



# STARTUP<sup>3</sup>

## D5.2: Trend, Technology & Policy Radar

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STARTUP3 Consortium			
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1	POLE SOLUTIONS COMMUNICANTES SÉCURISÉES	POLE SCS	FR
2	INOSENS DOO NOVI SAD	INO	RS
3	AGRICULTURAL & ENVIRONMENTAL SOLUTIONS	AGENSO	EL
4	ITC - INOVACIJSKO TEHNOLOSKI GROZD MURSKASOBOTA	ITC	SI
5	HOLA-UP	HOLA-UP	FR
6	LATVIJAS INFORMACIJAS TEHNOLOGIJU KLASTERIS	LITC	LV
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## Table of contents

1	Introduction .....	5
2	Key Trends in Emerging Technologies .....	6
2.1	EU Tech Trends and Policies .....	6
2.2	Tech Radar .....	<b>Error! Bookmark not defined.</b>
1.	Technology and Innovation Trends.....	<b>Error! Bookmark not defined.</b>
2.	Engagement with Initiatives .....	9
3.	STARTUP3 Policy Support Activities.....	11



## List of tables

Table 1: Modules per Domain and Phase .....	15
Table 2: Founder Studio KPIs .....	18

## List of figures

Figure 1: Presentation of content sample of the Policy Briefs .....	12
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List of Abbreviations and Acronyms	
<b>KPI</b>	Key Performance Indicator
<b>MVP</b>	Minimum Viable Product
<b>SME</b>	Small-to-Medium Enterprise



# 1 Introduction

STARTUP3 as an acceleration program. The objective of D5.2 is threefold:

The first objective is the engagement with relevant mechanisms and frameworks which also aim to facilitate the collaboration and EU International/ National/ Regional collaboration between corporates and startups/ SMEs;

The second objective is the ii) ensure policy support activities to local STARTUP3 stakeholders reflect the latest insight on emerging pan-European regulation and market needs; iii) capture and share the lessons from STARTUP3 on regulatory requirements, opportunities and challenges particularly within the quadruple helix setting (academia, industry, governments, end-users).

In that sense STARTUP3 will

- i) engage with relevant EU-International/ National/ Regional mechanisms and frameworks that facilitate collaboration between corporates and startups/ SMEs
- ii) ensure policy support activities to local STARTUP3 stakeholders reflect the latest insight on emerging pan-European regulation and market needs;
- iii) capture and share the lessons from STARTUP3 on regulatory requirements, opportunities and challenges particularly within the quadruple helix setting (academia, industry, governments, end-users).

Experts of the sectors will provide guidance and advice on the scale up process and the technologies involved from the consortium members, industry and tech experts from the corporate pool members, the digital clusters and Digital Innovation Hubs. The purpose of the mentoring and support is to generate a link for connection with “big players” in the B2B and B2B2C markets, as well as select the most promising ones.



## 2 Key Trends in Emerging Technologies

### 2.1 EU Tech Trends and Policies

Emerging deep technologies such as Artificial Intelligence and Machine Learning (AI/ML), Blockchain, Internet of Things (IoT) have all been evolving at a rapid pace. Currently, as per our analysis AI/ML is on an eight-month generational cycle, Blockchain on 15-month, and IoT on an 18-month generational cycle. The methodologies, techniques, and protocols are changing and the new ones going mainstream every eight, 15, and, 18 months, respectively for these technologies. And, there are a number of technology, business model, macro and micro-economic and consumer behavior trends that are changing across industries and geographies, on the back of the evolution of these deep technologies.

The innovation in these emerging deep technologies and the associated products and solutions, business, monetization, marketing, and adoption models are coming from different corners of the world, from companies of all sizes – big and small – and some way ahead than the others. In such a situation, we at Convergence realized that analyzing the trends and providing the outlook for a single year might not be right or adequate. So, we are analyzing the trends in deep technologies and predicting the evolution for a three-year period, 2020 to 2022.

During the period 2019-2021 many Technology Trends Radars have been developed from academia and private research organizations in order to track and provide a mapping on the most interesting technological trends. In fact, Technology and Innovation Radars the last couple of years have replaced typical newsletter, market analyses and briefs, which nowadays are considered as sporadic and generic.

The advantages of Technology and Innovation Radar for the better understanding of tech trends and innovation management are the following:

- Early identification of technologies, technological trends
- and technological shocks
- Raising the attention for the threats and opportunities of
- technological development

In addition, the partners worked in close contact with several networks, such as the Enterprise Europe Network (EEN) Ideal-ist & NCP related networks in order to leverage networking opportunities on the technologies of each startup activities, leverage advisory services on new market access and innovation management. Furthermore, insights for sector were also provided and connection of startups with local EEN offices was proposed as a way to get further support.

In close contact with local and regional EIT-KICs for the related sectors, several opportunities were recorded and promoted to the startups, via the website and during the mentoring sessions, including acceleration programs which provided funding, competitions and more specific opportunities for trainings, events, programs and financing opportunities. Finally, information and guidance was provided on DEI policies and E-DIHs and other initiatives relationships between STARTUP<sup>3</sup> with local DIHs and clusters which also participated in the corporate pool.



## 2.2 Approach

The approach for the development of the Tech Radar is standardized in the great majority of the trends reports that provide also radar, in order to track the core technologies. The process was built on three simple steps.

STEP 1: Recording of Tech Trends

STEP 2: Examine alternative scores

STEP 3: Provide mentoring to the startups on the technology trends.

On the first step we identified the technologies based on the results of existing research the technology and innovation radars are good strategic tools for early stage identification and prioritization in order to give an approximate value judgment without detailed return-on-investment justifications. In later stages of the planning process, the radar tools can be used as a high-level summary of an underlying prioritization process. In order to evaluate the level of maturity of the whether a given technology was ready to be used in spaceflight, NASA developed the Technology Readiness Level (TRL) scale.

As a main tool for innovations the EU Innovation Radar tool (<https://www.innoradar.eu/>), was used in order to identify existing innovations of high quality, which have already received EU financing for their projects.

The results of these methodologies vary on the construction methodologies and the elements examined based on the needs of priority. Based on the trends recorded in several reports the main report of focus is Gartner Report on the list of top strategic technology trends for the period 2018-2022. In addition, further information was gathered from the existing tech radars, since each company that provides technology radars uses different methodologies and categorizes technology trends in alternate ways. The results of these methodologies vary on the construction methodologies and the elements examined based on the needs of priority.

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**Table 1: Recorded Trends**

	2018	2019	2020	2021	2022
<b>Trend 1</b>	AI Foundation	Autonomous things	Hyper automation	Internet Behaviors of	Data Fabric
<b>Trend 2</b>	Intelligent Apps and Analytics	Augmented analytics	Multiexperiences	Total experience	Cybersecurity Mesh
<b>Trend 3</b>	Intelligent Things	AI-driven development	Democratisation	Privacy-enhancing computation	Privacy-Enhancing Computation
<b>Trend 4</b>	Digital Twins	Digital twins	Human augmentation	Distributed cloud	Cloud-Native Platforms
<b>Trend 5</b>	Cloud to the Edge	Empowered edge	Transparency and traceability	Anywhere operations	Composable Applications
<b>Trend 6</b>	Conversational Platforms	Immersive technologies	Enhanced edge computing	Cybersecurity mesh	Decision Intelligence
<b>Trend 7</b>	Immersive Experience	Blockchain	The distributed cloud	Intelligent composable business	Hyperautomation
<b>Trend 8</b>	Blockchain	Smart spaces	Autonomous things	AI engineering	AI Engineering
<b>Trend 9</b>	Event-Driven Model	Digital ethics and privacy	Practical blockchain	Hyperautomation	Distributed Enterprises
<b>Trend 10</b>	Continuous Adaptive Risk and Trust	Quantum computing	AI security		Total Experience
<b>Trend 11</b>					Autonomic Systems
<b>Trend 12</b>					Generative AI

Source: Gartner Research Tech Trends Reports for the years 2018-2022

The main problem and greater challenge of deep-tech startups is the “Valley of Death. The main challenge is the exploration of funding opportunities and seek for fundraising. Based on the EIB led EC study on financing the deep tech revolution<sup>1</sup>.

The partners of STARTUP3 exploit their network of national deep tech contacts, the NCP networks and EEN networks to keep a closely eye on policy developments in various ecosystems and funding opportunities.

On the VC landscape the startups of the TOP-10 and TOP-5 prioritized the EKT will also leverage the Greek EIF Funded “Equifund” group of VCs focusing on EU Tech Start-ups funding. Letters of support by a major Equifund partner is already acquired. As far as funding opportunities were concerned, two webinars were conducted on “Cascading Funding” opportunities and “EU Funding Opportunities” in Phase III. In the first webinar,

### 3 Engagement with Initiatives

Engagement of STARTUP3 with several initiatives was conducted during the whole duration of the project.

One of the major events with active participation of STARTUP3 was the one with Global Hack (<https://theglobalhack.com/>). Global Hack is an initiative which unites and 40+ hackathons organized globally. This action in the beginning of STATUP3 provided a sound involvement with global communities from all over the world. The Global Hack organized in 9-12 April 2020 with problems-solution proposed for global challenges in the midst of the COVID-19 crisis. The hackathon was organised by Accelerate Estonia, Garage, and Guaana with the support of Devpost and supported by the European Commission.

STARTUP3 co-organized the ACCIO OPEN CHALLENGE B2B Matchmaking event and the ISE & MWC/4YFN Open Innovation Challenge of 2021, in collaboration with ACCIÓ, the Cambra de Comerç de Barcelona and the Consell General de Cambres de Catalunya. ACCIÓ is a department of the Catalan Government's Ministry of Enterprise and Labour, partnering with the Enterprise Europe Network, the largest business support network worldwide.

In addition, in the context of STARTUP3 Business Week, startups from the TOP-10 participated in a series of activities and meetings with stakeholders during the brokerage event. Furthermore, the participants visited Inria<sup>2</sup> and MIA (Maison de l'Intelligence Artificielle)<sup>3</sup>.

Finally, during the STARTUP3 the partners were engaged with the members of the corporate pool (Corporates, VCs and CVCs). Experts also from other initiatives, DIHs and clusters shared experiences and provided advice to the startups during the discovery missions organized, and for the TOP-10 during the last Pitch Stop hosted in Athens, where Greek EIF Funded “Equifund” group of VCs focusing on EU Tech Start-ups funding participated and advised startups on their pitches.

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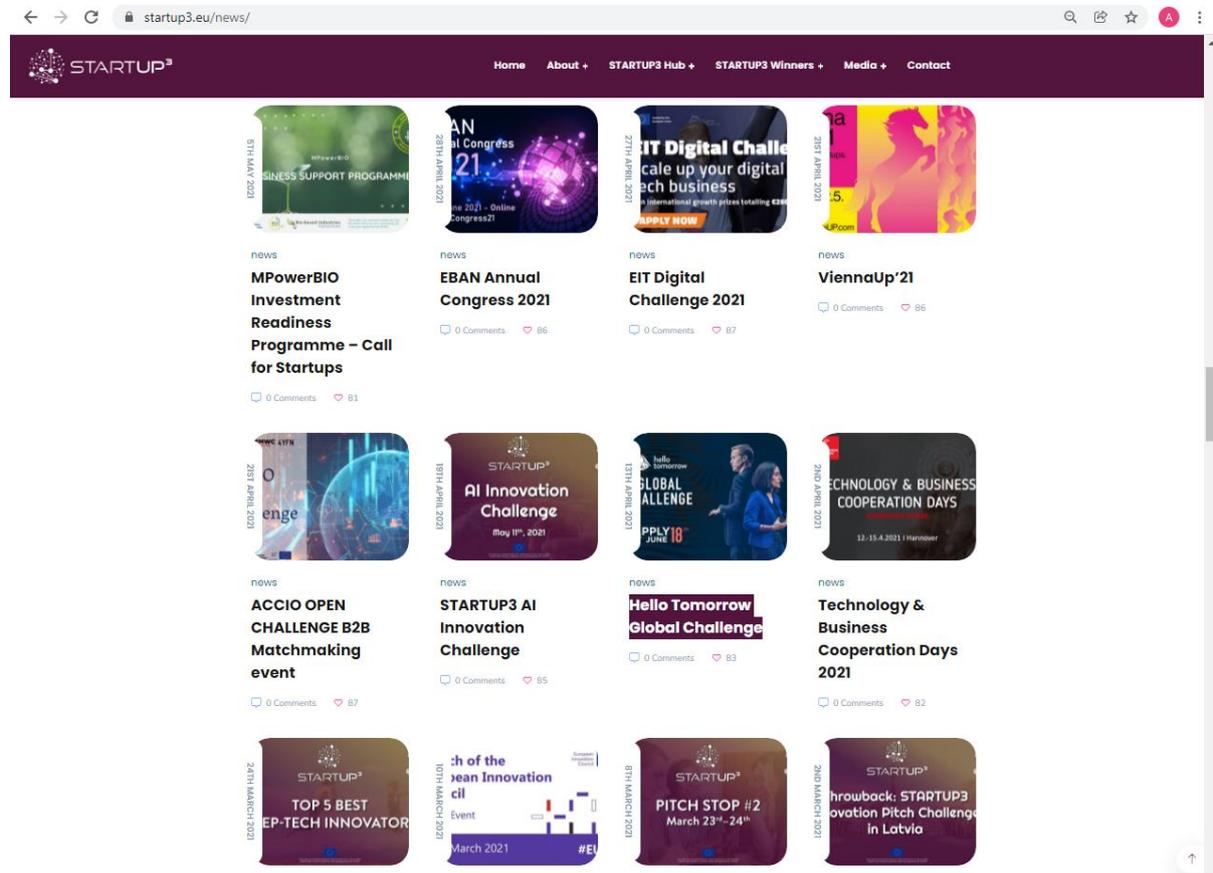
<sup>1</sup> [https://www.eib.org/attachments/pj/study\\_on\\_financing\\_the\\_deep\\_tech\\_revolution\\_en.pdf](https://www.eib.org/attachments/pj/study_on_financing_the_deep_tech_revolution_en.pdf)

<sup>2</sup> Inria is a Sophia Antipolis-Méditerranée Research Centre, established in 1983. It has developed along with Côte d'Azur University on the Sophia Antipolis site in Nice. It is also the French national research institute for the digital sciences.

<sup>3</sup> MIA is the largest technology park in Europe entirely devoted to Artificial Intelligence and its applications



The main channels for the communication of common engagements with initiatives that were supported either directly or indirectly by STARTUP3 were communicated by several alternate channels. The main were the newsletters provided to start-ups in all the 3 phases provided by Holla-up with the contribution of all partners involved and the website of STARTUP3.



## 1. STARTUP3 Policy Support Activities

Implied policies and strategies including European and National innovation and technology trends are considered to be crucial for the start-ups journey. Policies for innovation and technology developments for Europe's future that concern SMEs and startups were recorded and analysed in the two policy briefs.

In the two policy briefs summarization of policies, EU regulations and strategies and several initiatives were written comprehensively. Due to the fact that the startups ventures concerned different sectoral activities and solutions.

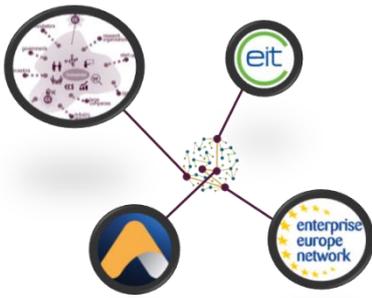


The decoding EU policies emphasized in the mapping of several deep-tech Industry opportunities, funding opportunities (Horizon Europe calls, EIC, InnoFund, cascading grants etc).

These opportunities were recorded in Excel format, including the openings of cascading grants with their main features, for the technologies that TOP-10 startups develop and the sectors of their interest. In Excel format, were recorded the EIT opportunities available for 2021 and HE calls.

In addition, there was direct communication and advisory during the mentorship and facilitation sessions from the partners, while targeted events and sessions were organized with the participation of key industry experts, during the Phase 3 of the project. The dissemination and communication actions also was made by the website of STARTUP3 and social media of the project.

The first policy brief included information on the Digital Single Market which targets on the support of EU platform of national initiatives for the coordinated support of digitalization of the EU industry, including the challenges and barriers for startups, as well as the existing opportunities for market access and funding. In addition, the opportunities from the Horizon Europe were also included, EIC Accelerator Program, since the startups of the TOP-5 could be benefited from the budget of EIC is €10 billion for the period 2021-2027, and funding opportunities of more than €1.5B in 2021, with the 70% of the available budget focusing on SMEs and startups/scaleups. Including equity financing. Finally, analysis and opportunities from Digitising European Industry (DEI) and the Digital innovation hubs were also included. The second policy brief included information on the Green Deal, the SDG targets and the EU Cohesion Strategy and opportunities that these programs create.



In addition, the briefs include all the related links to the official website of the EU Commission and the reported initiatives, so that startups could acquire further information on the policies and strategies on their interest. In addition, in the appendices, a mapping of the existing opportunities was included, as well as information on brokerage events for networking opportunities (focusing on all areas of the TOP-5 startups for business, technological and research collaborations). The main sources included b2match platform, events organized by EEN, EIT, NCP networks and several regional or national events.

A main lesson learned from the STARTUP3 project is that there is a lot of potential innovators and startups that needs to be aware of the technological evolution, especially startups in the early stages and SMEs in deep-tech. The knowledge on the policies and strategies help the to refine or restructure their business models and business plans on the demands of the future environment. The aim of capture and then share all the lessons learned in the process of startup/corporate matchmaking process shared and discussed throughout STARTUP3 in-house events. The general lessons and guidelines were provided to startups in all faces by the mentors and facilitators of STARTUP3.

Figure 1: Presentation of content sample of the Policy Briefs

