. The ones which will close in the next period could reopen in two years from now (probably 2023), representing a useful inventory to be updated periodically for different stages of the MIND4MACHINES project, in support of the further funding opportunities for the innovative SMEs to be funded following the project open calls and benefitting from acceleration services within the project lifetime.

PROGRAMME/ Call	Links / Dates	Sectors/ Details
<b>TWIN GREEN AND DIGITAL TRANSITION 2021</b>		
<b>AI enhanced robotics systems for smart manufacturing (AI, Data and Robotics - Made in Europe Partnerships) (IA) HORIZON-CL4-2021-TWIN-TRANSITION-01-01</b>	1 <sup>st</sup> call: until 09/23/2021 <a href="https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/horizon-cl4-2021-twin-transition-01-01">https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/horizon-cl4-2021-twin-transition-01-01</a> 2 <sup>nd</sup> call: 12/01/2021 - 30/03/2022	<b>AI, Data and Robotics.</b> Human-centric approaches to develop smooth collaboration in the human-machine teams; Provide safe, highly flexible, reconfigurable and modular solutions, allowing fast response to repurposing changes in production requirements, reducing considerably programming effort and configuration time for new products. Demonstrate significant improvements towards a meaningful and seamless social collaboration in teams of human workers, autonomous agents and robots by exploiting the latest advancements in AI, robotics and Social Sciences and Humanities (SSH); Create a network of open-access pilots to allow new users, especially students, start-ups, representatives from the makers' community and SMEs, to experiment new technologies and to enable data and knowledge sharing through the European industrial ecosystems.
<b>Artificial Intelligence for sustainable, agile manufacturing HORIZON-CL4-2021-TWIN-TRANSITION-01-07</b>	1 <sup>st</sup> call: until 09/23/2021 <a href="https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/horizon-cl4-2021-twin-transition-01-07">https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/horizon-cl4-2021-twin-transition-01-07</a> 2 <sup>nd</sup> call: 12/01/2021 - 30/03/2022	<b>AI, Data, robotics, manufacturing; Climate neutral, circular and digitised production.</b> Manufacturing and process industries, addressing the entire lifecycle of products and services from design to remanufacturing and including all the aspects primarily relevant for industrial production. The objective is to exploit the potential of AI as a transformation tool to support circular production in the entire manufacturing and process industry.

<p><b>Laser-based technologies for green manufacturing (Photonics - Made in Europe Partnerships) (RIA) HORIZON-CL4-2021-TWIN-TRANSITION-01-03</b></p>	<p>1<sup>st</sup> call: until 09/23/2021</p> <p><a href="https://ec.europa.eu/info/funding-tenders/opportunities/portal/screeen/opportunities/topic-details/horizon-cl4-2021-twin-transition-01-03">https://ec.europa.eu/info/funding-tenders/opportunities/portal/screeen/opportunities/topic-details/horizon-cl4-2021-twin-transition-01-03</a></p> <p>2<sup>nd</sup> call: 12/01/2021 - 30/03/2022</p>	<p><b>Twin green and digital transitions.</b></p> <p>Machine tools include various laser-based technologies such as milling, turning, grinding, laser processing, surface treatment, sintering, forming and additive manufacturing. Projects funded under this topic should integrate state-of-the-art high-power lasers and tailored beams together with quality sensors and real time monitoring systems into advanced manufacturing and re-manufacturing tools.</p>
<p><b>Zero-defect manufacturing towards zero-waste (Made in Europe Partnership) (IA) HORIZON-CL4-2021-TWIN-TRANSITION-01-02</b></p>	<p>1<sup>st</sup> call: until 09/23/2021</p> <p><a href="https://ec.europa.eu/info/funding-tenders/opportunities/portal/screeen/opportunities/topic-details/horizon-cl4-2021-twin-transition-01-02">https://ec.europa.eu/info/funding-tenders/opportunities/portal/screeen/opportunities/topic-details/horizon-cl4-2021-twin-transition-01-02</a></p> <p>2<sup>nd</sup> call: 12/01/2021 - 30/03/2022</p>	<p>Full production line or system, with an holistic approach, with the aim of reducing defects (e.g. rejected components or products) and manufacturing waste. The defect reduction and the overall quality control should be centred on such defects that reduce the yield, acceptance, or qualification of the final product, and enable a “first-time-right” production process. Research must build on existing standards or contribute to standardisation. Interoperability for data sharing should be addressed. Additionally, a strategy for skills development should be presented, associating social partners when relevant.</p>
<p><b>Digital and emerging technologies for competitiveness and fit for the green deal</b></p>		
<p><b>AI, Data and Robotics at work (AI, Data and Robotics Partnership) (IA) HORIZON-CL4-2021-DIGITAL-EMERGING-01-10</b></p>	<p>1<sup>st</sup> call: until 10/21/2021</p> <p><a href="https://ec.europa.eu/info/funding-tenders/opportunities/portal/screeen/opportunities/topic-details/horizon-cl4-2021-digital-emerging-01-10">https://ec.europa.eu/info/funding-tenders/opportunities/portal/screeen/opportunities/topic-details/horizon-cl4-2021-digital-emerging-01-10</a></p> <p>2<sup>nd</sup> call: 13/11/2021 - 05/04/2021</p>	<p><b>AI, data, robotics and automation solutions.</b></p> <p>Proposals are expected to demonstrate how AI, data, robotics and automation solutions can support workers in their daily tasks, improving working conditions (both physical and social) and work performance/efficiency, while considering safety, security and resilience, as appropriate.</p>
<p><b>Pushing the limit of robotics cognition (AI, Data and Robotics Partnership) (RIA) HORIZON-CL4-2021-DIGITAL-EMERGING-01-11</b></p>	<p>1<sup>st</sup> call: until 10/21/2021</p> <p><a href="https://ec.europa.eu/info/funding-tenders/opportunities/portal/screeen/opportunities/topic-details/horizon-cl4-2021-digital-emerging-01-11">https://ec.europa.eu/info/funding-tenders/opportunities/portal/screeen/opportunities/topic-details/horizon-cl4-2021-digital-emerging-01-11</a></p> <p>2<sup>nd</sup> call: 13/11/2021 - 05/04/2021</p>	<p><b>AI, robotics.</b></p> <p>New generation of AI-Powered Robotics: Enabling robots to have more profound impacts than they currently have, in powering them with a deeper kind of AI, endowing them with a better perception and understanding of the world (up to semantic and explainable representations), This would allow the next generation of autonomous robots, with increased capabilities to work without/with limited supervision, as well as the next generation of interactive robots, with greatly improved intuitive, safe and efficient cognitive, social and physical capabilities, to assist humans.</p>

<b>Functional electronics for green and circular economy (RIA)</b> <b>HORIZON-CL4-2021-DIGITAL-EMERGING-01-31</b>	1 <sup>st</sup> call: until 10/21/2021 <a href="https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/horizon-cl4-2021-digital-emerging-01-31">https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/horizon-cl4-2021-digital-emerging-01-31</a> 2 <sup>nd</sup> call: 13/11/2021 - 05/04/2021	Printed and organic electronics, manufacturing. Processes for electronic components and systems by making use of different types of substrates (e.g. flexible, stretchable and conformable) and their integration in various structures and materials (e.g. textiles, plastics, glass, paper and metal). Proposals should address the improvement of system characteristics (e.g. performance, robustness, reliability) and progress in high throughput and low-cost manufacturing processes. efficient recovery and recycling solutions or/and optimisation of the use of resources.
<b>AI, Data and Robotics for the Green Deal (AI, Data and Robotics Partnership) (IA)</b> <b>HORIZON-CL4-2021-DIGITAL-EMERGING-01-09</b>	1 <sup>st</sup> call: until 10/21/2021 <a href="https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/horizon-cl4-2021-digital-emerging-01-09">https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/horizon-cl4-2021-digital-emerging-01-09</a> 2 <sup>nd</sup> call: 13/11/2021 - 05/04/2021	<b>Innovative AI, data and robotics reducing waste.</b> Proposals are expected to integrate and optimise AI, data and robotics solutions in order to demonstrate, by addressing use-cases scenarios in actual or highly realistic operating environments, how they can directly contribute to the Green Deal.
<b>AI, Data and Robotics for Industry optimisation (including production and services) (AI, Data and Robotics Partnership) (IA)</b> <b>HORIZON-CL4-2022-DIGITAL-EMERGING-01-05</b>	23/11/2021 - 5/04/2022 <a href="https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/horizon-cl4-2022-digital-emerging-01-05">https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/horizon-cl4-2022-digital-emerging-01-05</a>	<b>Industry-empowering AI, data and robotics.</b> Advancing AI, data and robotics, and automation for the optimisation of production and services value-chains, optimisation of products, services, processes, to increase competitiveness, improve working conditions, and environmental sustainability, and supporting the European Economy using AI, data and robotics technologies. AI or learning systems (including, but not limited to self-learning, continuous and transfer learning, self-configuring systems) adapting production or services workflows to changing environments, dynamic and unpredictable resource constraints and to the capabilities and restrictions of humans and transferring results from one domain to another.
<b>CLIMATE NEUTRAL, CIRCULAR AND DIGITISED PRODUCTION 2022</b>		
<b>ICT Innovation for Manufacturing Sustainability in SMEs (I4MS2) (Made in Europe Partnership) (IA)</b> <b>HORIZON-CL4-2022-TWIN-TRANSITION-01-06</b>	12/10/2021 - 30/03/2022 <a href="https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/horizon-cl4-2022-twin-transition-01-06">https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/horizon-cl4-2022-twin-transition-01-06</a>	Artificial Intelligence applied to manufacturing; Cybersecure Industrial Internet of Things enabling trustworthy sharing of industrial data and value creation, to achieve further flexibility and agility of supply chains; Advanced interfaces and collaboration within smart working environments such as collaborative robots.



<p><b>Digital tools to support the engineering of a Circular Economy (Made in Europe Partnership) (RIA)</b>  <b>HORIZON-CL4-2022-TWIN-TRANSITION-01-07</b></p>	<p>12/10/2021 - 30/03/2022  <a href="https://ec.europa.eu/info/funding-opportunities/portal/science/opportunities/topic-details/horizon-cl4-2022-twin-transition-01-07">https://ec.europa.eu/info/funding-opportunities/portal/science/opportunities/topic-details/horizon-cl4-2022-twin-transition-01-07</a></p>	<p><b>Climate neutral, circular and digitised production.</b></p> <p>Provide a range of support solutions and innovative digital tools for engineers, technicians and operators on the factory floor, in order to build agile, sustainable and responsive production environment and supply chains, with specific focus on areas such as material saving, repair, refurbishing, re-manufacturing, recycling, and reuse of products and components.</p>
<p><b>European Partnership on Innovative SMEs</b></p>		
<p><b>European Open Science Cloud (EOCS) Partnership</b></p>	<p>Until Sept 2021 / Forthcoming 2022  <a href="https://ec.europa.eu/info/research-and-innovation/funding/funding-opportunities/funding-programmes-and-open-calls/horizon-europe/european-partnerships-horizon-europe/candidates-across-themes_en">https://ec.europa.eu/info/research-and-innovation/funding/funding-opportunities/funding-programmes-and-open-calls/horizon-europe/european-partnerships-horizon-europe/candidates-across-themes_en</a></p>	<p>The proposed new initiative is to help innovative SMEs to grow and become embedded in global value chains and new markets. It would achieve this by supporting innovative SMEs in developing products, processes and services through funding market-led, cross-border, research and innovation collaborative projects and providing accompanying measures. It would enable global collaboration and the commercialising new knowledge</p>

**Table 4 .Examples of Horizon Europe open & forthcoming calls addressing target sectors addressed in MIND4MACHINES project**

**Pillar 3 – Innovative Europe** will focus on supporting the development of disruptive and market-creating innovations and on enhancing European innovation ecosystems, through the components from the Figure below.



*Figure no. 4 Instruments of Pillar III from Horizon Europe*

INSTRUMENT/ COMPONENT/ CALL	Details	Link
<p><b>European Innovation Council</b> - identify and support breakthrough technologies and game changing innovations to create new markets and scale up internationally  <a href="https://eic.ec.europa.eu/">https://eic.ec.europa.eu/</a></p> <p>Like its predecessor, the EIC Accelerator is an funding instrument for SMEs and start-ups that develop breakthrough innovation projects with high growth potential. The projects must be high-risk and contribute to a radical transformation of the market. Winners receive funding and support in the form of mixed funding, which can amount to up to €2.5m in grants and €15m in equity investment.</p>		
<p><b>EIC PATHFINDER</b></p> <p><b>Challenges</b></p> <p>27/10/2021</p>	<p>Support to research teams to research or develop an emerging breakthrough technology. Projects typically involve consortia of researchers and other partners from at least three different countries, but there are also opportunities for individual teams and small consortia (two partners).</p> <p>Applicants are typically visionary scientists, entrepreneurial researchers and, research organisations, start-ups, high-tech SMEs and industrial stakeholders interested in technological research and innovation.</p> <p>Grants of up to 3 to 4 million euro support early stage development of future technologies (e.g. various activities at low Technology Readiness Levels 1-3), up to proof of concept. Pathfinder projects can also receive additional funding for testing the innovation potential of their research outputs.</p>	<p><a href="https://eic.ec.europa.eu/eic-funding-opportunities/eic-pathfinder_en">https://eic.ec.europa.eu/eic-funding-opportunities/eic-pathfinder_en</a></p>
<p><b>EIC Transition</b></p> <p>For 2021 it is restricted to applications based on results generated by EIC Pathfinder projects (including projects funded under EIC pilot Pathfinder, Horizon 2020 FET-Open, FET-Proactive, FET Flagships and FET ERAnet calls) and ERC Horizon 2020 Proof of Concept projects</p>	<p><b>EIC Transition</b> funds innovation activities that go beyond the experimental proof of principle in laboratory to supports both:</p> <ul style="list-style-type: none"> <li>• the maturation and validation of your novel technology in the lab and in relevant application environments</li> <li>• the development of a business case and (business) model towards the innovation's future commercialisation.</li> </ul> <p>Grants of up to €2.5million and more are available to validate and demonstrate technology in application-relevant environment and develop market readiness.</p> <p><b>Deadline: 22/09/2021</b></p>	<p><a href="https://eic.ec.europa.eu/eic-funding-opportunities/eic-transition_en">https://eic.ec.europa.eu/eic-funding-opportunities/eic-transition_en</a></p>
<p><b>EIC Accelerator</b></p> <ul style="list-style-type: none"> <li>• <b>EIC Accelerator open</b> (anytime)</li> <li>• <b>EIC Accelerator challenge</b> (thematic,</li> </ul>	<p>Funding and investments through the EIC Fund for individual start-ups, small companies and mid-caps to develop and scale up game changing innovations.</p> <p>Max 2.5 mil euro grants; equity investment max 15 mil euro, via EIC Fund.</p>	<p><a href="https://eic.ec.europa.eu/eic-funding-opportunities/eic-accelerator_en">https://eic.ec.europa.eu/eic-funding-opportunities/eic-accelerator_en</a></p>

cut-off date 6/10/2021)	Applicants need a video pitch, a slide deck and respond to a short set of questions about the innovation and team.	
<b>EIC Business Acceleration Services</b>	<ul style="list-style-type: none"> <li>access to coaches, mentors, expertise and training</li> <li>access to global partners (leading corporates, investors, procurers, distributors, clients)</li> <li>access to innovation ecosystem and peers</li> </ul>	<a href="https://eic.ec.europa.eu/eic-funding-opportunities/business-acceleration-services_en">https://eic.ec.europa.eu/eic-funding-opportunities/business-acceleration-services_en</a>
<b>European Institute of Innovation &amp; Technology (EIT) - provide funding &amp; accelerating opportunities for innovative startups and other companies</b>		
<b>EIT Manufacturing</b>	<ul style="list-style-type: none"> <li><b>BoostUp BRIDGE:</b> based on periodic challenge competitions:</li> <li><b>BoostUP RIS:</b> <ul style="list-style-type: none"> <li><b>CREATE:</b> circular economy and resilient manufacturing</li> <li><b>ACCELERATE:</b> for scalability in fields such as automation of manufacturing operations, robotics; agile, flexible and resilient supply chain; process &amp; resource consumption efficiency, predictive maintenance, digitized platforms, IoT, AI; other manufacturing related solutions</li> <li><b>TRANSFORM:</b> For SMEs that have identified transformation challenges in new technologies or new business models on green manufacturing &amp; circular economy, resilient manufacturing or flexible and agile manufacturing</li> </ul> </li> </ul>	<a href="https://eitmanufacturing.eu/">https://eitmanufacturing.eu/</a>  <a href="https://events.eitmanufacturing.eu/boostup/startup-challenge-competition">https://events.eitmanufacturing.eu/boostup/startup-challenge-competition</a> <a href="https://events.eitmanufacturing.eu/boostup/the-awards/create">https://events.eitmanufacturing.eu/boostup/the-awards/create</a> <a href="https://events.eitmanufacturing.eu/boostup/the-awards/accelerate">https://events.eitmanufacturing.eu/boostup/the-awards/accelerate</a>  <a href="https://events.eitmanufacturing.eu/boostup/the-awards/transform/">https://events.eitmanufacturing.eu/boostup/the-awards/transform/</a>
<b>EIT Digital</b>	<ul style="list-style-type: none"> <li><b>ScaleUp for Europe – The new European Bauhaus Acceleration Pilot Call:</b> Fast-growing European ‘deep tech’ startups in growth stage (scaleups) with a differentiating product offering that leverages sophisticated, hard-to-reproduce digital technologies in sectors such as: industry, smartcities, wellbeing, tech and finance. <i>[1<sup>st</sup> call was until 06/08/2021, others to come]</i></li> <li><b>Scaling new European Bauhaus ventures:</b> from climate goals, to circularity, zero pollution, and biodiversity [sustainability] to aesthetics and inclusion</li> </ul>	<a href="https://www.eitdigital.eu/">https://www.eitdigital.eu/</a>  <a href="https://www.eitdigital.eu/our-messages/calls-tenders/new-european-bauhaus-acceleration-pilot-call/">https://www.eitdigital.eu/our-messages/calls-tenders/new-european-bauhaus-acceleration-pilot-call/</a>  <a href="https://www.eitdigital.eu/our-messages/calls-tenders/eit-community-booster/">https://www.eitdigital.eu/our-messages/calls-tenders/eit-community-booster/</a>
<b>EIT Health</b>	<ul style="list-style-type: none"> <li><b>WILD CARD Initiative:</b> an annual call is open to innovators who want to change the course of their future and ours. Wild Card provides world-class training and mentoring, and the</li> </ul>	<a href="https://eithealth.eu/">https://eithealth.eu/</a>  <a href="https://wildcard.eithealth.eu/">https://wildcard.eithealth.eu/</a>



	<p>opportunity to create a venture with up to €1.5 million investment (<i>grant-for-option</i>).</p>	
<b>EIT Climate-KIC</b>	<ul style="list-style-type: none"> <li>• <b>CLIMATHON Programme:</b> recognize and support the climate actions taken by citizens, youth, entrepreneurs, and change-makers all over the world.</li> <li>• <b>ClimateLaunchpad:</b> startUp competition, bootcamps, coaching</li> <li>• <b>ClimAccelerator:</b> more geographical area related programmes via regional EITpartners, giving start-ups access to innovate, catalyse, and scale the potential of their climate solutions</li> </ul>	<p><a href="https://www.climate-kic.org/">https://www.climate-kic.org/</a></p> <p><a href="https://climathon.climate-kic.org/">https://climathon.climate-kic.org/</a></p> <p><a href="https://climatelaunchpad.org/">https://climatelaunchpad.org/</a></p> <p><a href="https://climaccelerator.climate-kic.org/">https://climaccelerator.climate-kic.org/</a></p>
<b>EIT Food</b>	<p>Various programmes, regional calls, trainings, education, events.</p> <ul style="list-style-type: none"> <li>• <b>INNOVATION:</b> To be launched 1/11/2021 – until 14/01/2022</li> </ul>	<p><a href="https://www.eitfood.eu/">https://www.eitfood.eu/</a></p> <p><a href="https://www.eitfood.eu/projects/eit-food-innovation-call-for-proposals-2022">https://www.eitfood.eu/projects/eit-food-innovation-call-for-proposals-2022</a></p>
<b>EIT InnoEnergy</b>	<p>Various programmes, regional calls, trainings, education, events.</p> <ul style="list-style-type: none"> <li>• HIGHWAY, for startUps</li> <li>• BOOSTWAY, for scaleUps</li> </ul>	<p><a href="https://www.innoenergy.com/">https://www.innoenergy.com/</a></p> <p><a href="https://bc.innoenergy.com/apply-form/">https://bc.innoenergy.com/apply-form/</a></p> <p><a href="https://bc.innoenergy.com/for-scale-ups/">https://bc.innoenergy.com/for-scale-ups/</a></p>
<b>EIT RawMaterials</b>	<ul style="list-style-type: none"> <li>• Call for projects: expanding EIT Network [To be launched 19/11/2021 – until 18/03/2022 ]</li> <li>• KAVA 8 Upscaling projects</li> <li>• RIS Upscaling projects</li> </ul>	<p><a href="https://eitrawmaterials.eu/">https://eitrawmaterials.eu/</a></p> <p><a href="https://eitrawmaterials.eu/call-for-projects-2022/">https://eitrawmaterials.eu/call-for-projects-2022/</a></p>
<b>EIT UrbanMobility</b>	<p>Innovation area challenges, including mobility &amp; energy, sustainable city logistics – based on Expression of interests</p>	<p><a href="https://www.eiturbanmobility.eu/innovation/">https://www.eiturbanmobility.eu/innovation/</a></p>
<b>Cross KIC Call</b>	<p><b>Digital test beds to accelerate I40:</b> Cross-KIC initiative between EIT Manufacturing, EIT Raw Materials, and EIT Digital comes in with a call for “end-to-end digitalised testbeds”, as the implementation of digitalisation solutions poses multiple challenges for manufacturing and processing companies, especially within dedicated topics in the raw material business.</p>	<p><a href="https://eitmanufacturing.eu/cross-kic-call-for-proposals-end-to-end-digitalised-production-testbeds/">https://eitmanufacturing.eu/cross-kic-call-for-proposals-end-to-end-digitalised-production-testbeds/</a></p>

**Table 5. EIC and EIT Funding & accelerating opportunities for SMEs**

## B. EUREKA – EUROSTARS

Eurostars is a funding instrument that supports innovative SMEs and project partners (large companies, universities, research organisations and other types of organisations) by funding international collaborative R&D and Innovation projects.

PROGRAMME/ Call	Links / Dates	Sectors/ Details
<b>Eurostars joint proposals</b>	09/02/2021 – 11/04/2021 <a href="https://www.eurekanetwork.org/open-calls/eurostars-funding-programme-2021">https://www.eurekanetwork.org/open-calls/eurostars-funding-programme-2021</a>	Eurostars supports innovative SMEs and project partners (large companies, universities, research organisations and other types of organisations) by funding international collaborative R&D and innovation projects.
<b>ITEA 4</b>	09/13/2021 – 11/16/2021 <a href="https://www.eurekanetwork.org/open-calls/itea-4-software-innovation-2021">https://www.eurekanetwork.org/open-calls/itea-4-software-innovation-2021</a>	Organisations collaborating internationally on the R&D of software innovation and digital transformation projects. By applying and participating, your organisation can access national public funding for your R&D project.
<b>CELTIC-NEXT</b>	08/09/2021 – 11/22/2021 <a href="https://www.eurekanetwork.org/open-calls/celtic-next-2021-autumn">https://www.eurekanetwork.org/open-calls/celtic-next-2021-autumn</a> <a href="https://www.celticnext.eu/">https://www.celticnext.eu/</a>	Projects in the field of next generation communications for the digital society that contribute to a sustainable world. The applicants can access national public funding for the R&D project.

**Table 6.** EUREKA – EUROSTART Funding opportunities

## C. DIGITAL - Digital Europe Programme

Focused on bringing digital technology to businesses, citizens and public administrations, with the aim to build strategic digital capacities for facilitating wide deployment of digital technologies, boosting investments in supercomputing, AI, cybersecurity and advanced digital skills.

<https://digital-strategy.ec.europa.eu/en/activities/digital-programme>

## D. EU4 Health

Managed by HaDEA, focuses on health supporting opportunities.

[https://hadea.ec.europa.eu/programmes/eu4health\\_ro](https://hadea.ec.europa.eu/programmes/eu4health_ro)

## E. Single Market Programme (SMP)

Former COSME Programme, dedicated to supporting SMEs, clusters, internationalisation, tourism.

[https://ec.europa.eu/info/funding-tenders/find-funding/eu-funding-programmes/single-market-programme\\_en](https://ec.europa.eu/info/funding-tenders/find-funding/eu-funding-programmes/single-market-programme_en)

## F. LIFE

EU's funding instrument for the environment and climate action.



[https://cinea.ec.europa.eu/life\\_en](https://cinea.ec.europa.eu/life_en)

PROGRAMME/ Call	Links / Dates	Sectors/ Details
<b>18 calls open between 13/07/2021/-12/01/2022</b>	<a href="https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-search;callCode=LIFE-2021">https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-search;callCode=LIFE-2021</a>  Ex: Large-scale rollout of industrialised deep renovation solutions: LIFE-2021-CET-BUILDRENO	<b>Energy related, deep renovation solutions</b>  The aim of this topic is to facilitate a greater market uptake and large-scale rollout of holistic, industrialized deep renovation solutions for buildings, thereby supporting the implementation of the EU Renovation Wave strategy.
<b>Forthcoming calls to be monitored</b>		

#### 4. NATIONAL & REGIONAL FUNDING OPPORTUNITIES

The following national & regional programmes will represent additional funding opportunities, complementary to the vouchers to be offered through MIND4MACHINES project.

Some are already available, some are on continuous basis and some will be opening at a later stage, when the beneficiary SMEs will be proper to continue funding the digital solution.

##### 4.1. TURKEY

###### NATIONAL GRANTS TO SMEs:

Programme name	Call title / Management authority	Sector	LINK to programme/call	Status
<b>SME Development Support Program</b>	A call to support local technology developer SMEs that can contribute to the digitalization process in the manufacturing industry	Manufacturing	<a href="https://www.kosgeb.gov.tr/site/tr/genel/destekdetay/3288/kobiqel-kobi-qelisim-destek-programi">https://www.kosgeb.gov.tr/site/tr/genel/destekdetay/3288/kobiqel-kobi-qelisim-destek-programi</a>	Open during 2021, probably will continue
<b>Financial Support Program for Increasing Competitiveness and Innovation Capacity (SME)</b>	Ipekyolu Development Agency	All sectors	<a href="https://www.ika.org.tr/destekler/mali-destek-programlari">https://www.ika.org.tr/destekler/mali-destek-programlari</a>	Available since 2015

<b>SME Support Call for Order-Based R&amp;D Projects</b>	R&D projects that can quickly turn into products and have high commercialization potential will be supported.	ALL sectors	<a href="https://www.tubitak.gov.tr/tr/duyuru/1707-siparise-dayali-ar-qe-projeleri-icin-kobi-destekleme-cagrisi">https://www.tubitak.gov.tr/tr/duyuru/1707-siparise-dayali-ar-qe-projeleri-icin-kobi-destekleme-cagrisi</a>	Open during 2021, probably will continue
<b>Technology Oriented Industry Move Program</b>	Mobility Call for 2021	Sectors which have medium-high and high technology-level	<a href="https://www.yatirimadeste.k.gov.tr/haber/teknoloji-odakli-sanayi-hamlesi-programi-2021-yili-mobilite-cagrisi-acilmistir/57">https://www.yatirimadeste.k.gov.tr/haber/teknoloji-odakli-sanayi-hamlesi-programi-2021-yili-mobilite-cagrisi-acilmistir/57</a>	Open during 2021, probably will continue
<b>TÜBİTAK SME R&amp;D Start Support Program (1507)</b>	TÜBİTAK/ ICI	all sectors	<a href="https://tubitak.gov.tr/tr/des-tekler/sanayi/ulusal-destek-programlari/1507/icerik-destek-kapsami">https://tubitak.gov.tr/tr/des-tekler/sanayi/ulusal-destek-programlari/1507/icerik-destek-kapsami</a>	
<b>TÜBİTAK Industry Research Technology Development and Innovation Projects Support Program (1501)</b>	KOSGEB (Small and Medium Enterprises Development Organization of Turkey)/ ICI	all sectors	<a href="https://tubitak.gov.tr/tr/des-tekler/sanayi/ulusal-destek-programlari/1501/icerik-yonetmelik-ve-esaslar#x">https://tubitak.gov.tr/tr/des-tekler/sanayi/ulusal-destek-programlari/1501/icerik-yonetmelik-ve-esaslar#x</a>	
<b>Priority Areas R&amp;D Projects Support Program (1511)</b>	ICI	all sectors	<a href="https://tubitak.gov.tr/tr/des-tekler/sanayi/ulusal-destek-programlari/1511/icerik-destek-kapsami">https://tubitak.gov.tr/tr/des-tekler/sanayi/ulusal-destek-programlari/1511/icerik-destek-kapsami</a>	2022
<b>Techno-enterprise Capital Support Program (BIGG-1512)</b>	ICI	all sectors	<a href="https://tubitak.gov.tr/tr/des-tekler/sanayi/ulusal-destek-programlari/icerik-1512-girisimcilik-destek-programi-bigq">https://tubitak.gov.tr/tr/des-tekler/sanayi/ulusal-destek-programlari/icerik-1512-girisimcilik-destek-programi-bigq</a>	various calls are opened via different implementation bodies
<b>1702 Patent Based Technology Transfer Support Call</b>	to create a culture for patent licensing in Turkey	all sectors	<a href="https://tubitak.gov.tr/tr/des-tekler/sanayi/ulusal-destek-programlari/icerik-1702-patent-tabanli-teknoloji-transferi-destekleme-cagrisi">https://tubitak.gov.tr/tr/des-tekler/sanayi/ulusal-destek-programlari/icerik-1702-patent-tabanli-teknoloji-transferi-destekleme-cagrisi</a>	
<b>R&amp;D, P&amp;D and Innovation Support Program</b>	2021–01 Supporting R&D and Innovation in Critical Technologies and P&D Projects of Small Enterprises and Medium-Sized Enterprises Operating in Priority Sectors”	all sectors	<a href="https://en.kosgeb.gov.tr/site/tr/genel/destekler/23/rd-and-innovation-support-programme">https://en.kosgeb.gov.tr/site/tr/genel/destekler/23/rd-and-innovation-support-programme</a>	

<b>SME Technological Product Investment Support Programme</b>	The production and commercialization of products resulting from R & D / Innovation activities or The production and commercialization of products in the fields of the medium-high and high-tech	all sectors	<a href="https://en.kosqeb.gov.tr/site/tr/genel/destekdetay/6443/sme-technological-product-investment-support-programme">https://en.kosqeb.gov.tr/site/tr/genel/destekdetay/6443/sme-technological-product-investment-support-programme</a>	
<b>Advanced Entrepreneur Support Programme</b>	to increase the survival rate of new businesses established by new entrepreneurs in the determined sectors in line with the strategic priorities of	all sectors	<a href="https://en.kosqeb.gov.tr/site/tr/genel/destekdetay/7216/advanced-entrepreneur-support-programme">https://en.kosqeb.gov.tr/site/tr/genel/destekdetay/7216/advanced-entrepreneur-support-programme</a>	

### TR10 İstanbul - REGIONAL GRANTS TO SMES

Programme name	Management authority	Sector	LINK to programme/call	Status
<b>Financial Support Program for Increasing Competitiveness and Innovation Capacity (SME)</b>	Ipekyolu Development Agency	All sectors	<a href="https://www.ika.org.tr/destekler/mali-destek-programlari">https://www.ika.org.tr/destekler/mali-destek-programlari</a>	Available since 2015

## 4.2. GERMANY

### NATIONAL GRANTS TO SMEs:

Programme name	Call name/Sub-programme/ Investment priority/ Measure	Sector	LINK to programme/call	Status
<b>Go-digital: Accompanying SMEs on their way to the digital future</b>	Support digitalisation of SMEs by providing consultation services in three major modules: "Digitized Business Processes", "Digital Market Development" and "IT-Security"	All sectors	<a href="https://www.innovati-on-beratung-foerderung.de/INNO/Navigation/DE/go-digital/go-digital.html">https://www.innovati-on-beratung-foerderung.de/INNO/Navigation/DE/go-digital/go-digital.html</a>	under discussion – since 31st Dec 2021
<b>Digital Now - New funding for digitization of SMEs</b>	The programme offers financial support and is intended to encourage companies to invest more in digital technologies and in the qualification of their employees	All sectors	<a href="https://www.bmwi.de/Redaktion/DE/Dossier/digital-jetzt.html">https://www.bmwi.de/Redaktion/DE/Dossier/digital-jetzt.html</a>	Until 2023

<b>ERP digitization and innovation loan</b>	Corporate financing, research & innovation (open topic), business start-up & consolidation, digitization	All sectors	<a href="https://www.kfw.de/inlandsfoerderung/Unternehmen/Innovation/F%C3%B6rderprodukte/ERP-Digitalisierungs-und-Innovationskredit-(380-390-391)/?redirect=424323">https://www.kfw.de/inlandsfoerderung/Unternehmen/Innovation/F%C3%B6rderprodukte/ERP-Digitalisierungs-und-Innovationskredit-(380-390-391)/?redirect=424323</a>	continuous
<b>Future Investments Vehicle Manufacturers and Supplier Industry</b>	Module A2: Digitalization of Vehicle Manufacturers and Supplier Industry/ SiSax/	Vehicle manufacturers and Supplier industry	<a href="https://www.bmwi.de/Redaktion/DE/Textsammlungen/Industrie/zukunftsinvestitionen-fahrzeughersteller-zulieferindustrie.html">https://www.bmwi.de/Redaktion/DE/Textsammlungen/Industrie/zukunftsinvestitionen-fahrzeughersteller-zulieferindustrie.html</a>	continuous
<b>The EXIST Business Start-up Grant</b>	The EXIST Business Start-up Grant supports students, graduates and scientists from universities and research institutes who want to turn their business idea into a business plan. / SiSax	all tech related sectors	<a href="https://www.exist.de/">https://www.exist.de/</a>	continuous
<b>Go-INNO</b>	BMWi innovation vouchers (go-Inno) programme supports external consulting services for the preparation and implementation of product and technical process innovations in companies in the commercial sector / SiSax		<a href="https://www.foerderdatebank.de/FDB/Content/DE/Foerderprogramm/Bund/BMWi/bmw-innovationsgutscheine-go-inno-.html">https://www.foerderdatebank.de/FDB/Content/DE/Foerderprogramm/Bund/BMWi/bmw-innovationsgutscheine-go-inno-.html</a>	continuous

### REGIONAL GRANTS TO SMEs

- DE11 Stuttgart
- DED2 Dresden

<b>Programme name</b>	<b>Management authority</b>	<b>Sector</b>	<b>LINK to programme/call</b>	<b>Status</b>
<b>Technology Transfer Promotion</b>	Technology transfer promotion   Sächsische AufbauBank (SAB)	All sectors - acquisition of technological knowledge by SMEs directly from technology providers	<a href="https://www.sachsen.de">sachsen.de</a>	continuous

### 4.3. SPAIN

#### NATIONAL GRANTS TO SMEs

Programme name	Management authority	Sector	LINK to programme/call	Status
<b>CDTI Innovation project</b>	AECIM- CDTI - Center for Industrial Technological Development	All sectors	<a href="https://www.cdti.es/index.asp?MP=100&amp;MS=812&amp;MN=2&amp;r=1920*1080">https://www.cdti.es/index.asp?MP=100&amp;MS=812&amp;MN=2&amp;r=1920*1080</a>	opens annually
<b>Red.es grants for Artificial Intelligence and Digital Enabling Technologies projects 2021</b>	AECIM – Ministry of Economic Affairs and Digital Transformation	All sectors	<a href="https://www.dihbu40.es/nu-eva-convocatoria-de-subsenciones-red-es-para-proyectos-de-inteligencia-artificial-y-tecnologias-habilitadoras-digitales-2021/">https://www.dihbu40.es/nu-eva-convocatoria-de-subsenciones-red-es-para-proyectos-de-inteligencia-artificial-y-tecnologias-habilitadoras-digitales-2021/</a>	Until Sept 2021

- **ES30 Madrid REGIONAL GRANTS TO SMEs:**

Programme name	Management authority	Sector	LINK to programme/call	Status
<b>Innovation vouchers</b>	AECIM – Madrid Government	All sectors	<a href="https://wapis.ipyme.org/ser-vicioayudas/ayudas/detalle?id=86476&amp;fichero=">https://wapis.ipyme.org/ser-vicioayudas/ayudas/detalle?id=86476&amp;fichero=</a>	Until 31.12.2021
<b>Grant for SMEs Industrial Projects Industry 4.0</b>	AECIM – Madrid Government	All sectors	<a href="https://www.comunidad.madrid/inversion/inicia-desarrolla-tu-empresa/ayudas-pymes-industria-40">https://www.comunidad.madrid/inversion/inicia-desarrolla-tu-empresa/ayudas-pymes-industria-40</a>	annually
<b>Grants aimed at the digitization and renewal of the industry</b>	AECIM- MADRID - Economy, Innovation and Employment Government Area	Many sectors among which: Installation of industrial machinery and equipment Production of electrical energy of other types Water supply, sanitation, waste management and decontamination Technical architecture and engineering services and other activities related to technical advice	<a href="https://fandit.es/subvenciones/detalles-subvencion/623415/1">https://fandit.es/subvenciones/detalles-subvencion/623415/1</a>	Until March 2022

#### 4.4. ROMANIA

##### NATIONAL GRANTS FOR SMEs

Call of proposal	Programme / Management Authority	Sector	LINK to programme/call	Status
<b>Measure 3 – Investment Grants for COVID Recovery</b>	Competitiveness Operational Programme extension, Axis 4- Investment in productive activities	All sectors	<a href="http://www.imm.gov.ro/ro/2020/09/14/masura-3-granturi-pentru-investitii/">http://www.imm.gov.ro/ro/2020/09/14/masura-3-granturi-pentru-investitii/</a>	Annual call [ 2020, 2021]
<b>Measure 2 – Work capital Grants</b>	Competitiveness Operational Programme extension, 2.1 SMEs	All sectors	<a href="http://www.imm.gov.ro/ro/2020/09/14/masura-2-granturi-pentru-capital-de-lucru/">http://www.imm.gov.ro/ro/2020/09/14/masura-2-granturi-pentru-capital-de-lucru/</a>	Annual call [ 2020, 2021]
<b>Measure 1 – MicroGrants to SMEs</b>	Competitiveness Operational Programme extension	All sectors	<a href="http://www.imm.gov.ro/ro/2020/09/14/masura-1-microgranturi/">http://www.imm.gov.ro/ro/2020/09/14/masura-1-microgranturi/</a>	Annual call [ 2020, 2021]
<b>Entrepreneurial Woman</b>	Governmental Funds- Ministry of Economy – regional offices	All sectors	<a href="http://www.imm.gov.ro/ro/2018/11/09/programul-femeia-antreprenor/">http://www.imm.gov.ro/ro/2018/11/09/programul-femeia-antreprenor/</a>	Annual call [ latest 2020 ] Forthcoming
<b>MicroIndustrialisation Call</b>	Governmental Funds- Ministry of Economy – regional offices	All productive sectors	<a href="http://www.imm.gov.ro/ro/programul-de-microindustrializare/">http://www.imm.gov.ro/ro/programul-de-microindustrializare/</a>	Annual call [ latest 2020 ] Forthcoming
<b>Commercialisation Call</b>	Governmental Funds- Ministry of Economy – regional offices	All sectors	<a href="http://www.imm.gov.ro/ro/programul-comert-si-servicii/programul-comert-si-servicii-2020/">http://www.imm.gov.ro/ro/programul-comert-si-servicii/programul-comert-si-servicii-2020/</a>	Annual call [ latest 2020 ] Forthcoming
<b>SME Growth – Support for StartUps Programme</b> [Travel support scheme included]	EEA & Norway Grants	Green Innovation Blue Growth ICT	<a href="https://www.innovasjonno.rge.no/en/start-page/eea-norway-grants/Programmes/business-development/romania/">https://www.innovasjonno.rge.no/en/start-page/eea-norway-grants/Programmes/business-development/romania/</a>	Deadline 18 <sup>th</sup> November 2021
<b>Energy Programme - Hydropower, geothermal and other RES for SMEs and NGOs</b>	EEA & Norway Grants		<a href="https://www.innovasjonno.rge.no/en/start-page/eea-norway-grants/calls-for-proposals/romania-hydropower-geothermal-and-other-res-for-smes-and-ngos/">https://www.innovasjonno.rge.no/en/start-page/eea-norway-grants/calls-for-proposals/romania-hydropower-geothermal-and-other-res-for-smes-and-ngos/</a>	Deadline 3 <sup>rd</sup> December 2021



<b>Rural National Development Programme 2014-2020</b>	Non-agri measures for startUps and SMEs creation & development <ul style="list-style-type: none"> <li>• Measure 6.2</li> <li>• Measure 6.4.</li> </ul>	Productive sectors Services ITC	<a href="https://portal.afir.info/informatii_generale_pndr_investitii_prin_pndr_sm_6_2_infiintare_activitati_neagricole">https://portal.afir.info/informatii_generale_pndr_investitii_prin_pndr_sm_6_2_infiintare_activitati_neagricole</a> <a href="https://portal.afir.info/informatii_generale_pndr_investitii_prin_pndr_sm_6_4_modernizare_activitati_neagricole">https://portal.afir.info/informatii_generale_pndr_investitii_prin_pndr_sm_6_4_modernizare_activitati_neagricole</a>	Last call to be opening 29/10/2021
<b>National Recovery and Resilience Plan (NRRP)</b>	SMEs competitiveness & Digitalization	All sectors	<a href="#">Not yet available</a>	Forthcoming 2022

#### REGIONAL GRANTS FOR SMEs

- RO11 North-West
- RO31 South Muntenia
- RO32 Bucharest-Ilfov

Programme name	Call name/Sub-programme/ Investment priority/ Measure	Sector	LINK to programme/call	Status
<b>Regional Operational Programme 2021-2027</b>	Priority 1- A Competitive Region through innovation, digitalization and dynamic enterprises	All productive sectors  S3 regional priorities  Digitalization	RO11 North-West: <a href="https://www.nord-vest.ro/regio-2021-2027/">https://www.nord-vest.ro/regio-2021-2027/</a> RO31 South Muntenia: <a href="https://www.adrmuntenia.ro/por-sud--muntenia-20212027/static/1295">https://www.adrmuntenia.ro/por-sud--muntenia-20212027/static/1295</a> RO32 Bucharest-Ilfov: <a href="https://www.adrbi.ro/programe-regionale/por-bi-2021-2027/">https://www.adrbi.ro/programe-regionale/por-bi-2021-2027/</a>	Not available yet Foreseen for mid-2022

#### 4.5. ITALY

##### NATIONAL GRANTS FOR SMEs:

Programme name	Management authority	Sector	LINK to programme/call	Status
Nuovo Piano Nazionale Transizione 4.0	Ministry of Economic Development	All sectors	<a href="https://www.mise.gov.it/index.php/it/transizione40">https://www.mise.gov.it/index.php/it/transizione40</a>	Until 2022

National Recovery and Resilience Plan (NRRP)	Ministry of Economic Affairs and Finance	All sectors	<a href="https://www.mef.gov.it/en/focus/The-National-Recovery-and-Resilience-Plan-NRRP/">https://www.mef.gov.it/en/focus/The-National-Recovery-and-Resilience-Plan-NRRP/</a>	Until 2026
VOUCHER CONSULENZA INNOVAZIONE	Ministry of Economic Development	All sectors	<a href="https://www.mise.gov.it/index.php/it/incentivi/impresa/voucher-consulenza-innovazione">https://www.mise.gov.it/index.php/it/incentivi/impresa/voucher-consulenza-innovazione</a>	Until 20th of Dec 2021

- **ITC1 Piemonte REGIONAL GRANTS FOR SMEs:**

Programme name	Management authority	Sector	LINK to programme/call	Status / until
Bando Aggregazioni R&S VALLE D'AOSTA	Valle d'Aosta Region Government	All sectors	<a href="https://www.regione.vda.it/Portale_impreses/Sostegno_alle_impreses/contributi/Ricerca_l_r_84_1993/bando_aggregazioni_rands_i.aspx#:~:text=890%20in%20data%2019%20luglio,coordinati%20e%20riguardino%20il%20medesimo">https://www.regione.vda.it/Portale_impreses/Sostegno_alle_impreses/contributi/Ricerca_l_r_84_1993/bando_aggregazioni_rands_i.aspx#:~:text=890%20in%20data%2019%20luglio,coordinati%20e%20riguardino%20il%20medesimo</a>	29th of Oct 2021
L.R. 34/04 Sostegno al sistema di garanzie in favore delle Pmi piemontesi attraverso l'integrazione dei fondi rischi dei Confidi	Piedmont Region Government	All sectors	<a href="https://www.finpiemonte.it/bandi/dettaglio-bando/l.r.-34-04-sostegno-al-sistema-di-garanzie-in-favore-delle-pmi-piemontesi-attraverso-l-integrazione-dei-fondi-rischi-dei-confidi">https://www.finpiemonte.it/bandi/dettaglio-bando/l.r.-34-04-sostegno-al-sistema-di-garanzie-in-favore-delle-pmi-piemontesi-attraverso-l-integrazione-dei-fondi-rischi-dei-confidi</a>	May 2022
Contratto insediamenti grandi imprese	Piedmont Region Government	All sectors	<a href="https://www.finpiemonte.it/bandi/dettaglio-bando/insediamento-grandi-imprese-2019">https://www.finpiemonte.it/bandi/dettaglio-bando/insediamento-grandi-imprese-2019</a>	Until funds are exhausted
L.R. 34/08 Azione 2.a) Servizi di consulenza specialistica per la definizione di piani di sviluppo e rilancio rivolti ad imprese	Piedmont Region Government	All sectors	<a href="https://www.finpiemonte.it/bandi/dettaglio-bando/azione-2a-consulenza-aziende-crisi">https://www.finpiemonte.it/bandi/dettaglio-bando/azione-2a-consulenza-aziende-crisi</a>	Until funds are exhausted
POR FESR 14/20 Asse III Azione III.3c.1.1 Fondo PMI	POR FESR 14/20 Fondo PMI	All sectors	<a href="https://www.finpiemonte.it/bandi/dettaglio-bando/Fondo-PMI">https://www.finpiemonte.it/bandi/dettaglio-bando/Fondo-PMI</a>	Until funds are exhausted
POR FESR 14/20 Azione III.3c.1.2 Attrazione di investimenti Linea A	Azione III.3c.1.2 Attrazione di investimenti Linea A	All sectors	<a href="https://www.finpiemonte.it/bandi/dettaglio-bando/por-fesr-14-20-azione-3.3c.1.2-attrazione-investimenti-piemonte">https://www.finpiemonte.it/bandi/dettaglio-bando/por-fesr-14-20-azione-3.3c.1.2-attrazione-investimenti-piemonte</a>	8th of Oct 2021

#### 4.6. BULGARIA

##### NATIONAL/REGIONAL GRANTS FOR SMEs:

BG41 Yugozapaden

Programme name	Call name/Sub-programme/ Investment priority/ Measure	Sector	LINK to programme/call	Status
<b>Programme Regions in Growth</b>	Priority 3	All sectors	<a href="https://www.eufunds.bg/en/oprd/term/517">https://www.eufunds.bg/en/oprd/term/517</a>	Opens 2021
<b>Competitiveness and innovation in enterprises</b>	Priority 1- Innovation and Growth and Priority 2 - Circular Economy	All sectors	<a href="https://www.mi.government.bg/bg/discussion-news/obshtestveni-konsultacii-na-programa-konkurentosposobnost-i-inovacii-v-predpriyatiyata-2021-2027-4108-m268-a0-1.html">https://www.mi.government.bg/bg/discussion-news/obshtestveni-konsultacii-na-programa-konkurentosposobnost-i-inovacii-v-predpriyatiyata-2021-2027-4108-m268-a0-1.html</a>	Opens 2021
<b>Bulgarian Bank for Reconstruction and Development</b>	Investment promotions for SMEs/Start-up	All sectors	<a href="https://bbr.bg/en/news-bbr/bdb-new-program-support-small-and-medium-business-creative-industries-and-startups/">https://bbr.bg/en/news-bbr/bdb-new-program-support-small-and-medium-business-creative-industries-and-startups/</a>	Opens 2021

#### 4.7. FINLAND

##### NATIONAL/REGIONAL GRANTS FOR SMEs:

F11B Helsinki-Uusimaa

Programme name	Management authority	Sector	LINK to programme/call	Status
Sustainable Manufacturing Finland program	Business Finland	Manufacturing ecosystems widely. Emphasis on machine tool industries, (opto) electronics and photonics, and companies in the industrial digital transformation industry.	<a href="https://www.businessfinland.fi/en/for-finnish-customers/services/programs/sustainable-manufacturing-finland">https://www.businessfinland.fi/en/for-finnish-customers/services/programs/sustainable-manufacturing-finland</a>	Continuous
AI business	Business Finland	All sectors	<a href="https://www.businessfinland.fi/en/for-finnish-customers/services/programs/ai-business">https://www.businessfinland.fi/en/for-finnish-customers/services/programs/ai-business</a>	Until 2022
Digital trust Finland	Business Finland	innovations driving digital trust-based solutions and services	<a href="https://www.businessfinland.fi/en/for-finnish-customers/services/programs/digital-trust-finland">https://www.businessfinland.fi/en/for-finnish-customers/services/programs/digital-trust-finland</a>	Until 2023
Tempo Funding	Business Finland	All sectors	<a href="https://www.businessfinland.fi/en/for-finnish-customers/services/funding/tempo-funding">https://www.businessfinland.fi/en/for-finnish-customers/services/funding/tempo-funding</a>	Until 2023

Explorer Funding	Business Finland	All sectors	<a href="https://www.businessfinland.fi/en/for-finnish-customers/services/funding/explorer">https://www.businessfinland.fi/en/for-finnish-customers/services/funding/explorer</a>	Until 2023
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#### 4.8. IRELAND

##### NATIONAL GRANTS FOR SMEs:

Programme name	Financial scheme	Sector	LINK to programme/call	Status
<b>Small Business Innovation Research</b>	Pre-commercial procurement	Public sector and technology	<a href="https://www.enterpriseireland.com/en/Research-Innovation/SBIR-Ireland/About-SBIR/">https://www.enterpriseireland.com/en/Research-Innovation/SBIR-Ireland/About-SBIR/</a>	Until 2022
<b>Sustaining Enterprise Fund</b>	Non-repayable grant	Multi-sector	<a href="https://www.enterpriseireland.com/en/funding-supports/Company/Eestablish-SME-Funding/Sustaining-Enterprise-Fund.html">https://www.enterpriseireland.com/en/funding-supports/Company/Eestablish-SME-Funding/Sustaining-Enterprise-Fund.html</a>	Continuous
<b>Digitalisation Voucher</b>	Voucher	Manufacturing or internationally traded service sectors	<a href="https://www.enterpriseireland.com/en/Productivity/Digital-Innovation/Digitalisation-Voucher/">https://www.enterpriseireland.com/en/Productivity/Digital-Innovation/Digitalisation-Voucher/</a>	2021

- **IE06 Eastern and Midland REGIONAL GRANTS FOR SMEs:**

Programme name	Financial scheme	Sector	LINK to programme/call	Status
<b>Energy for Business</b>	grant provides 40% of the project cost	Multi-sector	<a href="https://www.nottingham.ac.uk/research/research-areas/energy-institute/work-with-us/energy-for-business/index.aspx">https://www.nottingham.ac.uk/research/research-areas/energy-institute/work-with-us/energy-for-business/index.aspx</a>	Until 2022
<b>Innovation for Good Programme</b>	Innovation Vouchers	Multi-sector	<a href="https://le.ac.uk/enterprise/development/innovation-hub/support-for-smes/sustainable-development">https://le.ac.uk/enterprise/development/innovation-hub/support-for-smes/sustainable-development</a>	
<b>Green Entrepreneur Programme</b>	Grant	Multi-sector	<a href="https://www.derby.ac.uk/business-services/funding/green-entrepreneurs-programme/">https://www.derby.ac.uk/business-services/funding/green-entrepreneurs-programme/</a>	



## 5. PRIVATE INVESTMENT OPPORTUNITIES

Apart from direct financial and business development support provided to SMEs in the course of the project, the MIND4MACHINES consortium intends to create business ecosystem and a network of stakeholders that will guarantee viability of supported SMEs and start-ups solutions beyond the project timespan.

In particular, MIND4MACHINES intends to encourage VCs and other potential private investors to involve and provide financial support to the best performing SMEs.

### 5.1. BUSINESS ANGELS

Business Angels are individual investors that invest their own money in start-ups offering them potentially rewarding business opportunities with the aim of appreciation of the invested funds. Most Business Angels are investing in companies where they can bring a strong support to the management team. They invest in fields where they have strong expertise and attractive network.

#### Size and maturity of the targeted companies for investment

- 44% of investment are in pre-seed
- 63% in seed
- 30% in early-stage companies

#### Average investment amounts

Generally, BA invest between 10k€ and 100k€, up to higher amount potentially. According to the European Trade Association for Business Angels, Seed Funds and Early-stage market Players, EBAN, the average investment per Business Angel was 25k€. They are investing their own money, not the one of a funds they would manage.



Business Angels' approach is different whether you target local/regional ones or global ones. Local Business Angels will value projects that know how to market themselves and outshine other projects. At a more global level, there are existing European networks and hubs of Business Angels and investors (like Business Angels Europe, EBAN) but also European initiatives that represent various ways to accelerate the development of companies across Europe.

The following table provides an overview of Business Angel associations active at EU level and in the MIND4MACHINES partner countries and some from other countries that might be of interest :

Organisation	Country	Website
EBAN	EU/Belgium	<a href="http://www.eban.org">www.eban.org</a>
Business Angels Europe	EU/Belgium	<a href="http://www.businessangelseurope.com">www.businessangelseurope.com</a>
AngelEngine	Germany	<a href="http://www.angel-engine.de">www.angel-engine.de</a>
BANE Business Angels Network Europe	Germany	<a href="http://www.baneonline.com">www.baneonline.com</a>
Nordic Business Angels Network	Finland	<a href="http://www.nordicban.net">www.nordicban.net</a>
TechAngels Romania	Romania	<a href="http://www.techangels.ro">www.techangels.ro</a>
Business Angels Romania	Romania	<a href="http://www.businessangelsromania.ro">www.businessangelsromania.ro</a>
T.A.N. Transylvania Angels Network	Romania	<a href="https://taninvest.ro/">https://taninvest.ro/</a>
SeedRocket Angelss	Spain	<a href="https://www.seedrocket.com/">https://www.seedrocket.com/</a>
IESE Business Angels	Spain	<a href="https://www.iese.edu/es/emprendedores/business-angels/">https://www.iese.edu/es/emprendedores/business-angels/</a>
Galata Business Angels (GBA)	Turkey	<a href="https://galatabusinessangels.com/en/">https://galatabusinessangels.com/en/</a>
TRANGELS	Turkey	<a href="https://www.trangels.com/">https://www.trangels.com/</a>

Paris Business Angels	France	<a href="http://www.parisbusinessangels.com">www.parisbusinessangels.com</a>
France Angels	France	<a href="http://www.franceangels.org">www.franceangels.org</a>
Val'Angels	France	<a href="http://valangels.com">valangels.com</a>
We Like Startup	France	<a href="http://www.welikestartup.com">www.welikestartup.com</a>
Angelsquare	France	<a href="http://www.home.angelsquare.co">www.home.angelsquare.co</a>
Austrian Angel Investors Association	Austria	<a href="http://www.aaia.at">www.aaia.at</a>
Go Beyond	Switzerland	<a href="http://www.gobeyondinvesting.com">www.gobeyondinvesting.com</a>
Halo Business Angel Network	Ireland	<a href="https://www.hban.org/">https://www.hban.org/</a>

**Table 7 . Business Angels across Europe**

## 5.2. VENTURE CAPITALS

Venture Capital are companies managing an investing fund raised from Limited Partners (LPs). LPs include endowments, corporate pension funds, sovereign wealth funds, wealthy families, and funds of funds.

VC's have either a regional focus and/or a thematic focus. They are specialized in specific fields, like for example Life Sciences, Clean Tech, Industrial applications. Such expertise is required to detect attractive companies to invest in, to support its growth and to prepare their divestiture strategy leading to the sale of the company. Some VCs have a regional focus, especially when their LPs are regional public players. They are committed to invest in priority into companies from their regions. The thematic focus is defined when the VCs firms are raising their funds towards LPs. They define their investment strategy to offer attractive return on investment to their LPs.

### Size and maturity of the targeted companies for investment

They are looking for the most attractive ROI. Some VCs are specialized in early-stage companies while a large part of the VC community is dedicated to growth investment phase. When early-stage investment is concerned, VC's are requesting validated prototype/ demonstrators and first revenue. They are investing not to launch a company compared to BA, but to support its expansion towards industrialization and commercialization stage. From this point of view, innovative solutions to be developed within MIND4MACHINES could have the potential to raise interest.

### Average investment amounts

- From €500k to €5M
- VCs are usually in a better position than business angels to provide multiple rounds of funding as a company grows:
  - The first round is called series A round, usually from €100k (for local venture capital firm) to €500k;
  - The second-stage financing is called Series B. It usually happens after the company has already achieved certain business milestones and thus proven its potential viability as a company.
  - Followed by Series C, D ...

Venture Capital firm depend on their Limited Partners, e.g. the companies investing in the funds. They can have public regional agency investing in their funds, and in those cases, they have to invest in regional companies for a large majority of their investment.

Depending on the manufacturing sectors in which the SMEs project winners will activate, the VC offer is mainly concentrated in some countries. A non-exhaustive inventory per target field is presented in the table below, also with examples of strong VCs beyond Europe:

Organisation	Sector	Country	Website
<b>Germany</b>			
btoV Partners	Manufacturing, Digital Tech	Germany	<a href="http://www.btov.vc">http://www.btov.vc</a>
Abacus Alpha	Energy	Germany	<a href="http://www.ab-alpha.de">http://www.ab-alpha.de</a>
Dennig Capital Partner	Environment	Germany	<a href="https://www.dennigcapitalpartner.de/">https://www.dennigcapitalpartner.de/</a>
Munich Venture Partners	Cleantech	Germany	<a href="http://www.munichvp.com">www.munichvp.com</a>
SpinLab- the HHL Accelerator	e-Health, energy and Smart City	Germany	<a href="https://www.spinlab.co/">https://www.spinlab.co/</a>
TGFS	Tech	Germany	<i>TGFS Start - CFH</i>
LEA- Partners	Tech	Germany	<a href="https://www.leapartners.de/en">https://www.leapartners.de/en</a>
<b>Spain</b>			
Fundacion Ship2B	Environment	Spain	<a href="http://www.ship2b.org">http://www.ship2b.org</a>
Vitamina k	All	Spain	<a href="http://www.vitaminak.com">http://www.vitaminak.com</a>
kibo ventures	All	Spain	<a href="https://kiboventures.com/">https://kiboventures.com/</a>
<b>Scotland</b>			
Circularity Capital	Circular Economy	Scotland	<a href="https://circularitycapital.com/">https://circularitycapital.com/</a>
<b>Poland</b>			
AgriTech Hub	Agrofood	Poland	<a href="http://agritechhub.com/">http://agritechhub.com/</a>
<b>Netherlands</b>			
Anterra Capital	Agriculture	Netherlands	<a href="http://www.anterracapital.com">http://www.anterracapital.com</a>
Aqua Spark	Aquaculture	Netherlands	<a href="http://www.aqua-spark.nl">http://www.aqua-spark.nl</a>
PureTerra Ventures	Water; Environment	Netherlands	<a href="https://pureterra.com/">https://pureterra.com/</a>
<b>UK</b>			
Bridges Ventures		United Kingdom	<a href="https://www.bridgesfundmanagement.com">https://www.bridgesfundmanagement.com</a>
Ludgate	Water	United Kingdom	<a href="http://ludgate.com/">http://ludgate.com/</a>
AllianzGI Global Water Fund	Water	United Kingdom	<a href="https://us.allianzgi.com/">https://us.allianzgi.com/</a>
ETF Partners	Smart City, Smart Industry	United Kingdom	<a href="http://www.etfpartners.capital">http://www.etfpartners.capital</a>
Midlands Engine Investment Fund	Multi-sector	West Midlands and East and South East Midlands	<a href="https://www.meif.co.uk/">https://www.meif.co.uk/</a>
<b>Switzerland</b>			
Bombyx Capital Partners	Textile	Switzerland	<a href="https://bombyxcap.com/">https://bombyxcap.com/</a>
<b>Italy</b>			
LIFTT	on specific fields	Italy	<a href="https://www.liftt.com/en/liftt-venture-capital-en/">https://www.liftt.com/en/liftt-venture-capital-en/</a>
<b>France</b>			
Xange PE	Environment; Health	France	<a href="https://www.xange.fr/">https://www.xange.fr/</a>
CapAgro	AgroFood	France	<a href="http://www.capagro.fr">http://www.capagro.fr</a>

Aster Capital	Energy	France	<a href="http://www.aster.com">http://www.aster.com</a>
Demeter Ventures	Environment	France	<a href="http://www.demeter-im.com">http://www.demeter-im.com</a>
Idinvest Partners		France	<a href="https://www.idinvest.com">https://www.idinvest.com</a>
Impact Partners	Circular Economy	France	<a href="https://www.impact.fr">https://www.impact.fr</a>
PhiTrust Partenaires	Environment	France	<a href="https://www.phitrust.com/">https://www.phitrust.com/</a>
<b>Romania</b>			
Teccelerator	Digital tech	Romania	<a href="https://techcelerator.ro/">https://techcelerator.ro/</a>
GAP Minder	SaaS / Machine Learning / Deep Learning / Artificial Intelligence / Advanced Analytics / Predictive Marketing / Cyber Security / Digital Transformation / Healthcare IT & MedTech / FinTech	Romania	<a href="https://gapminder.vc/">https://gapminder.vc/</a>
ROCA	all fields	Romania	<a href="https://rocainvestments.ro/">https://rocainvestments.ro/</a>
eMAG Ventures	Technology fields	Romania	<a href="https://www.startupcafe.ro/finantari/emag-ventures-firme-tehnologie-investitii.htm">https://www.startupcafe.ro/finantari/emag-ventures-firme-tehnologie-investitii.htm</a>
<b>Denmark</b>			
Seed Capital Denmark		Denmark	<a href="http://www.seedcapital.dk">http://www.seedcapital.dk</a>
<b>Turkey</b>			
212	Internet, communication, and tech companies with a focus on software, social gaming, eCommerce, mobile, social media and the cloud	Turkey	<a href="https://212.vc/">https://212.vc/</a>
ACT Venture Capital	Technology Sectors	Turkey	<a href="https://www.actventure.capital/">https://www.actventure.capital/</a>
Inventram	IoT & sensors, robotic technologies, biotechnology, nanotechnology, artificial intelligence, big data & cloud, automotive technologies, electronics & durable goods, defense industry technologies	Turkey	<a href="https://www.inventram.com/en/">https://www.inventram.com/en/</a>
Startupfon	All sectors mainly software, advanced technologies, mobile	Turkey	<a href="https://startupfon.com/">https://startupfon.com/</a>



	and internet technologies		
<b>USA</b>			
SJF Ventures	Energy	United States	<a href="https://sjfventures.com/">https://sjfventures.com/</a>
Traverse Venture Partners	Building	United States	<a href="http://www.traversevp.com">http://www.traversevp.com</a>
True North Venture Partners	Materials, Chemicals	United States	<a href="http://www.truenorthvp.com">http://www.truenorthvp.com</a>
Building Venture	Building	United States	<a href="http://www.buildingventures.com">http://www.buildingventures.com</a>
Closed Loop Partners	Circular Economy	United States	<a href="https://www.closedlooppartners.com/">https://www.closedlooppartners.com/</a>

**Table 8 .Overview of VCs relevant for MIND4MACHINES target sectors**

### 5.3. IMPACT INVESTMENTS VENTURE CAPITALS

Impact investments<sup>1</sup> are investments made with the intention to generate positive, measurable social and environmental impact alongside a financial return. Impact investments can be made in both emerging and developed markets, and target a range of returns from below market to market rate, depending on investors' strategic goals.

The growing impact investment market provides capital to address the world's most pressing challenges in sectors such as sustainable agriculture, renewable energy, conservation, microfinance, and affordable and accessible basic services including housing, healthcare, and education.

The practice of impact investing is further defined by the following 3 characteristics:

- **Intentionality:** An investor's intention to have a positive social or environmental impact through investments is essential to impact investing.
- **Investment** with return expectations: Impact investments are expected to generate a financial return on capital or, at minimum, a return of capital.
- Range of **return expectations** and asset classes: Impact investments target financial returns that range from below market (sometimes called concessionary) to risk-adjusted market rate, and can be made across asset classes, including but not limited to cash equivalents, fixed income, venture capital, and private equity.

The following table provides an overview of impact investors relevant for MIND4MACHINES target sectors:

Organisation	Sector	Country	Website
Inventures		Belgium	<a href="http://www.inventures.fund">www.inventures.fund</a>
Aqal	Environment	Germany	<a href="http://www.aqalgroup.com">www.aqalgroup.com</a>
Bon Venture		Germany	<a href="https://bonventure.de/">https://bonventure.de/</a>
Qualitas Equity Partners	Environment; Water management	Germany	<a href="http://www.qualitasequity.com">www.qualitasequity.com</a>

<sup>1</sup> <https://thegiin.org/impact-investing/need-to-know/#what-is-impact-investing>

Nordic Impact Funds		Denmark	<a href="https://www.nordicimpactfunds.com/">https://www.nordicimpactfunds.com/</a>
Creas		Spain	<a href="http://www.creas.org.es/">http://www.creas.org.es/</a>
Fundacion Ship2B	Environment	Spain	<a href="http://www.ship2b.org">www.ship2b.org</a>
Meridia Capital		Spain	<a href="http://www.meridiacapital.com">www.meridiacapital.com</a>
Origen Ventures Fund		Spain	<a href="http://www.origenventuresfund.com">www.origenventuresfund.com</a>
Seed Capital Bizkaia	Environment; Health	Spain	<a href="http://www.seedcapitalbizkaia.com">www.seedcapitalbizkaia.com</a>
Alter Equity	Agrofood; Water management	France	<a href="http://www.alter-equity.com">www.alter-equity.com</a>
Angel Square Ventures		France	<a href="http://www.impact.angelsquare.co">www.impact.angelsquare.co</a>
Citizen Capital		France	<a href="http://www.citizencapital.fr">www.citizencapital.fr</a>
Colam Impact	Health; Water management	France	<a href="http://www.colamimpact.com">www.colamimpact.com</a>
Coop Venture		France	<a href="http://coopventure.fr/">http://coopventure.fr/</a>
Creadev		France	<a href="https://www.creadev.com/fr">https://www.creadev.com/fr</a>
Credit Mutuel Arkea		France	<a href="https://www.arkea.com/banque/assurance/credit/accueil">https://www.arkea.com/banque/assurance/credit/accueil</a>
Cycle Capital	Agriculture	France	<a href="http://www.cyclecapital.com">http://www.cyclecapital.com</a>
ECOFI		France	<a href="https://www.ecofi.fr/">https://www.ecofi.fr/</a>
Five Seasons Ventures		France	<a href="https://www.fiveseasons.vc/">https://www.fiveseasons.vc/</a>
France Active		France	<a href="http://www.franceactive.org">www.franceactive.org</a>
Gaia Impact Fund	Energy	France	<a href="https://gaia-impactfund.com/en/">https://gaia-impactfund.com/en/</a>
Herrikoa		France	<a href="https://www.herrikoa.com/fr/">https://www.herrikoa.com/fr/</a>
INCO		France	<a href="http://www.inco-group.co">www.inco-group.co</a>
Investir &+		France	<a href="http://fr.investiretplus.com">fr.investiretplus.com</a>
La Nef Capital Patient		France	<a href="http://www.lanef.com">www.lanef.com</a>
MAIF Investissement Social Et Solidaire		France	<a href="https://www.maif-investissement-social-solidaire.fr/">https://www.maif-investissement-social-solidaire.fr/</a>
Mandarine Gestion		France	<a href="http://www.mandarine-gestion.de/deutschland/de/home/">http://www.mandarine-gestion.de/deutschland/de/home/</a>
Mirova		France	<a href="http://www.mirova.com/en">www.mirova.com/en</a>
PhiTrust Partenaires	Social investment	France	<a href="http://www.phitrust.com">www.phitrust.com</a>
Planetic	Agrofood	France	
Impact Ventures		Hungary	<a href="http://www.impactventures.hu">http://www.impactventures.hu</a>
Tiime		Luxembourg	<a href="http://www.tiime.org">www.tiime.org</a>
New Ventures	Building, Recycling	Mexico	<a href="http://www.nvgroup.org">http://www.nvgroup.org</a>
DOEN Participaties		Netherlands	<a href="https://www.doen.nl/doen-participaties-en/about.htm">https://www.doen.nl/doen-participaties-en/about.htm</a>
Pymwymic		Netherlands	<a href="http://www.pymwymic.com">www.pymwymic.com</a>



Shift Invest	Circular Economy	Netherlands	<a href="http://shiftinvest.com">http://shiftinvest.com</a>
Triodos Organic Growth Fund	Environment; Agrofood	Netherlands	<a href="http://www.triodos-im.com">www.triodos-im.com</a>
Leksell Social Ventures		Sweden	<a href="http://www.leksellsocialventures.com/en/">http://www.leksellsocialventures.com/en/</a>
Swedfund		Sweden	<a href="http://www.swedfund.se">www.swedfund.se</a>
Trill Impact		Sweden	<a href="https://www.trillimpact.com/">https://www.trillimpact.com/</a>
Bamboo Capital Partners	Health	Switzerland	<a href="http://www.bamboocp.com">www.bamboocp.com</a>
Chi impact Capital	Circular Economy	Switzerland	<a href="http://www.chi-impact.com">http://www.chi-impact.com</a>
CAF Venturesome		United Kingdom	<a href="https://www.cafonline.org/charities/borrowing/social-investment">https://www.cafonline.org/charities/borrowing/social-investment</a>
FSE Group		United Kingdom	<a href="http://www.thefsegroup.com">www.thefsegroup.com</a>
Mustard Seed Impact		United Kingdom	<a href="http://www.mustardseed.vc">www.mustardseed.vc</a>
WHEB	Energy	United Kingdom	<a href="http://www.whebgroup.com">www.whebgroup.com</a>
Microfinance Ireland		Ireland	<a href="https://microfinanceireland.ie/">https://microfinanceireland.ie/</a>
AlphaMundi		United States	<a href="http://www.alphamundi.ch">www.alphamundi.ch</a>
Blue Haven Initiative	Environment	United States	<a href="http://www.bluehaveninitiative.com">www.bluehaveninitiative.com</a>
Calvert Impact Capital		United States	<a href="http://www.calvertimpactcapital.org">www.calvertimpactcapital.org</a>
Sorenson Impact Foundation		United States	<a href="http://www.sorensonimpactfoundation.org">www.sorensonimpactfoundation.org</a>
WaterEquity	Water management	United States	<a href="http://www.waterequity.org">www.waterequity.org</a>
The Aavishkaar Group		India	<a href="http://www.aavishkaar.in">www.aavishkaar.in</a>
Raise Impact	Telecom and IT	Kenya	<a href="http://www.getraise.io">www.getraise.io</a>
Vox Capital		Brazil	<a href="http://www.voxcapital.com.br">www.voxcapital.com.br</a>

**Table 9.** Overview of Impact VCs relevant for MIND4MACHINES target sectors

#### 5.4. CORPORATE VENTURE CAPITAL

Corporate Venture Capital (CVC) is a funding practice where a large firm takes an equity stake in a company, to which it may also provide management and marketing expertise. The largest difference with VCs is that CVCs investment strategy is closely related to their corporate development strategy. It is part of their open innovation strategy.

Corporate Ventures objective is to gain a specific competitive advantage by building up collaborations with start-ups or scale-ups to generate mutual growth. Strategically driven, the investments should give to the investing Corporate a competitive advantage on its market or open new market.

The companies targeted by Corporate Venture can be start-ups as well as scale-ups.

Corporate Venture can consider investment at seed stage, when the concept is proven. But some CVCs cover investment from seed to growth investment.

The average investment amounts of Corporate venture can vary from €100k to €5M per round.

Corporate Ventures will have 2 main focus considering the geographical aspect of their investment strategy:

- An international coverage according to their own location geographical breakdown.
- value chain positioning to leverage on synergies

As for the time of investment/ expected time to ROI, most of the CVCs do not have limited investment time compared to VCs. It depends on their investment policy. Since not all corporate ventures are organized as “a fund”, they are investing directly in companies in equity or in debt financing, which gives them flexibility in their investment strategy.

For the MIND4MACHINES target sectors, the following corporate VCs will be recommended to be contacted by the most promising SMEs:

Organisation	Sector	Country	Website
Solvay Ventures	Materials	Belgium	<a href="https://www.solvay.com/">https://www.solvay.com/</a>
Altana Corporate Venturing	Materials	Germany	<a href="https://www.altana.com/">https://www.altana.com/</a>
BASF Venture Capital	Materials	Germany	<a href="https://www.basf.com">https://www.basf.com</a>
Bilfinger Venture Capital	Building, Energy	Germany	<a href="https://www.bilfinger.com/">https://www.bilfinger.com/</a>
Evonik Venture Capital	Materials	Germany	<a href="https://venturing.evonik.com/">https://venturing.evonik.com/</a>
Henkel Tech Ventures	Materials, Chemicals	Germany	<a href="https://www.henkel-tech.ventures/">https://www.henkel-tech.ventures/</a>
next47 (a Siemens Company)	Electronics	Germany	<a href="https://next47.com/">https://next47.com/</a>
Wincubator	Water Management	Germany	<a href="https://www.wincubator.com/">https://www.wincubator.com/</a>
Cemex Ventures	Building	Spain	<a href="https://www.cemexventures.com/">https://www.cemexventures.com/</a>
Repsol Corporate Venturing	Energy	Spain	<a href="https://www.repsol.com/">https://www.repsol.com/</a>
Propeller Venture Accelerator	Multi-sector	Ireland	<a href="https://ryanacademy.ie/portfolio/propeller-venture-accelerator/">https://ryanacademy.ie/portfolio/propeller-venture-accelerator/</a>
H&M CO:LAB	Textile	Sweden	<a href="https://hmgroup.com/">https://hmgroup.com/</a>
Ingka Investments	Environment	Sweden	<a href="https://www.ingka.com/">https://www.ingka.com/</a>
Laudes Foundation	Textile	Switzerland	<a href="https://www.laudesfoundation.org/">https://www.laudesfoundation.org/</a>
Bouygues Développement	Building	France	<a href="http://bouyguesdev.fr/">http://bouyguesdev.fr/</a>
Engie New Ventures	Energy	France	<a href="https://innovation.engie.com/">https://innovation.engie.com/</a>
Safran Corporate Ventures	Transport	France	<a href="https://www.safran-group.com/">https://www.safran-group.com/</a>
Suez Ventures	Environment	France	<a href="https://www.suez.com/">https://www.suez.com/</a>
Valo Ventures	Consumer	United States	<a href="https://valoventures.org/">https://valoventures.org/</a>

**Table 10.** Overview of Corporate VCs relevant for MIND4MACHINES target sectors

## 5.5. CROWDFUNDING

Crowdfunding is the process of raising many small amounts of money (funding) from a large number of people (crowd), especially via the Internet, to finance a business. Any field can be addressed. It depends on its ability to attract “crowd”.

Most of crowdfunding platforms are addressing consumer goods that innovators are ready to have first in hands. They are pre buying products and the financing makes possible to produce them. Therefore, crowdfunding is rather financing working capitals in most cases.

Crowdfunding is an option rather for seed size company but with a product ready for pre series production.

The funding raised through crowdfunding depends on the target defined by the company willing to raise money. It can vary from 50k€ to Millions, but more frequently it is between 100 to 200k€.

There are three main types of crowdfunding:

- The reward crowdfunding: entrepreneurs presell a product or service to launch a business concept without incurring debt or equity/shares. It is the most frequent crowdfunding scheme.
- The equity crowdfunding: the investor receives shares of a company, usually in its early stages, in exchange for the money pledged.
- The lending crowdfunding: this scheme is based on a loan.

The following crowdfunding opportunities could be of interest for MIND4MACHINES SMEs:

COMPANY	ORGANIZATION TYPE	COUNTRY	WEBSITE
Aescuvest	Equity Crowdfunding	Germany	<a href="https://www.aescuvest.de/">https://www.aescuvest.de/</a>
Companisto	Equity Crowdfunding	Germany	<a href="https://www.companisto.com/en">https://www.companisto.com/en</a>
Kapilendo	Lending Crowdfunding	Germany	<a href="https://www.kapilendo.de/">https://www.kapilendo.de/</a>
Seedmatch	Equity Crowdfunding	Germany	<a href="https://www.seedmatch.de/">https://www.seedmatch.de/</a>
Startnext	Reward Crowdfunding	Germany	<a href="https://www.startnext.com/">https://www.startnext.com/</a>
Invesdor	Equity Crowdfunding	Finland	<a href="https://www.invesdor.com/">https://www.invesdor.com/</a>
Privanet	Equity Crowdfunding	Finland	<a href="https://privanet.fi/">https://privanet.fi/</a>
Vauraus	Lending Crowdfunding	Finland	<a href="http://www.vauraus.fi/">http://www.vauraus.fi/</a>
SeedBlink	Equity Crowdfunding	Romania	<a href="https://seedblink.com/">https://seedblink.com/</a>
Sprijina	Reward Crowdfunding	Romania	<a href="https://www.sprijina.ro/">https://www.sprijina.ro/</a>
BacktoWork24	Equity Crowdfunding	Italy	<a href="https://www.backtowork24.com/index.php">https://www.backtowork24.com/index.php</a>
Crowdfunding Südtirol – Alto Adige	Reward Crowdfunding	Italy	<a href="http://www.crowdfunding-suedtirol.it">http://www.crowdfunding-suedtirol.it</a>
Goteo	Reward Crowdfunding	Spain	<a href="https://en.goteo.org/">https://en.goteo.org/</a>
StartupXplore	Equity Crowdfunding	Spain	<a href="https://startupxplore.com/en">https://startupxplore.com/en</a>
The Crowd Angel	Equity Crowdfunding	Spain	<a href="https://thecrowdangel.com/">https://thecrowdangel.com/</a>
Growfunding	Reward Crowdfunding	Belgium	<a href="https://www.growfunding.be/fr/bxl">https://www.growfunding.be/fr/bxl</a>
Look&Fin	Lending Crowdfunding	Belgium	<a href="https://www.lookandfin.com/fr/">https://www.lookandfin.com/fr/</a>
MyMicroInvest	Equity Crowdfunding	Belgium	<a href="https://www.mymicroinvest.com/en">https://www.mymicroinvest.com/en</a>
Spreds	Mixed crowdfunding	Belgium	<a href="https://www.spreds.com/">https://www.spreds.com/</a>
Funderbeam	Equity Crowdfunding	Estonia	<a href="https://markets.funderbeam.com/">https://markets.funderbeam.com/</a>
IUVO Group	Lending Crowdfunding	Estonia	<a href="https://www.iuvo-group.com/en/">https://www.iuvo-group.com/en/</a>
Kuetzal	Lending Crowdfunding	Estonia	<a href="https://kuetzal.com/en//">https://kuetzal.com/en//</a>

1000x1000	Equity Crowdfunding	Austria	<a href="https://1000x1000.at/">https://1000x1000.at/</a>
Happy Capital	Equity Crowdfunding	France	<a href="https://www.happy-capital.com/">https://www.happy-capital.com/</a>
Kickstarter	Reward Crowdfunding	France	<a href="https://www.kickstarter.com/">https://www.kickstarter.com/</a>
KissKissBankBank	Reward Crowdfunding	France	<a href="https://www.kisskissbankbank.com/">https://www.kisskissbankbank.com/</a>
Lita.co	Equity Crowdfunding	France	<a href="https://fr.lita.co/en">https://fr.lita.co/en</a>
Lumo	Lending Crowdfunding	France	<a href="https://www.lumo-france.com/">https://www.lumo-france.com/</a>
October	Lending Crowdfunding	France	<a href="https://www.october.eu/">https://www.october.eu/</a>
Ulule	Reward Crowdfunding	France	<a href="https://www.ulule.com/">https://www.ulule.com/</a>
Ulule	Reward Crowdfunding	France	<a href="https://de.ulule.com/">https://de.ulule.com/</a>
Wiseed	Equity Crowdfunding	France	<a href="https://www.wiseed.com/en">https://www.wiseed.com/en</a>
Tokeportal.hu	Equity Crowdfunding	Hungary	<a href="http://tokeportal.hu/">http://tokeportal.hu/</a>
Karolina Fund	Reward Crowdfunding	Iceland	<a href="https://www.karolinafund.com/">https://www.karolinafund.com/</a>
ZAAR	Mixed Crowdfunding	Malta	<a href="http://www.zaar.com.mt/">http://www.zaar.com.mt/</a>
Oneplanetcrowd	Mixed Crowdfunding	Netherlands	<a href="https://www.oneplanetcrowd.com/nl">https://www.oneplanetcrowd.com/nl</a>
Voor je Buurt	Reward Crowdfunding	Netherlands	<a href="https://voorjebuurt.nl/en/">https://voorjebuurt.nl/en/</a>
PPL	Reward Crowdfunding	Portugal	<a href="http://ppl.com.pt/">http://ppl.com.pt/</a>
FundedByMe	Equity Crowdfunding	Sweden	<a href="https://www.fundedbyme.com/en/">https://www.fundedbyme.com/en/</a>
Indiegogo	Reward Crowdfunding	Sweden	<a href="https://www.indiegogo.com/">https://www.indiegogo.com/</a>
Pepins	Equity Crowdfunding	Sweden	<a href="https://www.pepins.com/">https://www.pepins.com/</a>
Toborrow	Equity Crowdfunding	Sweden	<a href="https://toborrow.se/sv/">https://toborrow.se/sv/</a>
CrowdCube	Equity Crowdfunding	United Kingdom	<a href="https://www.crowdcube.com">https://www.crowdcube.com</a>
Kickstarter		United Kingdom	<a href="https://www.kickstarter.com/">https://www.kickstarter.com/</a>
Funding Circle	Lending Crowdfunding	United Kingdom	<a href="https://www.fundingcircle.com/uk/">https://www.fundingcircle.com/uk/</a>
Leo Crowd	Reward Crowdfunding	United Kingdom	<a href="https://www.leocrowd.com/">https://www.leocrowd.com/</a>
Rebuildingsociety	Lending Crowdfunding	United Kingdom	<a href="https://www.rebuildingsociety.com/">https://www.rebuildingsociety.com/</a>
Seedrs	Equity Crowdfunding	United Kingdom	<a href="https://www.seedrs.com/">https://www.seedrs.com/</a>

**Table 11.** Overview of Crowdfunding platforms relevant for MIND4MACHINES target sectors

## 5.6. EUROPEAN INVESTMENT BANK Programmes

The European Investment Bank (EIB) is the lending arm of the European Union, being the world's largest multilateral lender.

They help the economy, create jobs and promote equality. The EIB Group has two parts: the European Investment Bank and the European Investment Fund (EIF).

They focus on 4 priorities, including innovation: Climate and environment, Innovation and skills, Small businesses and Infrastructure.



Through the European Investment Fund (EIF) and the European Investment Bank (EIB), the European Commission has developed several financial tools in order to help innovative companies access to funding solutions they need to support their growth. Those tools are gathered under the InnovFin, EU finance for innovators programme launched in 2014. InnovFin financing tools cover a wide range of loans and guarantees starting from EUR 25.000 for companies and entities of different sizes and ages.

- **InnovFin Equity<sup>2</sup>** tools enable the EIF to answer companies' specific needs in their pre-seed, seed, and start-up phases as well as social enterprises. Those tools are designed for companies operating in innovative sectors covered by Horizon 2020, including green technologies, biotechnologies, and ICT as well as areas that address societal challenges including climate change, resource efficiency, health and demographics, as well as bio economy. The list of InnovFin Equity intermediaries can be accessed through this link.
- The **InnovFin SME Guarantee Facility<sup>3</sup>** is a tool designed to allow the provision of more debt financing to innovative SMEs and Small Mid-caps (up to 499 employees). As the implementing body, EIF covers a portion of the losses incurred by the financial intermediaries on loans, leases and guarantees between €25k and €7.5M which they provide under the InnovFin SME Guarantee Facility. The financial intermediaries deploying this tool are local banks, leasing companies, guarantee institutions, selected by the EIF after a due diligence process following the launch of a Call for Expression of Interest.

BANK	FINANCIAL INSTRUMENT	HQ	WEBSITE
EBRD - European Bank for Reconstruction and Development	Loans and loan guarantees	Belgium	<a href="https://www.ebrd.com/news/2019/small-businesses-and-the-digital-approach.html">https://www.ebrd.com/news/2019/small-businesses-and-the-digital-approach.html</a>
EIB - European Investment Bank	Loans and loan guarantees	Belgium	<a href="https://www.eib.org/attachments/pj/financing_the_digital_transformation_en.pdf">https://www.eib.org/attachments/pj/financing_the_digital_transformation_en.pdf</a>

## 5.7. COSME Programme

Is improving access to finance for SMEs through two financial instruments: the Loan Guarantee Facility (LGF) and the Equity Facility for Growth (EFG). There are numerous entities that provide financing through

<sup>2</sup> <https://www.eib.org/en/products/blending/innovfin/products/equity.htm>

<sup>3</sup> [https://www.eif.org/what\\_we\\_do/guarantees/single\\_eu\\_debt\\_instrument/innovfin-guarantee-facility/index.htm](https://www.eif.org/what_we_do/guarantees/single_eu_debt_instrument/innovfin-guarantee-facility/index.htm)



this instrument, in both modalities: [https://ec.europa.eu/growth/access-finance-smes/cosme-financial-instruments\\_fr](https://ec.europa.eu/growth/access-finance-smes/cosme-financial-instruments_fr)

## 6. CONCLUSIONS

The information enclosed in this Report will have multiple roles across the implementation of the MIND4MACHINES Project.

Its main purpose of the identification and analysis of existing and forthcoming regional, national and EU investment sources in the selected regions, is to serve as valuable input for the development of business acceleration programmes offered by partners to SMEs further on after the selection of the first batch of the beneficiaries SMEs. Also, it will constitute a reliable source of information to be updated when the beneficiary SMEs will be provided further access to finance information, in order to continue the development and enforcement of their innovative project also beyond the MIND4MACHINES direct grant support.

The report information, together with the outcomes from the surveys and co-creation workshops, will contribute to the elaboration of the MIND4MACHINES Joint Strategic Agenda (D1.4), which will guide the project approach overall.

Also, the information from the report will guide us when designing and elaborating the project call of proposals, in order to be able to offer as much as possible complementary financing and supporting schemes to SMEs. The programme design mechanism uses in several other cascade funding projects will also be useful when elaborating the steps, conditions, criteria and monitoring mechanisms for the MIND4MACHINES calls of proposals.

