



A Robust Innovation Ecosystem for the Future of Europe

Report on the Results of the Stakeholder Consultation

October 2019 – February 2020

Independent
Expert
Report



eic

European

INNOVATION

Council

Research and
Innovation

A Robust Innovation Ecosystem for the Future of Europe - Conference Report

European Commission
Directorate-General for Research and Innovation
Directorate TF — European Innovation Council
Unit TF.2 — Innovation Ecosystems

Contact Fabienne Gautier, Head of Unit TF.2
Email RTD-TF2-ASSIST@ec.europa.eu
Fabienne.GAUTIER@ec.europa.eu
RTD-PUBLICATIONS@ec.europa.eu

European Commission
B-1049 Brussels

Manuscript completed in June 2020.
First edition.

This document has been prepared for the European Commission, however it reflects the views only of the authors, and the European Commission is not liable for any consequence stemming from the reuse of this publication.

More information on the European Union is available on the internet (<http://europa.eu>).

PDF ISBN 978-92-76-18991-6 doi:10.2777/524268 KI-02-20-380-EN-N

Luxembourg: Publications Office of the European Union, 2020

© European Union, 2020



The reuse policy of European Commission documents is implemented based on Commission Decision 2011/833/EU of 12 December 2011 on the reuse of Commission documents (OJ L 330, 14.12.2011, p. 39). Except otherwise noted, the reuse of this document is authorised under a Creative Commons Attribution 4.0 International (CC-BY 4.0) licence (<https://creativecommons.org/licenses/by/4.0/>). This means that reuse is allowed provided appropriate credit is given and any changes are indicated.

For any use or reproduction of elements that are not owned by the European Union, permission may need to be sought directly from the respective rightholders. The European Union does not own the copyright in relation to the following elements:

Image credits:

Cover: © olly #156251554, 2017. Source: fotolia

A Robust Innovation Ecosystem for the Future of Europe

**Report on the Results of the
Stakeholder Consultation**

edited by
Alex Barrera

FOREWORD

Innovators and entrepreneurs are the main drivers of technological advances, economic growth, job creation, and social and economic progress and stability. In the context of post-COVID recovery, their role is more than ever essential.

It is therefore of great importance that we create the ground for a sustainable, robust and integrated ecosystem that supports startups and innovative businesses in Europe. Access to resources (capital and talent), genuine multi-stakeholder involvement, public-private/private-private collaborations, innovation networks that nourish innovators as well as a climate that encourages diversity and inclusiveness are all vital for a robust innovation ecosystem.

This report brings together the outcomes of a consultation process developed and run by the European Innovation Council Task Force, and involving representatives of the most relevant actors of the innovation ecosystems from all corners of Europe and beyond. It is a mirror of the state of play of the European innovation ecosystem and a source of inspiration for European policy makers at all levels.

Connectedness between all stakeholders must be sustained not only nationally, but across borders, where new coordination tools must be developed, suitable for Europe's incredible diversity and ecosystem complexity. In addition, there is a need to foster the entrepreneurial ethos from an early age. Entrepreneurship and understanding of how the innovation ecosystem operates must permeate all actors, from students to faculty, researchers, entrepreneurs, investors, and civil servants. It is also critical to maintain a holistic view of the funding of the ecosystem. While scaleups are certainly a priority, it is essential to continue investing in early stage companies and to support and enable trial and error and the scaling-up of innovative pilots from the public sector.

The findings of this report will aid the work of the European Commission in enabling European innovation ecosystems, sprouting startups, creating the future entrepreneurs of Europe, scaling up European businesses, and engaging actors at various levels - from local to regional and national to European and global. It will ultimately be about changing lives and helping European innovators and European enterprises to achieve their full potential.

The consultation process that has informed this report has given voice to the European innovation ecosystem actors so that their views, challenges and proposals were discussed and reflected in this report. It is important to improve cross-border collaboration and cross-fertilisation of European innovation ecosystems and their actors.

The activities of Horizon Europe, and notably the European Innovation Council, together with all ecosystems actors, will strive to achieve the maximum impact within the coming years, a period that is important for enabling sustainable innovation ecosystems in Europe. Together we can usher in a new era that is innovation-driven, entrepreneurial, resilient, and inclusive for all.

Mariya Gabriel
European Commissioner for Innovation,
Research, Culture, Education and Youth
July 2020

TABLE OF CONTENTS

- 1. INTRODUCTION 4**
- 2. GOALS 5**
- 3. EDITOR'S NOTE 6**
- 4. EXECUTIVE SUMMARY 7**
- 5. STATE OF PLAY OF INNOVATION ECOSYSTEMS LANDSCAPE AND CHALLENGES IDENTIFIED 9**
 - 5.1. CONNECTEDNESS..... 10
 - 5.2. COMPETENCE 25
 - 5.3. CAPITAL..... 29
 - 5.4. CROSSCUTTING CHALLENGES 35
- 6. MAIN RECOMMENDATIONS..... 37**
 - 6.1. CONNECTEDNESS..... 37
 - 6.2. COMPETENCE 46
 - 6.3. CAPITAL..... 50
 - 6.4. CROSSCUTTING ACTIONS 54
- 7. CONCLUSIONS 56**
- 8. ANNEXES 59**
 - 8.1. SESSION DEBRIEFS..... 59
 - 8.2. GENESIS OF THE REPORT 68

1. INTRODUCTION

This report presents the result of a consultation process launched by the Commission with representatives of innovation ecosystem stakeholders – startups, investors, corporates, universities and Research & Technology Organisations (RTOs), regions¹ and cities, national innovation agencies and ministries. The goal of the collected information is to help build the future of the innovation ecosystem in Horizon Europe², the next funding programme for Research and Innovation, in the most inclusive, diverse, and connected way possible.

Each ecosystem stakeholder has specific bottlenecks and challenges related to issues of *connectedness*, *competence* and talent, and access to and deployment of *capital*. Cutting across all three issues are the inclusion and diversity challenges inherent to a rich and multicultural region like Europe.

The feedback emphasises the need to work together, overcome personal or niche issues, and expand collaboration through increased data analysis and qualitative information sharing. Europe needs to provide an excellent environment to foster innovation through better citizen engagement, increased openness to investment risk and reduced regulatory burden.

Europe can compete with other world regions and become a global leader in many disruptive fields. The only way to achieve it is by joining forces, uniting our diverse resources and investing strongly in our future.

"We must take action now, as our general style of living in Europe and our society is at stake. If we're not leaders in a number of markets, our lifestyle and societal model will be eroded. We have a richness of diversity and we must keep it while building connectedness between all actors at different levels."

Jean-David Malo
Director of the European Innovation Council, EIC Task Force
A Robust Innovation Ecosystem Conference, Feb 2020

¹ The workshop for the regions had been co-designed with ERRIN, SERN and EURADA networks

² https://ec.europa.eu/info/horizon-europe-next-research-and-innovation-framework-programme_en

2. GOALS

The overall goal of this report is to collect and analyse the feedback received during the consultation phase, with a view to informing the development of Horizon Europe. This breaks down into several objectives:

- **What are the challenges?** Each stakeholder is confronted with a unique set of innovation problems. These challenges depend on the actors and their country or region. In addition to the challenge, it is essential to understand their causes and their relative importance to stakeholders.
- **What works well?** Focusing on the challenges is crucial. Nevertheless, understanding existing good practice and successful strategies is also necessary. Mutual learning and exchange between relevant stakeholders is vital.
- **How can European Union help?** One of the most impactful Research & Innovation instruments Europe has is Horizon Europe (HEU). It is crucial to figure out how it can best achieve the most substantial impact for innovation ecosystem stakeholders.
- **How to make sharing the default?** One of the largest challenges, especially with geographically distributed stakeholders, is how to foster collaboration and sharing.
- **What are the next steps?** The end goal of this report is to seed several actions to implement under Horizon Europe (HEU).

3. EDITOR'S NOTE

"As the Covid-19 pandemic sweeps the globe, the world is evolving in ways we can't even imagine right now. Some are surprised by some of the unfolding changes, however, what we're watching is an extreme acceleration of the innovation trends that were already underway.

Today, more than ever, we need to be vigilant of how innovation is being deployed and used. Disruptive technology advances and changes rules, regulations, and our societies. Such fast and abrupt changes upset the social fabric of our countries. Increased automation of work, regulatory conflict, the erosion of privacy, and inequality, are all symptoms of a change of paradigm, now being accelerated by the pandemic. We can't stop the impending evolution, but we can try and minimise the impact on society.

To safely step into the next era, we have to make sure our innovation ecosystem is healthy. Health isn't just funding and talent, but an investment in morals, ethics, and diversity. It's easy to invest in a company. It's harder to make sure its disruption doesn't break our world. Our citizens will be impacted. We can't stop that. But we can make sure we plan, support and reintegrate the disrupted.

Caring for your national innovation ecosystem is tough. To do that at a European level, dealing with each Member State's culture, structures, and idiosyncrasies, is extremely challenging. The suggestions of this report can help build a robust innovation ecosystem for all. One in which collaboration abounds; one in which ethics and values underpin the advancement of the whole."

Alex Barrera
Editor in Chief at The Aleph Report

4. EXECUTIVE SUMMARY

"We now have the possibility to work the challenges from the beginning instead of fixing the problem later on. This work requires synergies with other organisations and stakeholders, as it's impossible to do this alone. [...] We must show our citizens that implemented EU actions have positive results for them. We must take action now with Horizon Europe (HEU) and turn things into action."

Mariya Gabriel

European Commissioner for Innovation, Research, Culture, Education and Youth
A Robust Innovation Ecosystem Conference, Feb 2020

This report records the challenges and actionable suggestions produced by innovation stakeholders during the consultation process for '*A Robust Innovation Ecosystem for the Future of Europe*'.

The challenges are grouped in three major pillars: *connectedness* of the stakeholders, *competence* and talent, and *capital*. Some challenges and actions belong to all three and are treated as *crosscutting* challenges.

Connectedness

According to the feedback and survey data collected, connectedness between stakeholders, both locally and abroad, is one of the critical challenges for many stakeholders.

To unlock the innovation potential from Europe's incredible research capacity, the relationship between corporations and startups with universities and Research and Technology Organisations (RTOs) must be improved through better and more frequent networking and novel trainings.

Innovation must flow beyond the main city hubs. There is a need to improve current networks so that innovation can reach everyone in Europe, improving their livelihoods without leaving anyone behind.

This connectedness between all stakeholders must be sustained not only nationally, but across borders, where new coordination tools must be developed, suitable for Europe's incredible diversity and ecosystem complexity.

Competence

While the innovation ecosystem has grown in recent years, there is still a need to foster the entrepreneurial ethos from an early age. All stakeholders agree that entrepreneurship and understanding of how the innovation ecosystem operates must permeate all actors, from students to faculty, researchers, entrepreneurs, investors, and civil servants.

A key factor for better competences is developing a great understanding of what is happening in the innovation ecosystem and how it evolves over time. To that end, all stakeholders recognise the need for more and better information on all innovation processes.

Capital

For several years now, Europe has placed its focus on supporting the growth of scaleup companies with great success. However, the challenge isn't finished and there is still a need for more capital, improved cross-border investment and a de-risking of the investment in disruptive companies (e.g. in deep tech).

Meanwhile, it is critical to maintain a holistic view of the funding of the ecosystem. While scaleups are a priority, it's essential to continue investing in early stage companies and to support and enable trial and error and the scaling-up of innovative pilots from the public sector.

Crosscutting

Beyond these three challenges, stakeholders brought up the urgency to reduce the current regulatory burden. There is a need for simplified legislation, experimentation and flexibility of existing legislation through the use of regulatory sandboxes, and new ways of developing innovative public procurement.

5. STATE OF PLAY OF INNOVATION ECOSYSTEMS LANDSCAPE AND CHALLENGES IDENTIFIED

The questionnaire (see Annexes) shared in January received 310 responses and had a well-balanced representation of innovation stakeholders (Figure 1). The results gave interesting insights that explain need for many of the subsequently suggested actions.

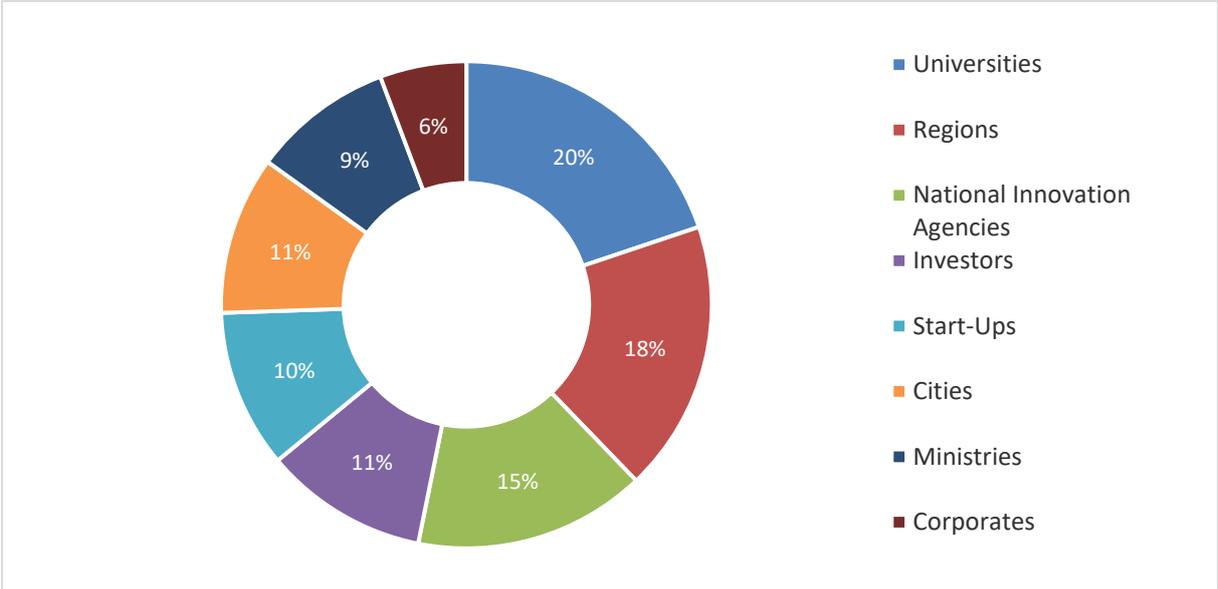


Figure 1: Composition of the Respondents to the Questionnaire. A Robust Innovation Ecosystem Questionnaire Results Jan 2020.

According to the stakeholders, the present-day innovation ecosystem works somewhat well on a local level, but starts to deteriorate as it scales out to a national level. Interestingly, the perception of the ecosystem at a European level, is much better than at national level. (Figure 2).

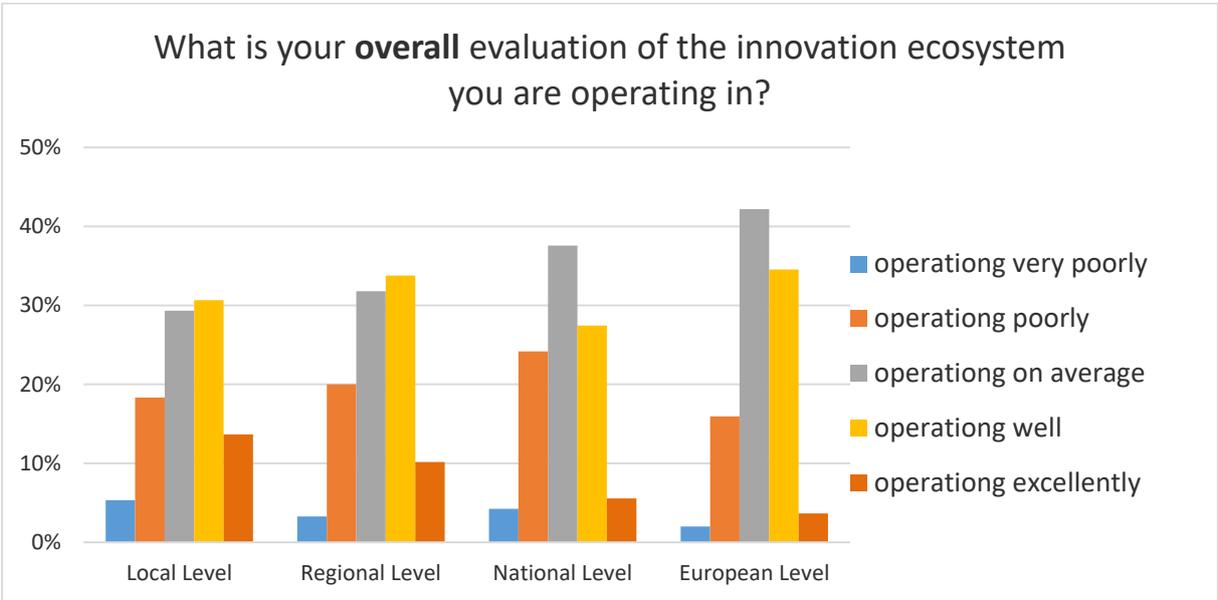


Figure 2: Innovation ecosystem evaluation. A Robust Innovation Ecosystem Questionnaire Results. Jan 2020.

The collected learnings are grouped around three main pillars of the innovation ecosystem: *connectedness* among stakeholders, *competences* and talent, and *capital* needs.

5.1. Connectedness

Connectedness is a challenge in the innovation space. Strong networks provide the fundamental support for innovation to happen. Knowledge, talent, and capital flow through the connected innovation networks. However, the level of connectedness differs for each stakeholder and it tends to degrade with distance from the local hub.

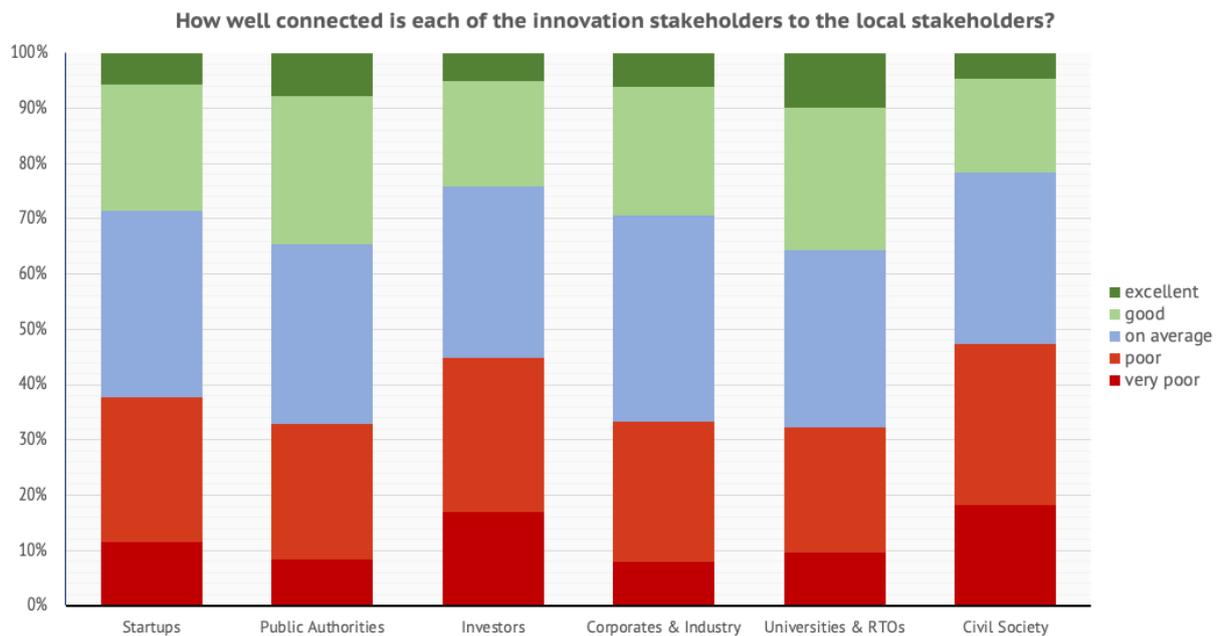


Figure 3: Innovation ecosystem connectedness to the local stakeholders. A Robust Innovation Ecosystem Questionnaire Results. Jan 2020.

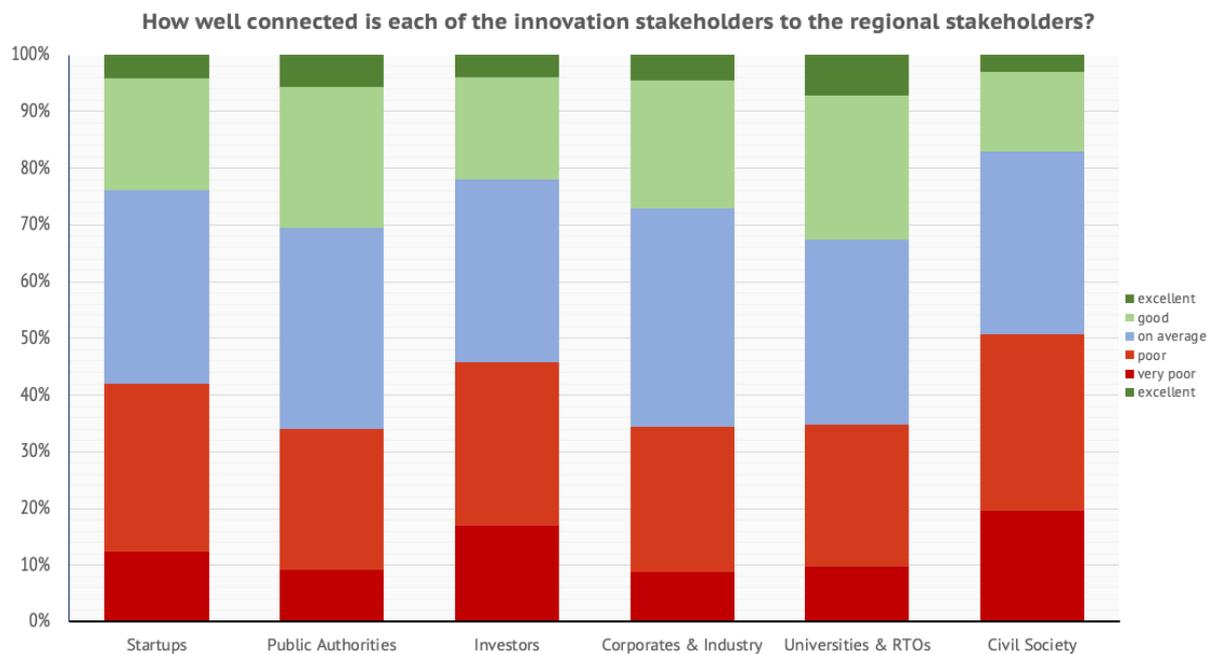


Figure 4: Innovation ecosystem connectedness to the regional stakeholders. A Robust Innovation Ecosystem Questionnaire Results. Jan 2020.

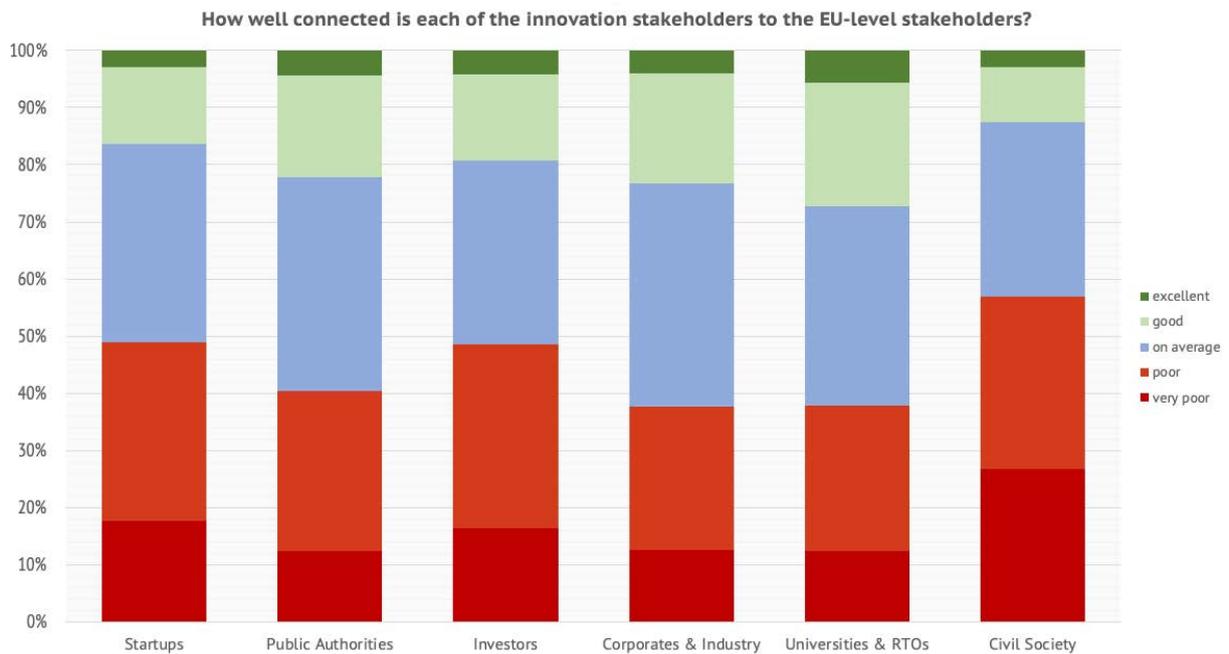


Figure 5: Innovation ecosystem connectedness to the EU-level stakeholders. A Robust Innovation Ecosystem Questionnaire Results. Jan 2020.

According to the questionnaire results, most stakeholders, except investors, are rather well connected at a local level. This connectedness gets progressively harder as we move away from the local ecosystem. Interestingly, both corporations and universities maintain good connectedness, even beyond their local ecosystems.

- Support a structured and co-ordinated network to foster expansion

In the workshops, stakeholders frequently brought up the need to strengthen the internationalisation capabilities of the innovation ecosystem. There are three challenges with internationalisation. The first one is the need to foster *stronger international relationships* that bolster the financial needs of the ecosystem. The second one is for an increased *exchange of information and talent*. The third is the need for *better capabilities to go international, scale up beyond national borders and exit the company*.

"In smaller countries startups go international immediately. We need to look how EU policy can help the fostering of international ecosystems."

Tatiana Panteli, Head of Brussels Office of EuroTech Universities Alliance

A Robust Innovation Ecosystem Conference, Feb 2020

"Improve international matchmaking of investors (trusted local co-investors can guide newcomers through local ecosystem, legal and tax implications) [...] Provide coaching/training for founders to be internationally investable and able to pass "due diligence"."

A Robust Innovation Ecosystem Investors Workshop, Nov 2019

"(National Innovation Agencies should help) supporting companies to learn different international innovation ecosystems via, e.g. overseas pilot-programmes. [...] match-making between international and national companies, and exploring potential ways for cross-national collaborations."

A Robust Innovation Ecosystem National Innovation Agencies Workshop, Jan 2020

"As Corporates, we struggle to connect with the ecosystem. We're well connected locally, but struggle at a regional, EU, and international level where we lack information and communication with our peers. We need more support on how to connect with everyone outside our comfort zone."

Beatrice Maestri, Head of Open Innovation at Electrolux Group
A Robust Innovation Ecosystem Conference, Feb 2020

- Improve connectedness between corporations and universities and RTOs

When digging deeper and asking specific stakeholders such as universities, how they evaluate their level of connectedness (Figure 6), we can see that they are mostly well connected to other universities and public entities. Extending their connectedness to other stakeholders, as the feedback obtained during the workshops and conference shows, is a big challenge.

Many stakeholders highlighted the need for better and stronger connectedness between industry and the academic world. This is also corroborated by the responses from academia in relation to where they need better connections. (Figure 7).

How would you evaluate the **Connectedness** between actors within your **local** ecosystem? (bt universities and other actors)

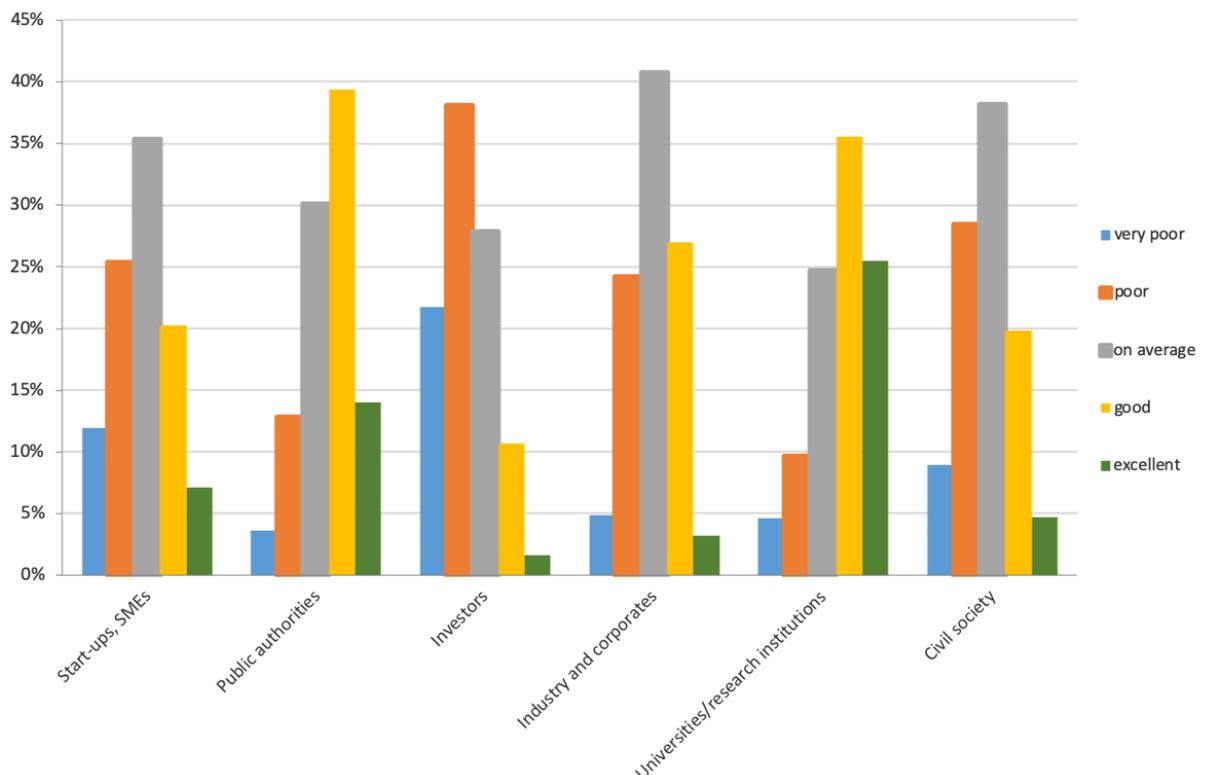


Figure 6: Connectedness perception of universities within the local ecosystem. A Robust Innovation Ecosystem Questionnaire Results. Jan 2020.

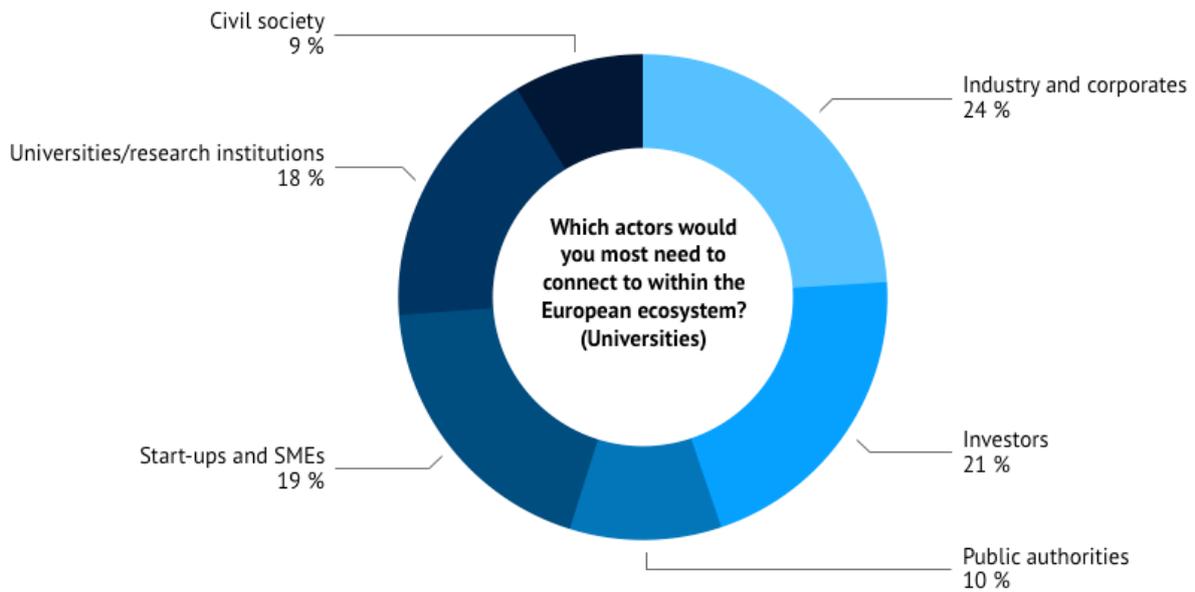


Figure 7: Connectedness needs for universities. A Robust Innovation Ecosystem Questionnaire Results. Jan 2020.

Corporations also feel a lack of connection, mostly with startups and universities (Figure 8). When asked with whom they should connect better, universities and RTOs were the top choice (Figure 9).

How would you evaluate the **Connectedness** between actors within your local ecosystem? (bt industry/corporates and other actors)

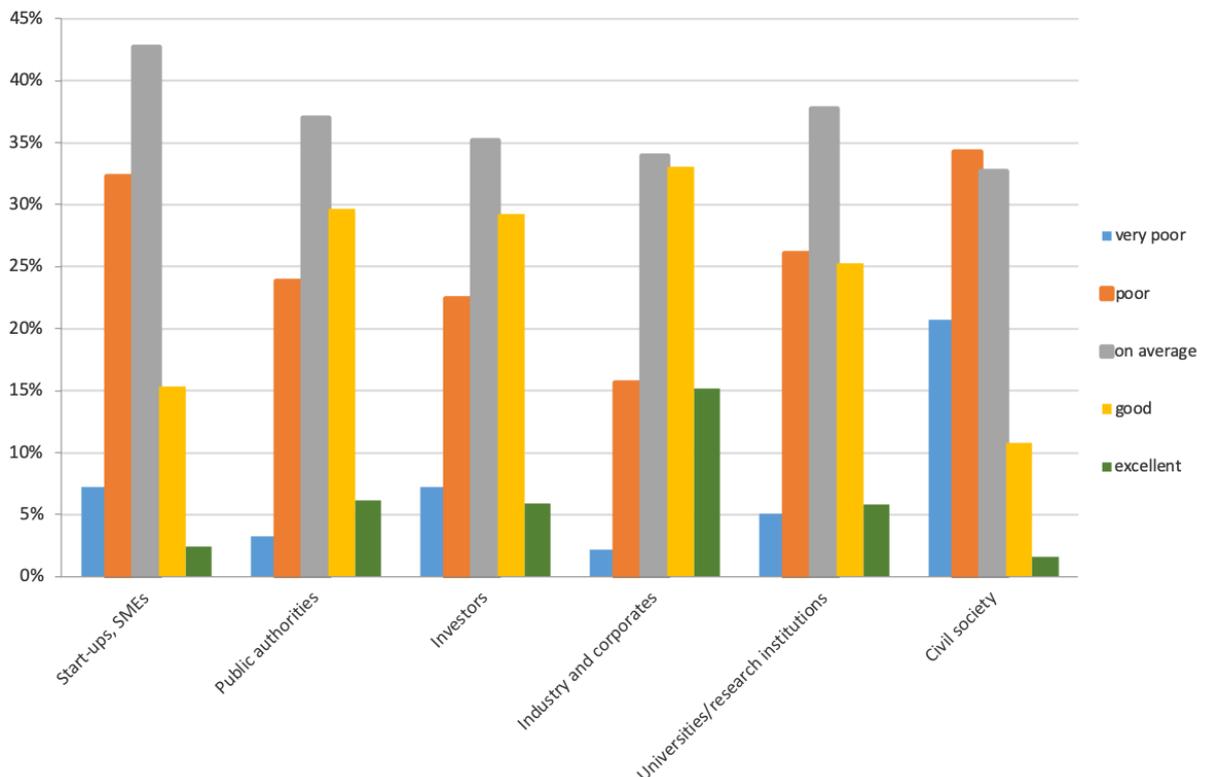


Figure 8. Connectedness perception of corporates of the local ecosystem. A Robust Innovation Ecosystem Questionnaire Results. Jan 2020.

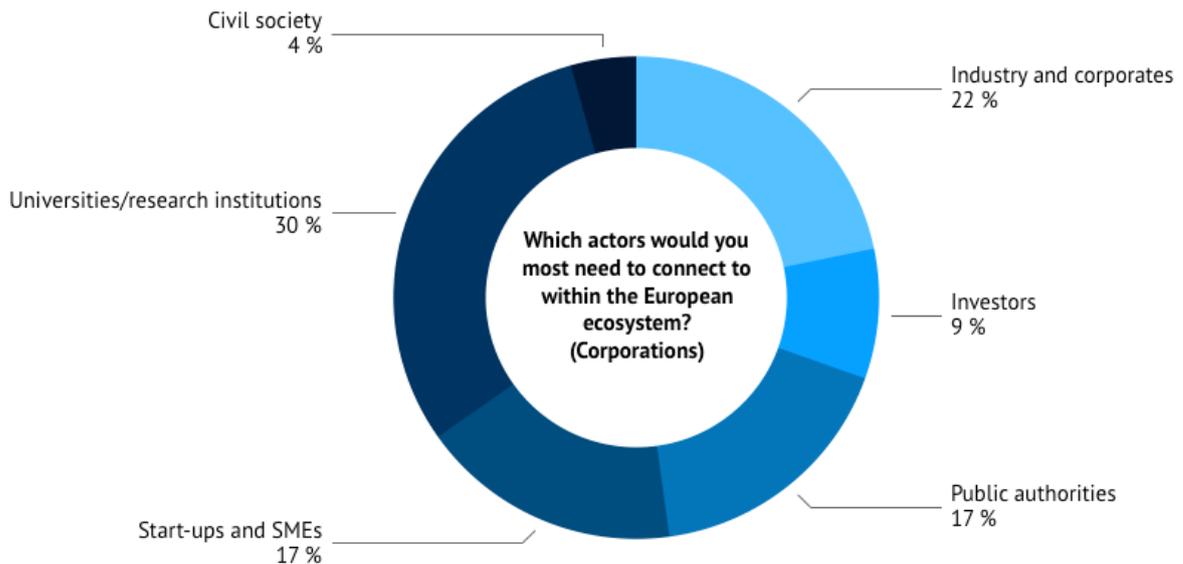


Figure 9. Connectedness needs for universities. A Robust Innovation Ecosystem Questionnaire Results. Jan 2020.

The clear need for better connectedness between corporations and the academic world, was reflected by the feedback and comments of all the stakeholders consulted.

"Insufficient interaction among the innovation stakeholders (e.g. collaboration between research organizations and SMEs in terms of knowledge and technology transfer; lack of information, insufficient diffusion of knowledge, best practices and experience."

A Robust Innovation Ecosystem Ministries Workshop, Jan 2020

"Need for proposals for industrial doctorates, partnering with industry, as well as industrial professorships."

A Robust Innovation Ecosystem Universities Workshop, Jan 2020

"Innovation doesn't only come from startups but from corporations & research centres and we need to foster the collaboration."

Robin Wauters, CEO of Tech.eu

A Robust Innovation Ecosystem Conference, Feb 2020

"Lack of strong bond between R&D institutions and corporates."

A Robust Innovation Ecosystem Corporations Workshop, Dec 2019

- Improve connectedness between universities, RTOs, startups and accelerators

Startups and accelerators express the need for better links to academia. The feedback from the survey is reciprocal from the universities and also supported by comments during consultation.

Universities and research centres are a fundamental elements of the innovation ecosystem. However, as seen in the survey and during the consultation process, the academic system mostly connects well among themselves and with public authorities. The issue, as stated in the feedback, is not just to provide an entrepreneurial culture for students, but to all strata of the academic world.

"Universities act as matchmakers, linking VCs, students, industry"

A Robust Innovation Ecosystem Universities Workshop, Jan 2020

"If you go to a campus, you'll meet the recruiter from Google or Deutsche Telecom, or big corporates but you won't meet any recruiter from the startup community. A key priority is to have universities to provide recruiters for startups."

Nicolas Brien, CEO of France Digitale

A Robust Innovation Ecosystem Conference, Feb 2020

"As mentioned before, universities are talent growers of future actors of the innovation ecosystems. We should develop and grow students providing them with the right tools, enabling students in whatever they want to do."

Tatiana Panteli, Head of Brussels Office of EuroTech Universities Alliance

A Robust Innovation Ecosystem Conference, Feb 2020

"At the moment there is limited private-public cooperation. We need to increase such cooperation. The role of startups in the ecosystem is often downplayed or ignored."

**Vassilis Tsanidis, Innovation Policy Coordinator, Region of Central Macedonia,
Greece**

A Robust Innovation Ecosystem Conference, Feb 2020

- Improve connectedness between startups and investors

In a similar fashion, startups and investors still find it challenging to connect, especially beyond their local borders. Due to the asymmetry of the number of startups vs. investors, it is not surprising that, while the perception of connectedness of startups toward investors is not exceptional (Figure 10), this connectedness is slightly worse from the investor perspective (Figure 11). In other words, it's harder for investors to find startups beyond their area of influence, than for startups to find European investors.

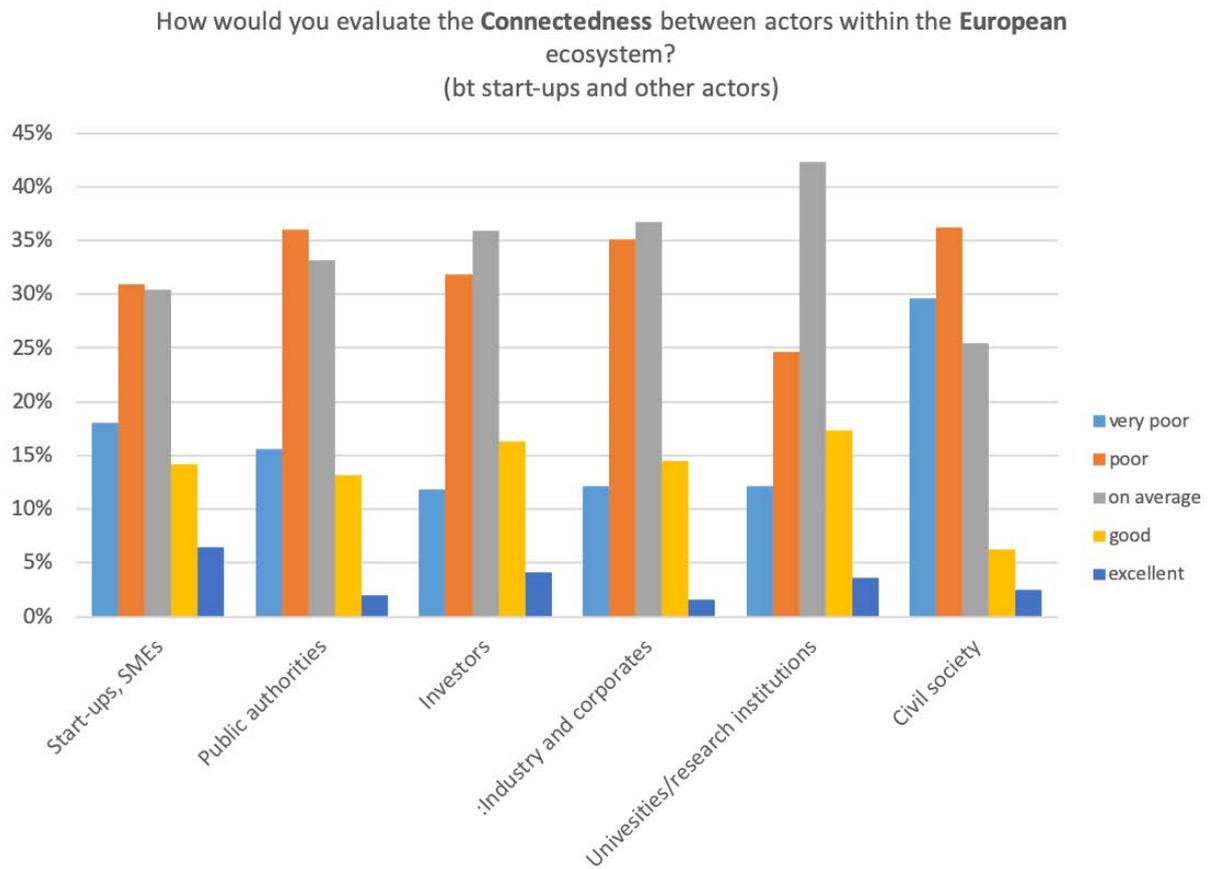


Figure 10: Connectedness perception of startups of the European ecosystem. A Robust Innovation Ecosystem Questionnaire Results. Jan 2020.

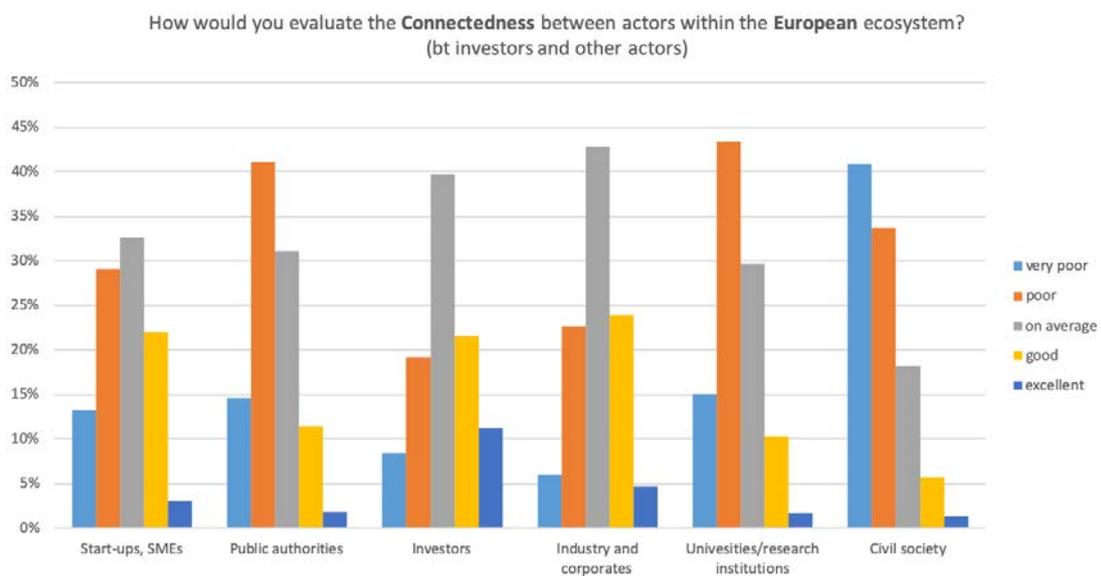


Figure 11: Connectedness perception of investors of the European ecosystem. A Robust Innovation Ecosystem Questionnaire Results. Jan 2020.

"Insufficient matchmaking among investors-startups preventing the full exploitation of complementary investment, co-financing and follow-on rounds (lack of networks and trust)."

"Challenging cross border investments required for scale"

"Insufficient offer of seed capital and other funding in certain regions/countries. For later stage funding companies have to move to EU hubs (Berlin, London, etc.)"

A Robust Innovation Ecosystem Investors Workshop, Nov 2019

"No trusted ecosystem entry points to guide start-ups (students, individuals), potential players (corporates, consultants, investors) and scouters from other ecosystems"

A Robust Innovation Ecosystem Startups Workshop, Nov 2019

- Foster more and larger mergers, acquisitions and IPOs between startups and corporations

The end goal of any innovation ecosystem is to improve society, either by increasing efficiency or by solving currently intractable problems. Due to the long-term commitments required to deliver solutions to the market, many innovations require large upfront investments. This financial capital expects a return on the investment. Mergers and acquisitions (M&A) of innovative companies are one of the most important mechanisms to provide the kind of returns financial capital expects (i.e. exponential returns). The larger the returns from M&A operations, the higher the chance investors reinvest part of those returns back into the ecosystem, creating a valuable and important virtuous cycle.

According to the feedback from the consultation process, the levels of M&A activity for European companies is low compared to other world regions. For those acquisitions that do happen in Europe, the transacted volume is, according to the stakeholders, still very low, producing small returns for investors and making reinvestment into the innovation ecosystem harder.

"There is an exit bottleneck for investors due to low corporate interest in M&A in Europe and inadequate founders' commitment and knowledge on exit strategies (need for coaching)"

A Robust Innovation Ecosystem Investors Workshop, Nov 2019

"Funding is progressing and growing. However, the larger the available growth capital, the less exits we're seeing. Right now, corporates don't have much appetite for M&A in Europe."

Robin Wauters, CEO of Tech.eu

A Robust Innovation Ecosystem Conference, Feb 2020

"Right now, there is an exit bottleneck for investors. We need to educate founders on how to do exits or go public (IPO). There are plenty of consumer startups that have great pitches. Nevertheless, startups in industrial, clean tech, or less traditional verticals don't do that well. They need to be better sellers and have bigger ambitions to grow the company."

Niclas Holmberg, Managing Director of Global Listing Services, Nasdaq

A Robust Innovation Ecosystem Conference, Feb 2020

"As corporations, we have certain responsibilities within the innovation ecosystem. We should invest more in innovation or buy when the technology is already proven. There is, however, a gap when it comes to emerging technology. In most cases, it's not ready to be used in a corporation and we might be able or not to invest in it."

Beatrice Maestri, Head of Open Innovation at Electrolux Group

A Robust Innovation Ecosystem Conference, Feb 2020

- Improve connectedness among cities and regions

The same effect of reduced connectedness happens with cities and regions. Locally and regionally, the connections are good, but they start deteriorating slightly when they become trans-national (Figure 13).

Interestingly, the need for connectedness for cities and regions is much more balanced than that of other stakeholders (Figure 14, Figure 15). It's also relevant to point out, how the need to connect with the citizens increases as we distance from the local level and move towards the European one.

How well connected are Public Authorities to the rest of the innovation stakeholders?

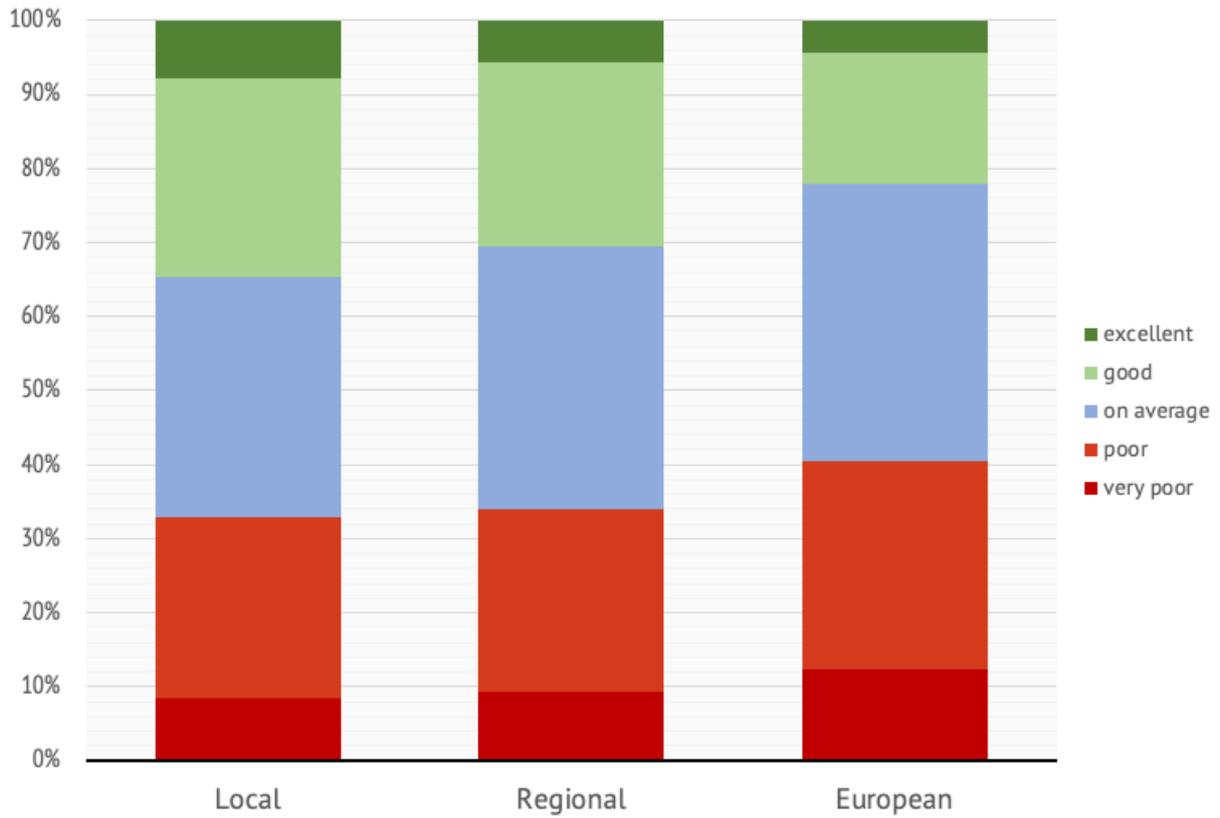


Figure 12: Connectedness levels of Public Authorities to all stakeholder levels. A Robust Innovation Ecosystem Questionnaire Results. Jan 2020.

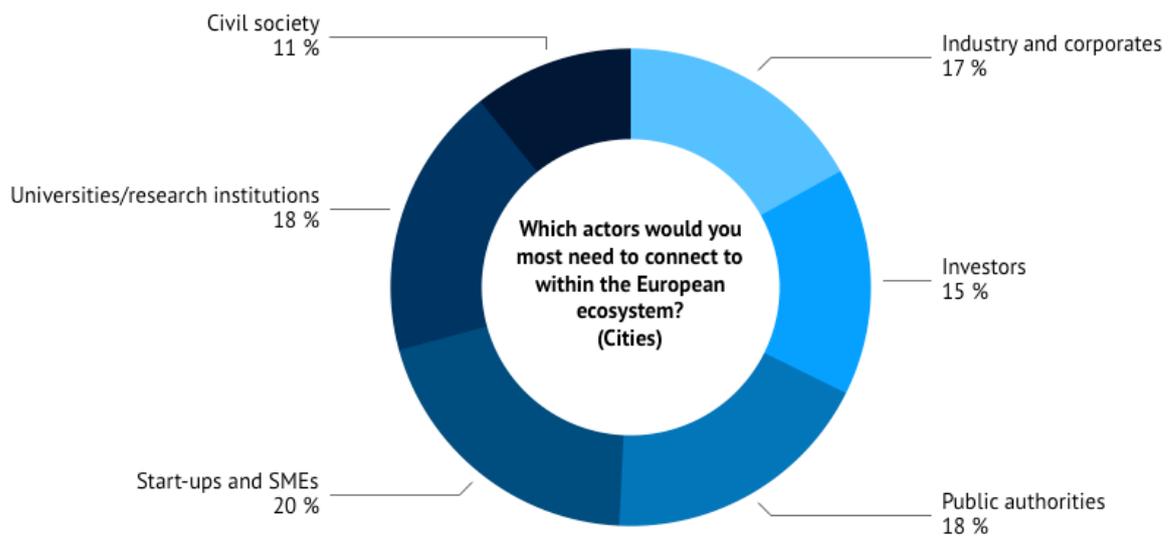


Figure 13: Connectedness needs for cities. A Robust Innovation Ecosystem Questionnaire Results. Jan 2020.

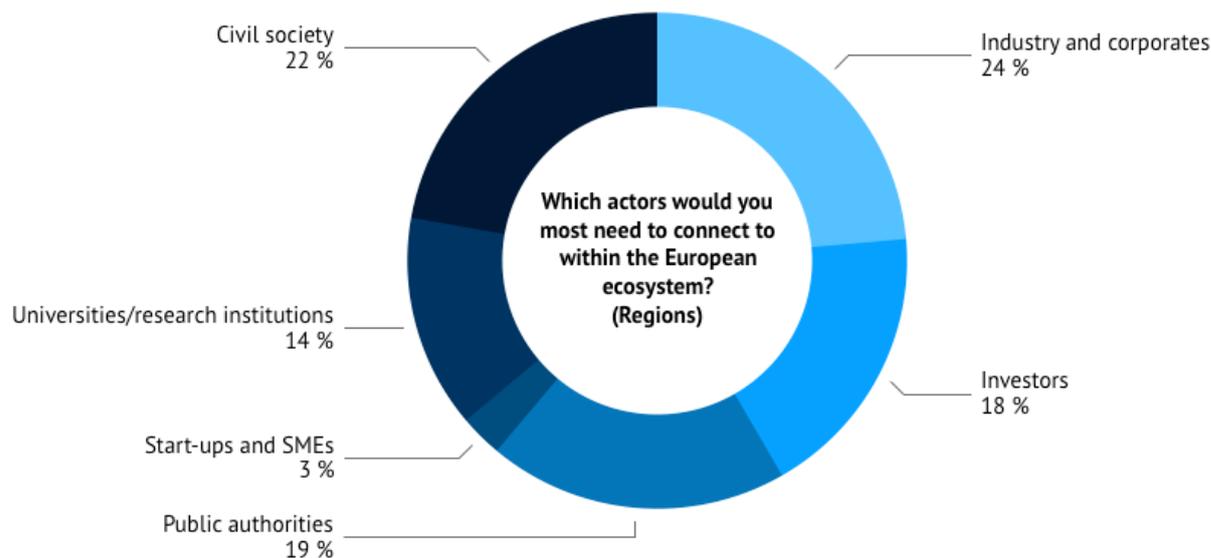


Figure 14: Connectedness needs for regions. A Robust Innovation Ecosystem Questionnaire Results. Jan 2020.

The need for better communication and exchange of information, both locally between cities, regions, and among national authorities, is a constant comment collected during the workshops and the conference.

"Cities should have a bigger saying within the innovation procurement process, as we provide the safety to deploy such help to boost innovation. Overall, we need to talk more between cities and regions."

Aleksandra Olejnik, Policy Advisor, Eurocities
A Robust Innovation Ecosystem Conference, Feb 2020

"One of the biggest challenges for us is the interlinking with other regional ecosystems. We can't leave regional ecosystems to be left behind. Top regions need to be interconnected with less advanced regional ecosystems."

Vassilis Tsanidis, Innovation Policy Coordinator, Region of Central Macedonia, Greece
A Robust Innovation Ecosystem Conference, Feb 2020

"We need better interlinking of the innovation regional hubs. If we look at the US, they only have four actors: startups, VCs, some universities and corporates. The cooperation between them is extensive, in addition to having more money. In Europe, on top of the previous ones, we have many other stakeholders that need to be included: RTOs, Scientific & Research centres, regions and cities."

Isidro Laso Ballesteros, Deputy Head of Unit of Innovation Ecosystems, EIC Task Force
A Robust Innovation Ecosystem Conference, Feb 2020

"Poor links and networking opportunities between cities from Eastern and Western Europe to enhance exchange of good practices."

"Organisational division between technical department and other departments often prevents social dimension of technical projects."

A Robust Innovation Ecosystem Local Authorities (Cities) Workshop, Jan 2020

"Need for more synergies among the local, regional, national, European levels."

A Robust Innovation Ecosystem Ministries Workshop, Jan 2020

"Lack of cooperation among different ecosystems striving from competitiveness between certain actors from within."

A Robust Innovation Ecosystem Startups Workshop, Nov 2019

- Improve connectedness between local public entities, and local innovation stakeholders

Local public entities also struggle with connecting and identifying the key local innovation stakeholders. As shown by the survey data (Figure 15), there seems to be a rather large disconnection with investors, followed by poor connectedness with startups, and finally corporations. This doesn't mean they're not in touch, but rather that it's an area that could be improved.

How would you evaluate the **Connectedness** between actors within your **local ecosystem?** (bt public authorities and other actors)

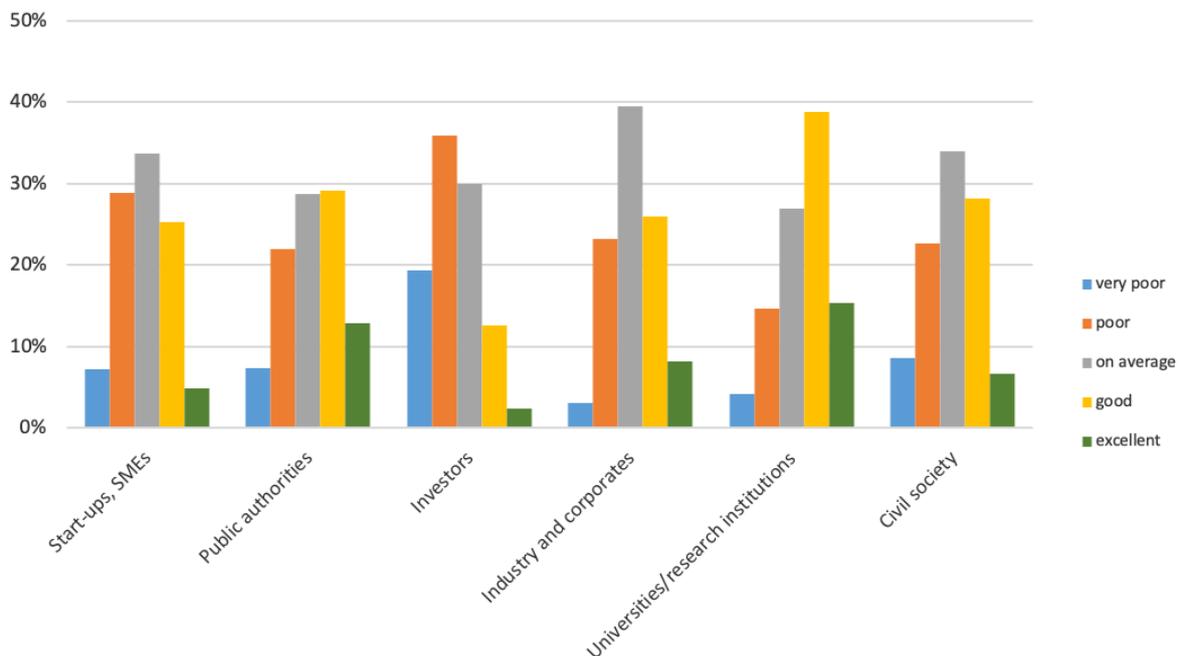


Figure 15: Connectedness perception of public authorities of the local ecosystem. A Robust Innovation Ecosystem Questionnaire Results. Jan 2020.

This challenge of identifying and keeping up with the dynamic connectedness of the local innovation actors was reiterated during the workshops and conference.

Some of these challenges derive from a lack of innovation capabilities within public organisations at all levels, preventing them from participating in the ongoing dialog. The end goal is the same, better capabilities so that public stakeholders can efficiently implement the necessary changes to support their local ecosystems.

"Insufficient knowledge of local innovation stakeholders, their needs and services."

A Robust Innovation Ecosystem Local Authorities (Cities) Workshop, Jan 2020

"Need for more knowledge exchange, between academia, business and citizens [...] Need for more informal networking and meet-ups"

A Robust Innovation Ecosystem Universities Workshop, Jan 2020

"Lack of tools to identify and match best local innovation ecosystems around Europe to facilitate local2local and local2regional cooperation."

A Robust Innovation Ecosystem Local Authorities (Cities) Workshop, Jan 2020

▪ Increase citizen engagement

Certain stakeholders do not perceive a need to connect better with citizens. However, most public authorities, especially at a regional or national level, do feel there is an increasing need to engage with the citizens (Figure 13, Figure 14). The results from the questionnaire highlight this need, and so do local, regional and national authorities across the workshops and conference feedback. Perhaps the most glaring picture is the poor and very poor connectedness perception civil society has of their connectedness with most stakeholders (Figure 16).

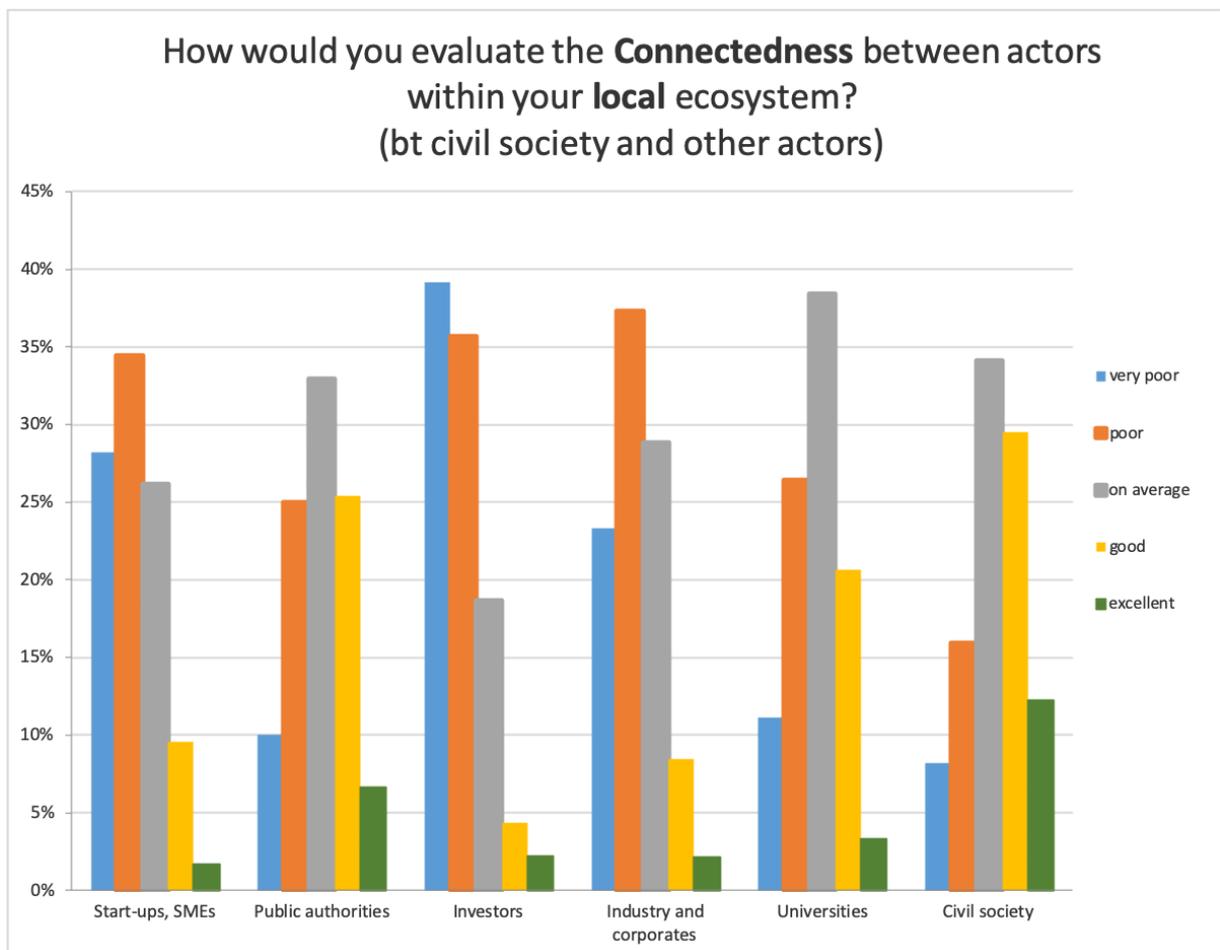


Figure 16: Connectedness perception of public society of the local ecosystem. A Robust Innovation Ecosystem Questionnaire Results. Jan 2020.

"Also, regions need to be supported so that they can increase their citizen participation, facilitating the commercial uptake of innovations."

Vassilis Tsanidis, Innovation Policy Coordinator, Region of Central Macedonia, Greece

A Robust Innovation Ecosystem Conference, Feb 2020

"All cities don't have to have the same innovations. We have to work on solutions that are sustainable for us and our citizens. We should be working closer with the citizens."

Aleksandra Olejnik, Policy Advisor, Eurocities

A Robust Innovation Ecosystem Conference, Feb 2020

"Lack of opportunities to efficiently test citizen driven solutions and provide them with feedback – playgrounds to safely experiment and fail. [...] Poor entrepreneurship culture hinders proactive citizen approach to innovation and also prevents them from endorsing innovative ideas and tools."

A Robust Innovation Ecosystem Local Authorities (Cities) Workshop, Jan 2020

- Empower National Innovation Agencies

During the consultation process the need for improved one-stop-shops, as well as a single point of reference when entering different ecosystems was outlined. Due to the different natures of each National Innovation Agency (NIA), this information is currently fragmented or challenging to obtain. There is an increasing need for broader coordination among different member states' NIAs, with better ways to exchange information.

" Poorly aligned local, regional, national and European objectives and support actions"

A Robust Innovation Ecosystem Local Authorities (Cities) Workshop, Jan 2020

"There is a dire need for role models (i.e., Pathfinder, Accelerator program) and a one-stop-shop for the national innovation ecosystem's actors."

Karina Anguelieva, Deputy Minister of Education and Science, Bulgaria

A Robust Innovation Ecosystem Conference, Feb 2020

"One of the biggest challenges is that each European innovation agency is very different from each other. The only common thing is the word 'innovation'."

"Having a one-stop-shop is extremely important for the innovation ecosystem. Nonetheless, this challenge is still very complex to fix."

Eduardo Maldonado, President of the National Innovation Agency, Portugal

A Robust Innovation Ecosystem Conference, Feb 2020

"No trusted ecosystem entry points to guide start-ups (students, individuals), potential players (corporates, consultants, investors) and scouters from other ecosystems."

"Lack of success stories and exchange of experiences."

A Robust Innovation Ecosystem Startups Workshop, Nov 2019

- Develop a European forum for major coordination between all stakeholders

The need for a pan-European forum where every stakeholder can explain their challenges and share their feedback was also brought up. A full agreement of the attendees for the need for a supra-national innovation forum to debate, discuss and share both challenges and best practices was reached.

"It's becoming critical to have a place where all the stakeholders can meet and share. This is the objective and reason for the creation of the EIC Forum. We want to test this with all stakeholders, including Ministries and Innovation Agencies."

Jean-David Malo, Director of the European Innovation Council, EIC Task Force
A Robust Innovation Ecosystem Conference, Feb 2020

"We need the EIC Forum to discuss and connect with the main stakeholders (also with the ones back in our home countries). [...] We need a bigger voice, not only for capacity building, but to inform and share common innovation issues with local politicians."

Karina Anguelieva, Deputy Minister of Education and Science, Bulgaria
A Robust Innovation Ecosystem Conference, Feb 2020

"There are weak links between local innovation strategies and Research and Innovation Strategies for Smart Specialisation (RIS3) to fully harness synergies."

A Robust Innovation Ecosystem Local Authorities (Cities) Workshop, Jan 2020

5.2. Competence

Another critical pillar for the innovation ecosystem are competence and talent. The higher the competence of each stakeholder, the faster, leaner and more powerful the ecosystem becomes. The data from the questionnaire shows that access to the best people is easier at the local and regional level than beyond regional or national borders. It seems that part of the challenge is related to the better connectedness of the ecosystem at a local and regional level, as well as an innate knowledge of how one's country operates.

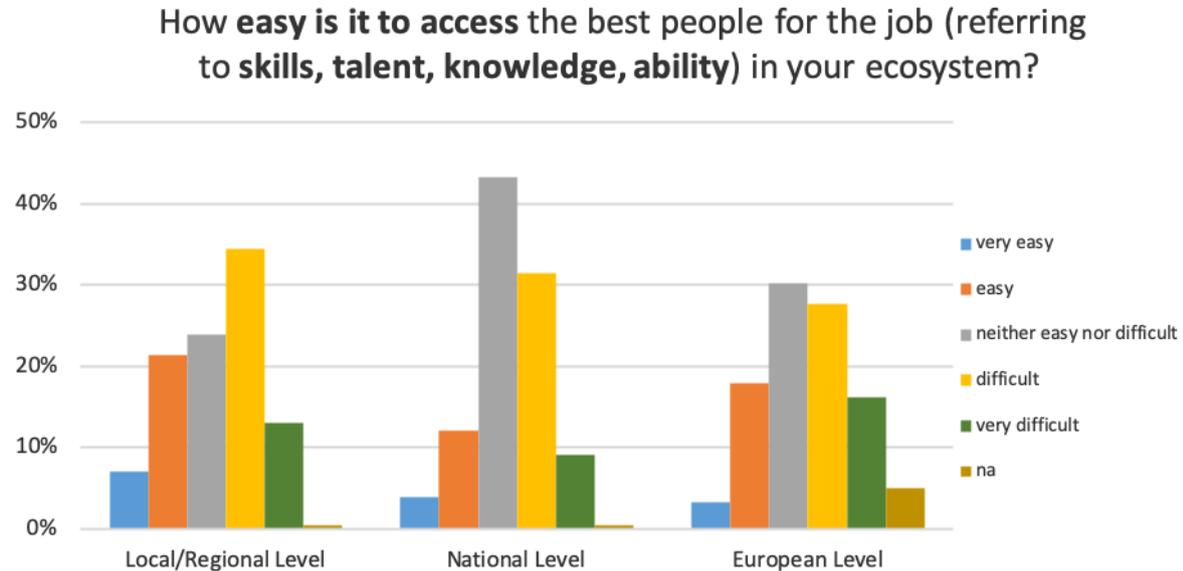


Figure 17: Accessibility of skills, talent, knowledge and ability in the innovation ecosystem. A Robust Innovation Ecosystem Questionnaire Results. Jan 2020.

- Foster entrepreneurial culture in universities and research centres (RTOs)

Universities and research centres are fundamental actors of the innovation ecosystem. However, as seen in the survey and during the consultation process, the academic system mostly connects well among themselves and with public authorities. The issue, as stated in the feedback, is not just to provide an entrepreneurial culture for students, but to all strata of the academic world.

"Insufficient entrepreneurship mindset and business skills that should be enhanced particularly in academia, not enough cooperation between industry and academia; need for more innovation culture in business environment."

A Robust Innovation Ecosystem Ministries Workshop, Jan 2020

"Possibly sharing the expert pool with national agencies."

A Robust Innovation Ecosystem National Innovation Agencies Workshop, Jan 2020

"Training to be provided at all levels, including tech-transfer & innovation officers."

A Robust Innovation Ecosystem Universities Workshop, Jan 2020

"Requires change in mindset and attitude, towards a problem-based approach to learning."

A Robust Innovation Ecosystem Universities Workshop, Jan 2020

- Increase social responsibility, inclusiveness, diversity, ethics and moral values within the innovation ecosystem

As one stakeholder articulated during the conference: Europe has a hard time attracting and retaining talent. One key way to improve this is to be inclusive and remove all friction for new people to join in. Europe should not, cannot, leave anyone behind. However, according to the feedback from the relevant stakeholders, the definition of what we mean by 'diversity' is elusive. For the majority, diversity is about gender equality, but according to key actors, the actual definition goes beyond that. At the same time, feedback gathered during the conference also underlined the scarcity of data to measure how much diversity the innovation ecosystem has and how diversity evolves over time.

"Lack of diversity in the local innovation ecosystems and difficulties in translating diversity into value."

A Robust Innovation Ecosystem Ministries Workshop, Jan 2020

"It's also responsible for integrating the technology with society (i.e. Center for technology in society in Munich university) with a focus on human centered technology. Universities should teach ethics and morals of technology."

Tatiana Panteli, Head of Brussels Office of EuroTech Universities Alliance

A Robust Innovation Ecosystem Conference, Feb 2020

"The current socio-economic situation of the EU shows we have trouble attracting talent from abroad. We struggle to retain talent at home too."

Oana Bouraoui, Co-founder of StartUp Europe Lens

A Robust Innovation Ecosystem Conference, Feb 2020

"Information on diversity should be public and available for all companies. We should put this as a priority area. We must collect that data ourselves within our own organizations, we can't rely on self-reported outsider data on diversity"

"The EU innovation ecosystem is made of many actors and we need a system that's as inclusive as possible to maximize entrepreneurship. We must identify the barriers and challenges that prevent our citizens from becoming entrepreneurs, we need to remove the friction and make it easier to get them to where they're going."

Natalie Novick, Chief Community Officer at Startup Boost

A Robust Innovation Ecosystem Conference, Feb 2020

- Need for better actionable information on all fronts

The lack of qualitative and quantitative data was a frequent comment during the consultation process. As Europe evolves and matures around its innovation ecosystem, the need for better data to take key decisions increases.

"There is a need for collecting data and merging the knowledge and sharing it with policy-makers"

A Robust Innovation Ecosystem National Innovation Agencies Workshop, Jan 2020

"We need better data and time to deploy innovation projects that require full cycle deployments. [...] We need collected data for districts so we can use it to further advance our innovative projects."

Aleksandra Olejnik, Policy Advisor, Eurocities

A Robust Innovation Ecosystem Conference, Feb 2020

"Data availability, data utilisation, and information sharing is of the essence. We have so much information, in research, energy consumption, efficiency, Horizon 2020 projects, nonetheless we're not exploring it."

Karina Anguelieva, Deputy Minister of Education and Science, Bulgaria

A Robust Innovation Ecosystem Conference, Feb 2020

"We lack data around diversity numbers, even within the EU instruments. For example, the SME instrument has been operating for four years, but we don't have any data on the diversity of that instrument."

Oana Bouraoui, Co-founder of StartUp Europe Lens

A Robust Innovation Ecosystem Conference, Feb 2020

"There is a critical need for more and better data. Not any data, but qualitative and actionable."

Robin Wauters, CEO of Tech.eu

A Robust Innovation Ecosystem Conference, Feb 2020

"Many reports are missing diversity data. We don't have good sources to measure, track and deploy diversity actions."

Natalie Novick, Chief Community Officer at Startup Boost

A Robust Innovation Ecosystem Conference, Feb 2020

- Lack of innovation capabilities in public stakeholders

A constant feedback has been the lack of innovation capabilities at all levels in the public sector. For some, there is a need for capability building around better public procurement that supports the needs of the innovation stakeholders. For others, it's a basic component to be able to participate in the ongoing dialog. The end goal is the same, better capabilities so that public stakeholders can efficiently implement the necessary changes to support their local ecosystems.

"Limited role of public authorities in providing skills and training programs to accelerate partnerships with other ecosystems. [...] Insufficient capacities and knowledge to design innovative public procurements."

A Robust Innovation Ecosystem Local Authorities (Cities) Workshop, Jan 2020

"There are inadequate innovation capabilities of the administrations."

A Robust Innovation Ecosystem Ministries Workshop, Jan 2020

"We need support for the innovation know-how capacity-building of local authorities. This support shouldn't be unique to the frontrunners, but to all cities."

Aleksandra Olejnik, Policy Advisor, Eurocities
A Robust Innovation Ecosystem Conference, Feb 2020

"As pointed before, we need a critical mass of administrators that know about innovation, as politicians don't know how to implement these things."

Karina Anguelieva, Deputy Minister of Education and Science, Bulgaria
A Robust Innovation Ecosystem Conference, Feb 2020

5.3. Capital

Capital is a fundamental element for the growth of the innovation ecosystem. According to the questionnaire data, early-stage (pre-seed, seed, and some Series A) funding is relatively simple to raise at a local level. However, it is easier as we approach the national level (Figure 18). This is explained by the location of the innovator. If they live in one of the top innovation spots of the country, access to early-stage money will be easy. If they live in a second-tier city, the capacity to raise money will improve if they do it in another location (top tier innovation pole), hence the improved perception of raising early-stage funds nationally.

According to Isidro Laso, Deputy Head of Unit Innovation Ecosystems, EIC Task Force, in Europe, 67% of all scaleups (>€1M raised) are located in only 48 cities (34% of the GDP). Most are located in either one or two cities per country.

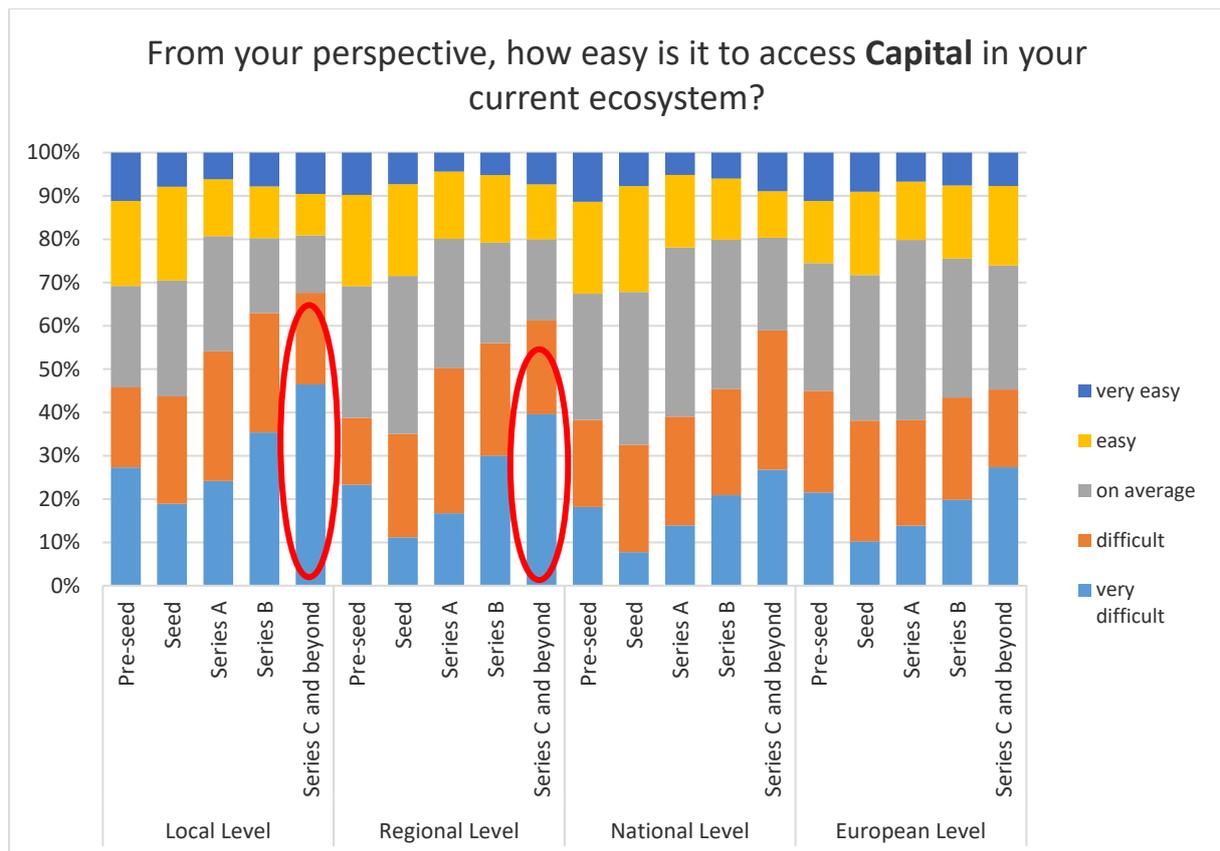


Figure 18: Access to capital perspective. A Robust Innovation Ecosystem Questionnaire Results. Jan 2020.

By contrast, as innovative companies look to raise more mature funds (late Series A, Series B, C and beyond), it becomes harder to do that in one's own country (no matter the level), and easier to do it at the European level.

The following is a list of potential actions that were raised by the innovation stakeholders during both the consultation process and the conference:

- Maintain support for seed funds and early-stage accelerators

As derived from the survey data, as well as comments from different stakeholders, both during the workshops and the conference, there is a need to strengthen the early stage funding landscape.

"We need funding from AI startups from the cradle. In US, 10% of their funding comes from universities, in EU only 1%. In France we've setup a €100M VC fund in order to invest in AI startups from within the university. We need to bring this to an EU level."

Nicolas Brien, CEO of France Digitale

A Robust Innovation Ecosystem Conference, Feb 2020

"Insufficient offer of seed capital and other funding in certain regions/countries. For later stage funding companies have to move to EU hubs (Berlin, London, etc.)."

A Robust Innovation Ecosystem Investors Workshop, Nov 2019

"We also need to take care of other types of companies that aren't scaleups (i.e. Accelerator programs) and take advantage of the diversity of our ecosystems to get the best from each."

"The innovation ecosystem needs to be able to go from idea to global market. However, the early stages of ideas (seed) aren't well supported by the Commission."

Eduardo Maldonado, President of the National Innovation Agency, Portugal

A Robust Innovation Ecosystem Conference, Feb 2020

"Right now, there is a lack of capital to do so. There isn't enough capital deployed to support projects coming out of the university."

Tatiana Panteli, Head of Brussels Office of EuroTech Universities Alliance

A Robust Innovation Ecosystem Conference, Feb 2020

"Providing more funding schemes for incubators and accelerators."

A Robust Innovation Ecosystem National Innovation Agencies Workshop, Jan 2020

- De-risk investment in innovative companies

Many local investors feel that investing on their own in a company exposes them to major risk. To prevent this, most investors co-invest with other firms. There is an increasing need to de-risk such operations while involving cross-border investors, including the European Innovation Council.

"We need to take much more risk when investing and create a framework to include other investors, that includes cross-border investments. We must de-risk investments for private investors. We need to do that both for early stage and late stage investments to avoid poaching from China."

Jean-David Malo, Director of the European Innovation Council, EIC Task Force

A Robust Innovation Ecosystem Conference, Feb 2020

"Insufficient matchmaking among investors preventing the full exploitation of complementary investment, co-financing and follow-on rounds (lack of networks and trust)."

"Not one, but three 'valleys of death', from R&D to proof of concept, from proof of concept to first customer, and then scaling. The EIC addresses the third, but European Ecosystems need to support the first two."

A Robust Innovation Ecosystem Universities Workshop, Jan 2020

- Increase focus on partnerships between startups and corporations

Corporates also show a lack of connectedness with startups. When startups are asked, they corroborate the problem, indicating poor levels of connectedness to both corporations and public authorities (Figure 19, Figure 20, and Figure 21).

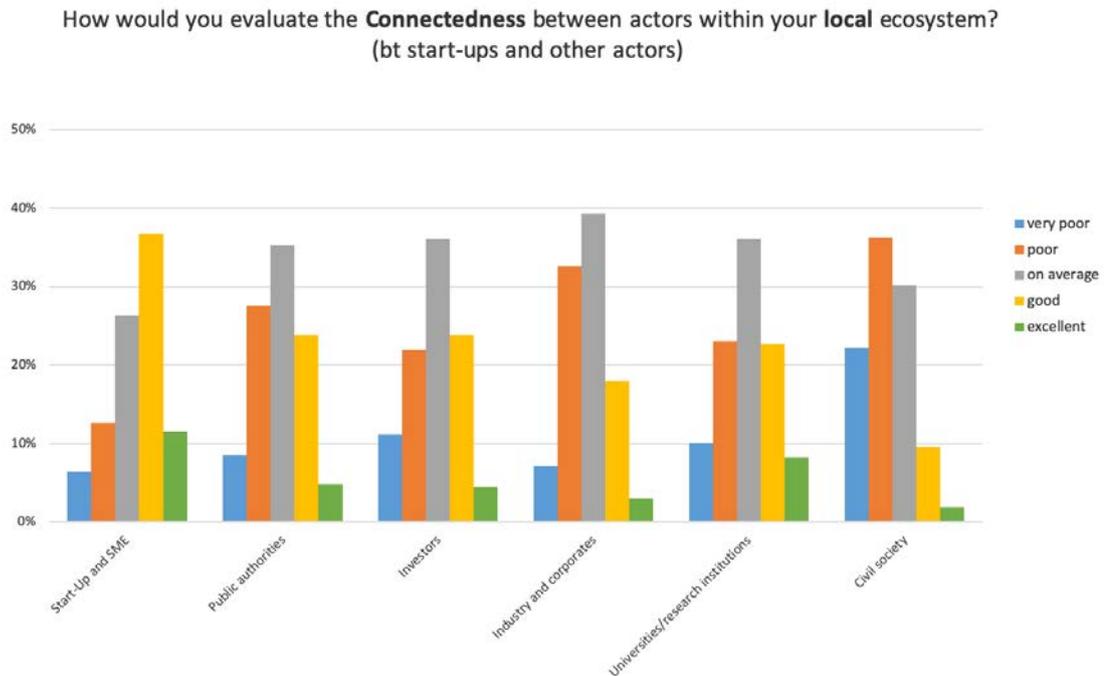


Figure 19. Connectedness perception of startups within the local ecosystem. A Robust Innovation Ecosystem Questionnaire Results. Jan 2020.

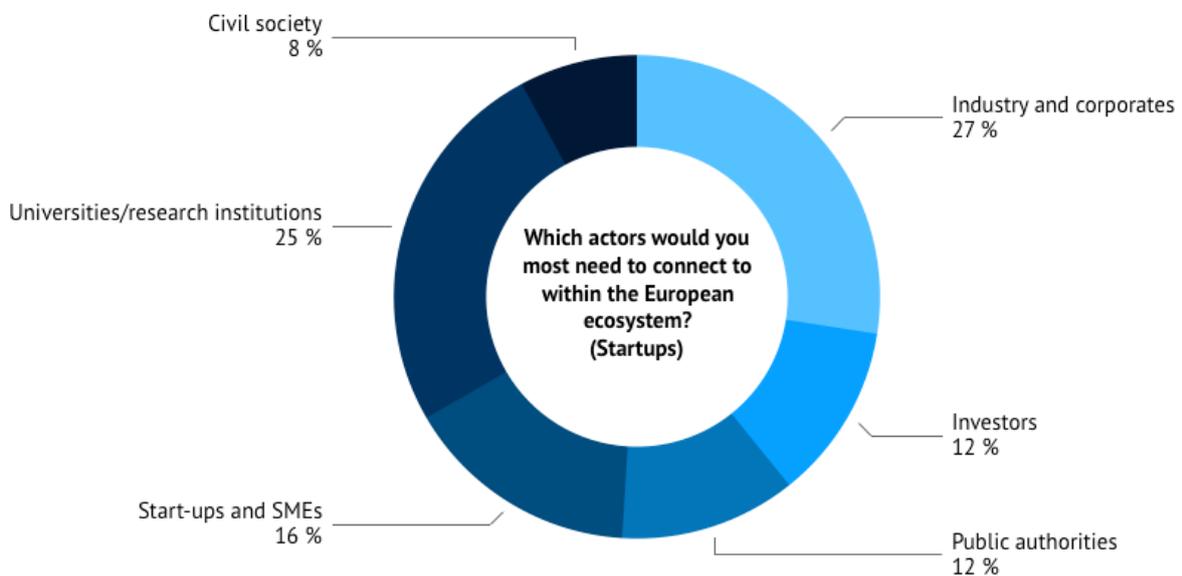


Figure 20. Connectedness needs for startups. A Robust Innovation Ecosystem Questionnaire Results. Jan 2020.

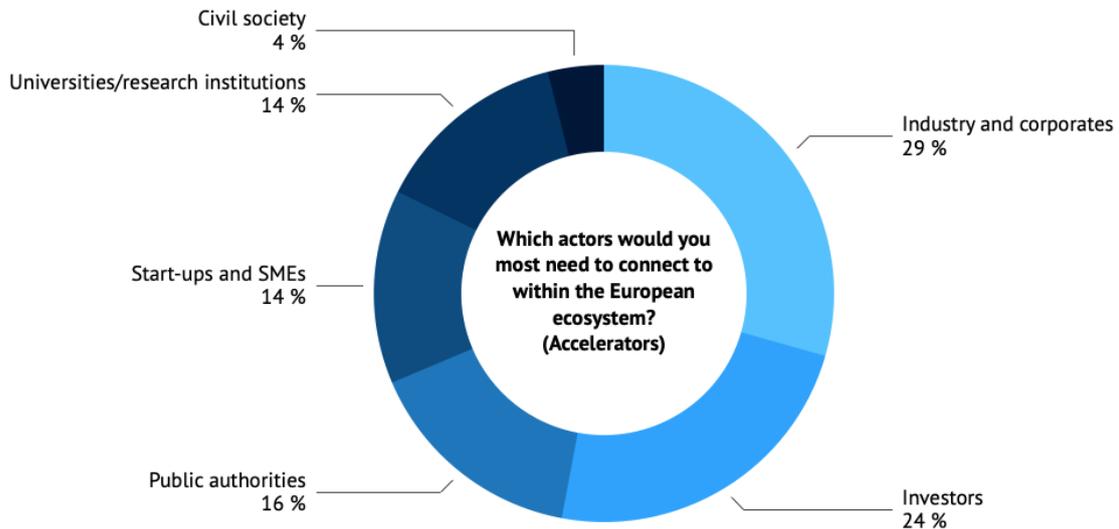


Figure 21. Connectedness needs for Accelerators. A Robust Innovation Ecosystem Questionnaire Results. Jan 2020.

The gathered feedback, both during the conference and the different workshops, also highlights the weak connectedness between entrepreneurs, startups and corporations and local authorities.

"Poor connections between local research community and entrepreneurs for transfer and market uptake of innovative ideas."

A Robust Innovation Ecosystem Local Authorities (Cities) Workshop, Jan 2020

"Insufficient match-making between corporates and start-ups."

A Robust Innovation Ecosystem Startups Workshop, Nov 2019

"While the relationship between startups and corporations is improving, we need to educate startup founders. They need to have better awareness around what works for us, before we do an equity investment. Right now, it's more about being a client for the corporation, than an investment but it depends on the geographical areas."

Beatrice Maestri, Head of Open Innovation at Electrolux Group

A Robust Innovation Ecosystem Conference, Feb 2020

- Lack of funding in critical innovation areas

It is hard to group all the challenges each stakeholder has, but it is clear that many public authorities feel they lack enough funds to deploy innovative practices themselves (Figure 22). They perceive a lack of funds for scaleup projects, regional inclusion programs or more frequent matchmaking events.

In which of the following areas would you say that EU support is most lacking, within your local ecosystem?

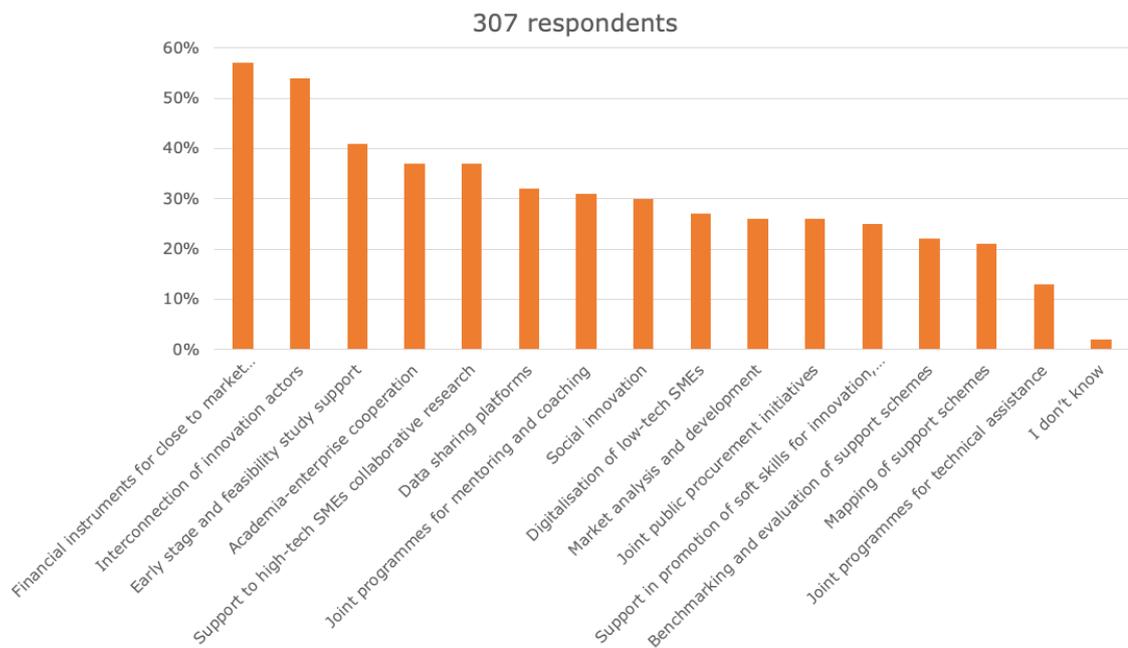


Figure 22. EU support perception. A Robust Innovation Ecosystem Questionnaire Results. Jan 2020.

"Legislative obstacles and insufficient funding available for very early stage projects"

"Insufficient support mechanisms for smaller cities."

"Lack of opportunities to efficiently test citizen driven solutions and provide them with feedback – playgrounds to safety experiment and fail"

A Robust Innovation Ecosystem Local Authorities (Cities) Workshop, Jan 2020

"Need of funding for match-making events"

A Robust Innovation Ecosystem National Innovation Agencies Workshop, Jan 2020

"Top regions need to be interconnected with less advanced regional ecosystems. Currently there is no funding for this, and we need it."

Vassilis Tsanidis, Innovation Policy Coordinator, Region of Central Macedonia, Greece

A Robust Innovation Ecosystem Conference, Feb 2020

- Increased startup knowledge to improve scaling-up and exit procedures

One of the recurrent issues that came up during the consultation effort was the need for better capabilities to go international, to scaleup beyond national borders and finally to exit the company. While the last two might not seem related, they actually are. The bigger the company, the larger the scale and market share, the more plausible the exit either through an acquisition or an Initial Public Offering (IPO).

The feedback collected in workshops and during the conference highlights a lack of capabilities for managing, growing and exiting companies, as well as a need for more funds to expedite the scaling up of European companies.

"We need to teach them (startups) of the need for specialized lawyers and financial advisors, as well as the need for a long-term path to exit the company. It's essential that they plan for some savings too, as the route towards an exit is costly."

Niclas Holmberg, Managing Director of Global Listing Services, Nasdaq

A Robust Innovation Ecosystem Conference, Feb 2020

"We observe poor managerial skills of founders and startups CEOs, lack of scaleup mindset"

A Robust Innovation Ecosystem Startups Workshop, Nov 2019

"Lack of quality deals with experienced teams and talents. [...] Need of a mentoring/coaching culture. [...] and challenging cross-border investments required to scaleup."

A Robust Innovation Ecosystem Investors Workshop, Nov 2019

"Ambiguity on the probability of scaling-up. [...] Lack of professional language that enables and ease the understanding among actors."

A Robust Innovation Ecosystem Corporations Workshop, Dec 2019

5.4. Crosscutting challenges

- Reduce regulatory burden

Nearly every interviewed stakeholder brought up the need to explain, reduce, and simplify the regulatory burden surrounding the innovation ecosystem.

"Need to simplify the state-aid rules."

"Need to put effort to reduce legislative burden by engaging more with policy making bodies."

A Robust Innovation Ecosystem National Innovation Agencies Workshop, Jan 2020

"Provide clear rules on state aids (different treatment of same sources in different MS)"

"Instead of directives, where transposition into national legislation may deter legislation from the intent of the proposal, more regulations to be proposed to ensure direct applicability to national systems"

A Robust Innovation Ecosystem Investors Workshop, Nov 2019

"Regulation, especially restrictive (national) regulation."

A Robust Innovation Ecosystem Startups Workshop, Nov 2019

"Tackling regulatory barriers to connecting ecosystems."

A Robust Innovation Ecosystem Universities Workshop, Jan 2020

- European Regulatory Sandboxes

Investors brought up again the need to improve and foster more European regulatory sandboxes that allow to test and develop the complex and inclusive regulation needed to support and reduce regulatory burden on innovative and disruptive companies.

"We need to foster more cross-border investments and fix the regulatory issues that prevent this from happening."

Niclas Holmberg, Managing Director of Global Listing Services, Nasdaq

A Robust Innovation Ecosystem Conference, Feb 2020

"Support the development of an EU regulatory sandbox pilot to bridge regulatory impediments of market entry of emerging technology innovations."

A Robust Innovation Ecosystem Investors Workshop, Nov 2019

- Stimulate public procurement for innovation

Similarly, nearly every stakeholder brought up the need for an overhaul of the public procurement system, especially around innovation projects.

"Improve and spread innovation procurement, its conditions and requirements (price should not be the only determinant)."

A Robust Innovation Ecosystem Investors Workshop, Nov 2019

"We need to integrate public procurement in the regional ecosystems and teach public procurers how to buy innovation. Now, a very low amount of the public procurement goes to startups. The actual KPIs required aren't designed for startups. Finally, we must teach startups how to get procurements."

Vassilis Tsanidis, Innovation Policy Coordinator, Region of Central Macedonia, Greece

A Robust Innovation Ecosystem Conference, Feb 2020

"Lack of funding for big public procurement calls (total cost of innovative procurement is not competitive with the traditional low-price alternatives). Need to focus on strategic procurement (initial investment in innovative solutions will pay off later)"

"Insufficient capacities and knowledge to design innovative public procurements."

"The gap between the pilots and scaling of the projects is the highest pain point for the innovative public procurement"

A Robust Innovation Ecosystem Local Authorities (Cities) Workshop, Jan 2020

"We need a public procurement quality improvement, not just focused on budget; Also, public procurement needs to be more tech-oriented."

A Robust Innovation Ecosystem Regions Workshop, Jan 2020

"There is a need for training national authorities about public procurement."

A Robust Innovation Ecosystem National Innovation Agencies Workshop, Jan 2020

6. MAIN RECOMMENDATIONS

The following is a list of all the main recommendations and action points collected during the entire consultation phase (workshops, questionnaire, and conference) regardless of their short term feasibility and the actors to be empowered. For further background see section 5 and the annexes.

6.1. Connectedness

1. Support a structured and co-ordinated network to foster expansion
Stakeholders concerned:
<ul style="list-style-type: none">▪ Startups & accelerators▪ Universities & Research & Technology Organisations (RTOs)▪ Cities▪ Regions▪ National Innovation Agencies (NIAs)
Challenges addressed:
<ul style="list-style-type: none">▪ Lack of an organised support for European expansion.▪ Lack of aggregated maps of stakeholders in each region.▪ Increasing need of knowledge on how to internationalise both inside Europe and outside.▪ Increased cooperation between startups and universities.
Actions:
<ul style="list-style-type: none">▪ Development of coordinated internationalisation trainings for entrepreneurs and corporations.<ul style="list-style-type: none">› Entrepreneurs and corporations need to learn some basic strategies around internationalisation, countries that match their needs and action plans to follow.▪ Increase the number of 'soft-landing points' in each geography.<ul style="list-style-type: none">› Make use of the local universities and RTO infrastructure as initial landing points. This not only decreases the cost of moving abroad, but also fosters the interaction between students, researchers, startups and corporations.› Create relocating support services for each soft-landing point to make it easier and swifter for companies to relocate.› Push the support of a unified startup visa program for all Europe, so that startups can bring talent and move talent between their different international outposts.▪ Develop and maintain an innovation stakeholder map for each city and region including: venture capitalists, entrepreneurs and business angels, top mentors, top startups, accelerator programs, research centres, universities, local corporations, etc.

- › The use of such maps should be proactive instead of reactive. There should be a system to automatically provide cross-regional matchmaking among stakeholders.
 - › Key actors should be able to get a push by this matchmaking system with valuable information about potential opportunities to internationalise in a certain region, action plan to do so, associated costs, local help provided, and the reasons WHY. The goal is to push internationalisation opportunities, instead of waiting for the companies to decide to go beyond the national.
- The creation of a single point of contact for internationalisation information in each country (e.g. National Innovation Agencies).
 - › The list of all these internationalisation points of contact, and associated regional and local stakeholder maps, could be public, updated and maintained, for example, by the local National Innovation Agencies.
 - › These single-point-of-contact offices should be the ones providing the matchmaking between trans-national companies using the stakeholder map of the destination location.
- Creation of an equivalent of an "Erasmus for Entrepreneurs", including stable offices in different countries.

2. Improve connectedness between corporations and universities and RTOs

Stakeholders concerned:

- Universities & RTOs
- Corporations
- National Innovation Agencies (NIAs)
- Cities
- Regions
- Ministries

Challenges addressed:

- Lack of cooperation among industry and academia.
- Lack of "commercially" oriented research.

Actions:

- Push the adoption of Industrial Ph.D. programs (Industrial doctorates). Programs like the Doctoral Training Centres (DTC) from the European Institute of Innovation & Technology (EIT) have existed for a while, however their impact has been limitedly assessed.
 - › Spread the call for partners beyond the big corporations. There are plenty of scaleup startups that could benefit from such programs.
 - › Industrial doctorate programs should be present and active in the regular events and meetups of the other micro stakeholders (i.e. technology conferences, meetups, events, hackathons, etc.).
 - › Proposed matchmaking events where corporations pitch their challenges and academia sees how they can help with the challenges.

- Tax reductions for companies working with academia. Many countries have schemes for R&D&I investments tax exemptions, but there are big differences between each of the Member States that should be unified.
- Wider Industry-Academia programs. One of the issues between both sides is that there are no inherent incentives. Both sides complain of the lack of cooperation but no one seems to have a big enough incentive to move forward. It is time to build a structured mechanism where both sides win while reducing the friction.

Example:

- Uptec Technology Park in Porto, Portugal³.

3. Improve connectedness between universities, RTOs, startups, and accelerators

Stakeholders concerned:

- Startups & Accelerators
- Universities & RTOs

Challenges addressed:

- Weak links between startups and academia.

Actions:

- Building of regional innovation hubs
 - › Create open access innovation hubs and interconnect them with other regional innovation hubs and ecosystems.
 - › Provide open spaces that enable startups, researchers and students to come together, connect, and collaborate.
- Foster more informal networking and meet-up situations
 - › Create a university pavilion within large startup conferences where universities can have their stand and interact with the ecosystem.
 - › Foster and support the organisation of startup events from within the university. Slush, one of the largest startup events in Europe, is organised by students from university. Creating startup ecosystems in university campuses gives a lot of power to specialised regions. (i.e. mathematics in Thessaloniki, computation in Grenoble). It is a way to decentralise the focus on big cities around talent.
- Connecting researchers to entrepreneurs in line with the knowledge triangle approach (interaction between research, education and innovation), via e.g. science parks.
 - › Foster more virtual meetups between academics, startups, and VCs so they can start a discussion with one another around their shared challenges, improve the mobility between different ecosystems, and bring successful startups to the campuses as role models.

³ <https://uptec.up.pt/>

- Persuade the top MBA schools to put their students in front of the top scaleups of their countries.
- In relation to the European University initiative, it is important to think how it can go hand in hand with the development of the innovation ecosystems so efforts aren't duplicated.
- Pairing programs between potential entrepreneurs (developers, implementers, builders, etc.) and students and researchers.
- Increase the presence of startup recruiters on campus during specific 'Innovation Days' where they can meet students, staff, or researchers with entrepreneurial spirit (i.e., innovation day organized by the EuroTech Universities Alliance)

4. Improve connectedness between startups and investors

Stakeholders concerned:

- Startups & accelerators
- Investors

Challenges addressed:

- Still not a fluid connection between startups and investors, especially beyond their national boundaries.

Actions:

- Organisation of small scale and well-curated matchmaking events enabling investors-startups matching and a syndication of investors which could be sector specific or country/region specific.
- Provide access to investors to the interview phase of the EIC Accelerator instrument, as well as having access to the information on unsuccessful applicants (explore the possibility of the Seal of Excellence).
- There is an insistence by investors that whatever is done, there shouldn't be new structures but an integration and improvement of the existing ones.
- Build a trusted, comprehensive and accessible available database of startups/investors (Current ones like Dealroom or Pitchbook have limited scope in terms of registered companies and available data).

5. Foster more and bigger mergers, acquisitions and IPOs between startups and corporations

Stakeholders concerned:

- Startups & Accelerators
- Corporations
- National Innovation Agencies (NIAs)
- M&A Boutiques / Investment Banks

Challenges addressed:

- Increase corporate-startup partnerships.
- Increase M&A activity.
- Increase overall deal size of corporate investments and exits.

Actions:

- Need for a proactive matchmaking tool/system of tools between startups with great potential and corporations looking for that specific technology or expertise.
 - › The system should be able to detect when a startup is ready for exit based on their growth trajectory and suggest them to prepare for exit through an Exit masterclass or similar.
 - › In the same way, the system should be able to detect when a startup is mature enough to provide meaningful partnerships with corporation and suggest potential targets. In this case, the system could redirect them to a corporate partnership program or Corporate Day.
- Need to create a 'Fostering Exits (M&A / IPO)' training program that provides guidance and knowledge to startups with capacity to undergo an exit. This program could teach how to get financials in order, how to plan and save money for the operation, or how to prepare the legal paperwork or what KPIs indicate a startup is ready for an exit locally or internationally.
- Development of an Exit/IPO stakeholder map at a regional and European level indicating lawyers, M&A Boutiques, Financial advisors or Investment banks, etc. The goal of the map is to provide the right contacts for any company thinking about doing an exit.
- Use of the existing local, regional or national incubators and accelerators to educate founders about different business development options (investments, exits, ...).
- Organisation of education programs like 'Executive in Residence' for broadening startup executives' strategic thinking, networking and to provide access to a number of promising companies.

6. Improve connectedness among cities and regions

Stakeholders concerned:

- Cities
- Regions

Challenges addressed:

- Improve the collaboration and connectedness between cities and regions both locally and trans-nationally.
- Improve the quality of the existing cooperation programs and instruments.

Actions:

- Facilitate the discussions among cross-national actors, linking various actors of the ecosystems (e.g. via meet-ups instruments).
- Feature a “Founders’ Capital(s) of Europe” with specific start-up/talent friendly programmes.
- Foster the creation of open access innovation hubs that provide networking among different actors.
- Set-up schemes for cross-border cooperation (neighbouring countries could well complement each other needs). Such cooperation should have clearly defined objectives like market reasons or in support of S3 thematic platforms/partnerships. This interlinking should be inclusive:
 - › Connection of different but complementary innovation ecosystems across the EU.
 - › Cooperation between less developed regions with excellent innovation ecosystems.
 - › Connection of similar ecosystems to strengthen each other and exchange information.
 - › Interlinking of local ecosystems maintaining the same trust capacity
- Direct EU support over structural funds to finance upcoming actions for developing and connecting innovation ecosystems.
- Promotion of the existing funding schemes (e.g. Eurostars, co-funds, etc.) in order to ensure that countries that currently do not benefit from these schemes, are also involved.
- Support for twinning programs to exchange good practices and cooperate in the area of start-up hubs (for example, the Europe for Citizens programme in culture).
- Prioritise small scale projects with a limited number of partners to enable smooth communication between partners.
- Rethink and upscale the iCapital Awards so we engage with more actors, as well as improve the awareness and the impact of the award.

7. Improve connectedness between local public entities, and local innovation stakeholders

Stakeholders concerned:

- Cities
- Startups & Accelerators
- Investors
- Universities & RTOs

Challenges addressed:

- Strengthen the connectedness between local stakeholders as to provide better support for the whole innovation ecosystem.

Actions:

- Provide a point-based system to rate those ecosystem players that act as guides for newcomers and provide a dynamic mapping of all actors in the ecosystem.
 - › This map can serve as a basis for structured matchmaking (free flow of information).

8. Increase citizenship engagement

Stakeholders concerned:

- Cities
- Regions
- Civil Society

Challenges addressed:

- Citizens are less involved in the innovation process in their local area.
- Increase the inclusiveness of the innovation ecosystem.

Actions:

- Use of digital tools and online collaborative platforms to expand the opportunity to participate to all citizens (involve them in the generation of innovative ideas, its testing and monitoring).
- Support actions to implement citizen driven solutions and set up of co-fund platforms.
- Develop user experience tools to obtain feedback from the citizens.
- Encourage citizen involvement both in innovation and research projects.
- Turn universities into matchmaking spaces linking VCs, students, academia and industry players.

9. Empower National Innovation Agencies

Stakeholders concerned:

- Startups & accelerators
- Corporations
- National Innovation Agencies (NIAs)

Challenges addressed:

- Lack of a unified coordinated network of National Innovation Agencies.
- Missing standard for what a National Innovation Agency does.
- Weak flow of innovation information and best practices across regions.
- Lack of trends shaping the innovation space worldwide.

Actions:

- The European innovation ecosystem lacks a shared definition and template of what a National Innovation Agency (NIA) should look like. It's obvious that each country

has specific needs, however, certain aspects of managing the innovation ecosystem should be part of the agency's role.

- › According to several stakeholders, including NIA members, NIA's should engage in funding, talent, internationalisation, innovation public procurements, or matchmaking processes.
- Some NIA stakeholders suggested they could take the role of training local stakeholders on the different EU Instruments, programs, and networks they can use.
 - › Effort to reduce legislative burden by engaging more with policy making bodies.
 - › Listen to all the relevant stakeholders and improve the communication with the local policy-makers.
- NIAs themselves suggested the establishment a set of shared best practices among their homologues in different countries:
 - › Sharing of analytical data of the national innovation ecosystem.
 - › Matchmaking programs to foster the collaboration between the local players, and between local and supra-local innovation stakeholders.
 - › Develop digital inclusion programs that foster the integration of all regions and areas. (i.e. Tremblin program from La French Tech).
- Provide a pool of national innovation experts per NIA (i.e. serial entrepreneurs, investors, researchers, etc.) that could be offer to the other NIAs. The goal is multiple:
 - › Experts lent from another country could be used to train a less mature ecosystem, fostering crosspollination and pan-European collaboration.
 - › This pool of experts could be used by different NIAs for networking purposes, bringing together different perspectives around challenging topics, kind of like a Think Tank.
 - › The pool of experts should provide expert opinion for national strategic innovation matters, e.g. 5G development, AI implementation. These consultations could happen at a NIA level or use to inform debates in ministries, regional governments or even cities.
- Due to the subjective nature of NIAs, it is usual that their goals are fully aligned with a national agenda, instead of having a broader European scope. Some stakeholder suggested the Cofund and joint implementation instrument could be used to implement impact programs with accountability towards Europe, and not just focused at a national objective level.
- Each NIA could elaborate, in collaboration with selected innovation stakeholders, an annual national report on innovation trends. The report could cover top global emerging innovations, specific examples, and current national, regional and city trends. Each year it could stablish national goals, cover the best practices applied that year and their outcomes.

10. Develop a European forum for major coordination between all stakeholders

Stakeholders concerned:

- European Innovation Council
- All innovation stakeholders

Challenges addressed:

- Lack of coordination between cities, regions and the EU bodies.
- Lack of cooperation between the innovation stakeholders.
- Undocumented challenges of diverse stakeholders.
- Lack of speed iterating over improved solutions.

Actions:

- Debate on how to achieve synergies between different available EU programmes and avoid duplications and fragmentation.
- Guidelines on the possible COFUND actions and how to use them in the most optimal way.
- Debate on how to extend the scope of certain instruments available under the Framework program and reuse them for new innovation-driven purposes.
- Foster the networking between regular users of EU instruments (i.e. H2020) with their national politicians so they can exchange gaps and challenges they experience.
- Gather general feedback and challenges from each stakeholder.
- Push the importance of investing in innovation, and connecting ecosystems, to public authorities and local government
- Foster the sharing of best practices around innovation
 - › Create a platform to share good practices on entrepreneurial culture
 - › Explore global models for urban development and sustainability and encourage collaboration, networking and exchange of practices between European urban ecosystems and those from Asia, US and Africa.

6.2. Competence

1. Foster entrepreneurial culture in universities and research centres (RTOs)
Stakeholders concerned:
<ul style="list-style-type: none">▪ Startups & accelerators▪ Universities & RTOs▪ Investors
Challenges addressed:
<ul style="list-style-type: none">▪ Lack of connectedness between academia and startups▪ Low production of disruptive startups
Actions:
<ul style="list-style-type: none">▪ Expand entrepreneurial education for students even before reaching the university. Introduce curricula to advance soft skills in school, bringing innovation to children and/or students.<ul style="list-style-type: none">› This early education is a field to explore both in Horizon Europe Programme and in other EU funded programmes (i.e., structural funds) as the entrepreneurial / innovation dimension has to have bigger impact across the board. There is a need to start early.› Research must be linked with education, especially higher education and there is a need to start at a young age.▪ Deployment of entrepreneurial programs not just for students but for researchers, technology transfer offices, and professors of universities and RTOs. While an increasing number of students are getting exposed to entrepreneurial teachings, most of the faculty isn't. This misalignment is behind some of the challenges of collaboration between universities and startups.<ul style="list-style-type: none">› Required change in mindset and attitude, towards a problem-based approach to learning.▪ Increase of in-between talent programs. University and research centres shouldn't specialize in providing innovation talent only. As mentioned before, innovative technologies change too fast for that. However, collaboration between the university and specialised innovation programs should be explored. There is an increasing crop of independent innovative "schools" that could run programs in-campus in collaboration with the university.
2. Increase social responsibility, diversity and ethics within advanced and disruptive innovations
Stakeholders concerned:
<ul style="list-style-type: none">▪ Startups & accelerators▪ Universities & RTOs▪ Ministries▪ National Innovation Agencies (NIAs)

Challenges addressed:

- Increase social responsibility.
- Prevent or minimise discrimination and inequality.
- Increase diversity and inclusiveness across the innovation landscape.
- Better data on the impact of diversity in the innovation ecosystem.

Actions:

- Opinions of the community points at the fact that there is a need for more and better inclusiveness of smaller, less connected, or less advanced players, within the innovation ecosystem:
 - › Provide collaboration instruments for smaller cities (below 200,000 inhabitants, which is the threshold for Eurocities membership)
 - › Promote the exchange of good practices, study visits, workshops, short-term exchanges, etc. as to include them within the larger ecosystem.
 - › Rural areas require special attention (experimentation of new actions/tool). Innovation is mainly taking place in urban areas, nonetheless rural areas need to get some of this focus, especially in agriculture or maritime areas.
 - › Promote technical courses/careers, in particularly for girls.
- Certain stakeholders highlighted the responsibility of universities in correctly integrating technology with society in a safe and responsible way (i.e. Munich Centre for Technology in Society).
- Trainings on ethics and diversity for a wide range of stakeholders.
 - › Classes for university students from different STEM degrees.
 - › Workshops for professors and researchers: It is not enough to tackle new generations, but to begin the training at the top so that it can also trickle down.
 - › Classes at schools for teenagers. The earlier we integrate these values in the future generations, the better.
- More in-depth research on the impact of diversity in the innovation ecosystem is needed.
 - › Need for a standard and wide-reaching definition on diversity beyond the obvious gender gap.
 - › Claims on diversity need to be researched with data.
 - › Need to assess the impact on diversity for each of the innovation ecosystem stakeholders.
 - › A study on diversity of all the EU innovation-related funding instruments (SME, H2020, etc.) and numbers that are publicly accessible.

Examples:

- Expert centres: Future of Life Institute, Institute for Ethical AI & Machine Learning, Stanford Institute for Human-Centered Artificial Intelligence.
- AI + Ethics Curriculum for Middle School⁴.

⁴ <https://www.media.mit.edu/projects/ai-ethics-for-middle-school/overview/>

- Diversity in Venture Capital (Diversity.vc)⁵.
- La French Tech's Tremblin.

3. Need for better actionable information in all fronts

Stakeholders concerned:

- All

Challenges addressed:

- No tracking of the critical innovation KPIs of each stakeholder.
- No centralized database that keeps track of all innovation players across Europe.
- No centralized and updated information on key indicators of each innovation ecosystem.
- No diversity data from key players or EU instruments.

Actions:

- Build a trusted, comprehensive and accessible available database of key stakeholders within the innovation ecosystem and seals of excellence.
 - › Provide a mapping of innovation players across Europe depending on the type of innovation, e.g. social innovation, tech innovation, frugal innovation.
 - › Provide a mapping tool for different maturity stages of innovation ecosystems (link with JRC on RIS3), with specific intervention needs /instruments and identified weak points.
 - › Provide a mapping of the technological offer/demand per region to facilitate cooperation.
- Merge national datasets on IPR (when a company applies for non-EU patent right, a number of datasets have to be checked, which is costly and time-consuming).
- Opening of the research infrastructure to all actors and sharing of the results.
- Create thematic feasibility studies for different regions with similar needs.
- Built an open access repository of actions where cities could look for best ideas in a certain field and ensure better dissemination of best practices (potentially enhanced iKEN – Ideas and Knowledge Exchange Platform – iCapital Alumni Network)
- Better disseminate feedback from the iCapital award and runner-up cities regarding the process and experiences (provide platform and opportunities for cities to exchange among themselves).

Examples:

- Nesta's AI Governance Database⁶, or Dealroom's ecosystem maps⁷.

⁵ <http://www.diversity.vc/about-diversity-vc/>

⁶ <https://www.nesta.org.uk/data-visualisation-and-interactive/ai-governance-database/>

⁷ <https://dealroom.co/ecosystem-solutions/>

- Arxlive⁸: Another way to segment and visualize live innovation information by Nesta.

4. Lack of innovation capabilities in public stakeholders

Stakeholders concerned:

- Startups & Accelerators
- Investors
- Public stakeholders

Challenges addressed:

- Public procurement not designed with innovation in mind
- Low levels of innovation capabilities within public administrations

Actions:

- Enhance the innovation capabilities of administration
 - › Emphasis on the “failure culture” in order to create entrepreneurial mind-set.
 - › Use the Cofund joint program to build joint trainings between public entities and local grassroots organizations that are already doing this at a small scale.
- Need to integrate public procurement in the regional innovation ecosystems and teach public procurers how to buy innovation and startups how to get procurements.
 - › There is a need to deploy nation-wide trainings for civil servants at all levels on how to design innovation procurements. All agencies need to know the ABC of startups, innovation investment, product cycle and the particularities of the purchasing of the innovation procurement.

⁸ <https://arxlive.org/>

6.3. Capital

1. Maintain support for seed funds and early-stage accelerators
Stakeholders concerned:
<ul style="list-style-type: none">▪ Startups & accelerators▪ Universities & RTOs▪ Investors
Challenges addressed:
<ul style="list-style-type: none">▪ Prevent a 'seed crunch' and the halting of the innovation system.▪ Ensure a steady stream of potential investments that can turn scale-ups, especially in the Deep Tech/S3 specialization space.▪ Sustain accelerators so they can expand entrepreneurial trainings to all stakeholders, not just startups.
Actions:
<ul style="list-style-type: none">▪ Expansion of the current training curricula of accelerators beyond startups. What accelerators provide are the ground rules of the new innovation paradigm. For years, startups have been increasingly improving their knowledge of the novel innovation processes (i.e., agile, lean startup, visual thinking, user-centric approaches, etc.). It is time the training expands beyond only one stakeholder. Accelerators should be the training ground for universities and RTOs, city or regional officials, social innovators, and civil servants within innovation ministries.<ul style="list-style-type: none">› To achieve the previous point, it is essential that funding and support are provided to accelerator programs while adding traceability and performance reviews.› Develop capabilities for tertiary education students, corporates & academia› Develop capabilities for public administration & schools (secondary education)▪ Accelerators should be able to deploy small seed investments (i.e., as available under H2020 SME Instrument - Phase I) to promote the growth of new disruptive ideas, enabling a valuable trial & error process. This doesn't mean there isn't any accountability or performance reviews. All accelerators should be benchmarked against each other and improve within time.<ul style="list-style-type: none">› Some of this funding should be dedicated to help integrate and include less advanced accelerators in the smaller cities into the larger innovation ecosystem.▪ Incentivise the creation of sustainable seed funds (i.e. in universities, research centres, accelerators, etc.)<ul style="list-style-type: none">› Seed funds should be dedicated to invest in identified Deep Tech supporting innovations (Digital Innovation Hubs and S3 specialization, thematic investments, etc.).› The overall assumption will be of no financial return for most investments. The goal isn't to find the next Spotify, but to allow people to try new things with disruptive technologies in a risk-controlled way.

- › While a financial return of the investment should not be expected, the impact of the investments in terms of innovative advancement and personal gain/knowledge should be tracked and traced.

2. De-risk investment in innovative companies

Stakeholders concerned:

- Universities & RTOs
- Corporations
- Investors
- Startups & accelerators

Challenges addressed:

- Decrease the risk of investing in experimental or disruptive innovations.
- Foster broader investment and development of cutting-edge companies.

Actions:

- Expand the use of the European Innovation Council Fund (EIC Accelerator Fund) so that it also operates as a Fund of Funds for Deep Tech Venture Capital funds. While direct investment is important, so is enabling other investment managers to allocate the money through their funds.
 - › Create financial instruments at transnational level targeted to challenge-based breakthrough technologies.
- Pan-European tax harmonisation for investors, tax incentives for investors and companies that invest in/buy from startups.
- Promote Europe as the destination for international investments in Deep Technology.
- Create an actionable map of funds and actively share the deal flow and provide co-investment for their own operations.

Examples:

- The European Commission pan-European venture capital funds-of-funds: VentureEU.

3. Increase focus on partnerships between startups and corporations

Stakeholders concerned:

- Startups & accelerators
- Corporations

Challenges addressed:

- Too much friction between corporations and startups.
- Misalignment of objectives between both stakeholders.
- Lack of M&A activity.

Actions:

- Funding of independent cooperation programs that connect growing startups with the right international corporations. These programs are much more than mere matchmaking. They foster and create a conducive environment where expectations are curated and managed for both stakeholders. Chambers of commerce could be associated as partners.
 - › Trainings for startups done by interested corporations. The goal is to manage the expectations of startups trying to work with corporates and what should they or shouldn't they expect.
 - › The outcome of these trainings might be a startups certification process similar to the ISO Certification, which demonstrates and shows a certain competence in working with and around a corporate environment.
 - › Trainings for corporates on how to work with startups. The expectation management should be applied to both stakeholders. In this case, corporations need to understand startup limitations, both in terms of development capacity, business models and financial runway. The goal of such trainings is to provide corporates with the ideas and processes they can implement internally to ease the friction of the collaboration between themselves and startups.
- Develop an inclusive approach to startup ecosystem involving corporates and other players (e.g. European Enterprise Network).
- Enhance startup access to corporates' capacities and international network.
- Neutral connectors trusted by corporations and start-ups needed to bring both sides together, based on their needs, and to reduce matching efforts and money/time consumed
 - › The European Commission could grant them a 'Quality Seal'.

Examples:

- Startup-corporate partnerships as Mind the Bridge⁹.
- EIC Corporate Day

4. Lack of funding in critical innovation areas

Stakeholders concerned:

- All

Challenges addressed:

- Some stakeholders are missing financial support to push innovative activities.

⁹ <https://mindthebridge.com/corporates-services/innovation-advisory-services/>

Actions:

- Need for better funding for the creation of effective and comprehensive matchmaking platforms at a European level.
 - › The funding should extend to the sponsoring of matchmaking events that bring together different actors in pilot projects and link them to a proven demand for solutions (existing market for the solutions).
- Provide funding to explore methodologies, concepts, and skills to stimulate citizen engagement.
- Create links between implemented projects (i.e. iCapital awards) and other parts of Horizon Europe to enable cities to seek funding for scale-up or be involved in other relevant communities.
- Foster the collaboration among existing networks by funding ecosystem orchestrators that act as links between the different actors.
- Many cities and region complain that most of the funding has a very short-term horizon. Due to the speed and politics, many cities and regions need longer-term horizons for their innovation funding. Certain changes require more than 3-year terms.
 - › Funding is also very limited when scaling proven innovative proofs of concept. Many cities run their own tests but then struggle to find funding to scale them up to the whole city. Better tracking and support are needed to support experimentation within the cities and regions.
 - › Not all cities know what funding instruments are available to them. As repeated in several actions, there needs to be a better communication line with ALL individual members, not just with the leading representative.
- Need for special innovation funding for small cities / less performing regions so they can support dedicated training, fostering of vertical specialization and the capacity to sponsor and organise local events that attract stakeholders from outside the local ecosystem.

5. Increased startup knowledge to improve scaling-up and exit procedures

Stakeholders concerned:

- Startups & accelerators
- Investors
- National Innovation Agencies (NIAs)

Challenges addressed:

- Weak knowledge of the exit process
- Low numbers of international European scaleups
- Low numbers of scale-ups even at national levels

Actions:

- Facilitate the exit process through workshops on IPOs for companies in IPO phase.
- Provide coaching/training for founders to be internationally investable and able to pass 'due diligence' so they can unlock bigger rounds that enable their scaling-up.

- Provide more 'late funding' to European investors to invest in scale-ups.
- Support founders' clubs/networks with validated memberships for sharing experiences, investor information, or scaleup advice. Such clubs also increase the chance of re-investment from unicorn founders into the next wave of scaleups they might meet through the network.
- Support exclusive European high-level thematic boot camps for startups/unicorns to address specific issues.

6.4. Crosscutting Actions

Some of the collected actions have an impact beyond the three previous sections. In most cases, their impact is more transversal to the innovation ecosystem than vertical. This horizontal impact is why we consider important to include them in addition to the previous ones.

1. Reduce regulatory burden

Stakeholders concerned:

- All

Challenges addressed:

- Conflicting access to EU instruments.
- Lack of synergies between different instruments.
- How to increase or attract talent to the innovation ecosystem.

Actions:

- Further simplification and transparency of the application process of different funding instruments like EIC, EIT, etc.
- Improve the synergies and complementarities between Horizon Europe and other EU programmes/instruments like Cohesion Funds (ERDF, Component 5), public/regional/national programmes, Digital Europe Programme, Digital Innovation Hubs (DIH)

2. European Regulatory Sandboxes

Stakeholders concerned:

- Startups & accelerators
- Corporations
- Cities
- Regions
- Ministries

Challenges addressed:

- Lack of information about the use and impact of regulatory sandboxes.
- Lack of a regulatory framework to experiment with emerging technology innovations.

Actions:

- Creation of a registry with all the information of each regulatory sandbox deployed in Europe. The registry should contain the type of sandbox, the industries supported, the startups in it, and regular updated information on the status and outcomes. Without data, it is impossible to extract best practices that can then be shared with countries missing such instruments.
- Information about such regulatory sandboxes should be pushed to potential targets within the local innovation ecosystem to foster wider adoption and activity (i.e., best practices related to city zoning)
- Trainings for innovative companies should be expanded to include public affairs and regulatory knowledge from the cradle. Until now, most startups have operated in a regulatory-naïve limbo. The collision between regulatory bodies and the innovation world has increased tenfold during the last few years. It is important that innovation stakeholders are trained so they're aware of how current and future regulations might affect their product, investment, or expansion strategies.

3. Stimulate public procurement for innovation

Stakeholders concerned:

- All

Challenges addressed:

- Few public procurements designed with innovation stakeholders in mind.
- Lack of knowledge on how to design innovation public procurements.
- Fragmented, restricted, and incomplete information around innovation public procurements.

Actions:

- Information and support on how to launch innovation procurement should be made available to the public and private procurers.
- The public procurement process needs to be redesigned to allow for a fast-track of the financing, simpler rules and innovation-related KPI, not price alone.
- Specific meetups with all local ecosystem stakeholders should be done regularly. The meetings between the procurers and suppliers should be organised at a European level so that challenges can be debated and the best design can emerge.
 - › Another idea for novel public procurement processes are to mimic startup pitching, a competition of best solutions pitched by startups (with a prize or competition style, as for example what's done by the Local Economic Services Company in Israel).

7. CONCLUSIONS

This sections presents a brief overview of all the challenges and actionable suggestions produced by all innovation stakeholders during the consultation process for '*A Robust Innovation Ecosystem for the Future of Europe*'.

Each challenge was grouped around one of three major pillars: connectedness of the stakeholders, competence and talent, and capital. In addition, certain challenges and actions belong to all three and are treated as crosscutting challenges.

Connectedness

- Consolidation of a structured and coordinated network to foster internationalisation

Internationalisation is an issue that came over and over during the consultation. Many suggestions revolve around increasing the individual capacitation of innovators to think big, while others focus on improving the matchmaking network that enables it.

- Improve connectedness between corporations and universities and RTOs

The weak connectedness between academia and the industry came through as another big issue. Some of the suggested actions included larger adoption of Industrial Ph.D programs, tax deductions or wider industry-academia programs.

- Improve connectedness between universities, RTOs, startups and accelerators

In a similar fashion, stakeholders signalled that the connection between academia and startups is tenuous. More networking, early entrepreneurial education or trainings for researchers and staff are among some of the proposed actions.

- Improve connectedness between startups and investors

While not as critical, stakeholders, especially from the investor side, brought up the challenges of accessing startups, especially at a trans-national scale. Better matchmaking and tools to connect both sides were proposed by the players.

- Foster more and bigger mergers, acquisitions and IPOs between startups and corporations

In addition, from the investor side, there is an increasing worry about the low M&A and IPO activity in Europe. They propose better trainings and workshops for startups, so they plan better for an M&A or IPO, as well as tools to pool investor resources for larger operations.

- Improve connectedness among cities and regions

Local, regional, and national stakeholders unanimously agreed on the need for better cooperation and information exchange between them, both locally and across borders. Open innovation hubs, twining programs, better matchmaking and networking are at the centre of the suggested actions.

- Improve connectedness between local public entities and local innovation stakeholders

Local stakeholders pointed the need for better connectedness among themselves, especially between the local public and private sectors. The use of 'ecosystem

connectors' or better innovation capacitation for public actors are among the shared suggestions.

- Increase citizen engagement

Local stakeholders indicated the issue of better engaging citizens within the innovation ecosystem. To that end new digital tools for gathering feedback and citizen-driven solutions are suggested as keys to improve the situation.

- Empower National Innovation Agencies

Stakeholders suggested how NIAs can become a fundamental ally in brokering the matchmaking efforts both locally and internationally, as well as aggregating data and helping with regulatory challenges.

- Develop a European forum for major coordination between all stakeholders

A common challenge for most stakeholders is the lack of a forum at a European level where they can share both challenges and best practices. This forum could be used for varied activities like discussions around best practices of EU instruments and fostering intra-region networking.

Competence

- Foster entrepreneurial culture in universities and research centres (RTOs)

Many stakeholders indicated the need to increase the entrepreneurial mentality all across society. To achieve that training in such concepts must begin early on, even before university. Europe needs to expand the current entrepreneurial programs to include not only students but staff and researchers too.

- Increase social responsibility, inclusiveness, diversity, ethics and moral values within the innovation ecosystem

The need for more inclusiveness and diversity echoed through the whole consultation process. Pairing programs, diversity, and ethics trainings on the use of technology, and better data and research around diversity issues were proposed as some potential actions.

- Need for better actionable information in all fronts

Another recurrent challenge, echoed by every single stakeholder was the lack of qualitative and quantitative data in each of their ecosystems. The merging of local datasets and the creation of comprehensive databases with extensive mappings of the ecosystem are among the suggested actions.

- Lack of innovation capabilities within public stakeholders

Current procurement processes are a challenge for innovative companies. All stakeholders agree it is critical to improve the knowledge around the innovation ecosystem, both how it works and what are its needs. Workshops and trainings for public stakeholders both, locally, regionally and nation-wide can make a difference in how the public administration designs and executes innovation.

Capital

- Maintain support for seed funds and early-stage accelerators

Stakeholders also highlighted the need for more funding in early stages of innovative companies. New small seed funds in accelerators or universities, as well as better trainings around investment opportunities were marked as feasible improvements.

- De-risk investment in innovative companies

A number of stakeholders shared the need for a de-risking of investing in key technologies and sectors. Tax harmonisation schemes, the creation of co-investment maps or direct co-investment from the EIC Accelerator Fund were suggested as valuable.

- Increase focus on partnerships between startups and corporations

Both startups and corporation shared their challenges to connect with one another. While some improvements are underway, better startup-industry cooperation programs and trainings were suggested as potential solutions.

- Lack of funding in critical innovation areas

Many stakeholders raised issues around the funding of critical cooperation tools like matchmaking or networking events. Many suggested better funding to improve and create tools that enhance their connectedness, as well as their capacity to try different approaches with longer investment horizons.

- Increase startup knowledge to improve scaling-up and exit procedures

There is a need to increase the ration of scaleup companies Europe produces. The higher number of them, the better chance for an exit. More funding is needed to accelerate scaleup growth, as well as improved knowledge on the scaling and exit process through workshops and peer-supported networks or clubs.

Crosscutting challenges

- Reduce regulatory burden

Most stakeholders raised the need to reduce the regulatory burden, especially around EU instruments and cross-border investments. Simplified processes, better information, and synergies were proposed as potential solutions.

- European Regulatory Sandboxes

Several stakeholders highlighted the need for regulatory sandboxes as a way to experiment with disruptive innovation. To achieve this the suggested better information around them, increased trainings on regulations and increase use of them for key actors.

- Stimulate the public procurement for innovation

A common challenge for many stakeholders is the need for an overhaul of the public procurement process so it aligns with the innovation processes. Stakeholders suggested new approaches, as well as increased knowledge of public servants on how to approach public procurement for innovation.

8. ANNEXES

8.1. Session debriefs

The following is a transcription of the key points talked in each session of the conference.

Session 1: Start-ups & universities

Emilio Corchado, CEO of StartUp Olé

- Universities can bring talent to the dialog (talent providers) and are at a good position to cultivate entrepreneurial culture through their clubs or events.
- Fostering the spin-off of technology can help create new startups from students and/or professors.
- Universities are also infrastructure providers and can provide a real role as players and connectors within the innovative ecosystem.
- Professors send the students to startup events but those same professors aren't attending the events. We need to fix this gap. The culture needs to change at a deeper level within the university for students, professors, research faculty and transfer offices.
- Suggestion of a university pavilion: Create a stand for universities within Startup Ole conference

Nicolas Brien, CEO of France Digitale

- France has one of the strongest universities in the world as well as the strongest startup ecosystem in Europe. How do we match these two ecosystems? These are some of the challenges we try to address at France Digitale (FD)
- Startups walk on two legs: capital & talent. The university is a major talent pool.
- If you go to a campus, you'll meet the recruiter from Google or Deutsche Telecom, or big corporates but you won't meet any recruiter from the startup community. A key priority is to have universities to provide recruiters for startups.
- We've been working with INSEAD to recruit from their cohorts' people for startups. No students will come out from INSEAD without meeting the top 20 French scaleups, it's job fair with top scaleups. Out of an entire MBA class we got 20 CxO positions in startup scaleups.
- We need funding from AI startups from the cradle. In US 10% of their funding comes from universities, in EU only 1%. In France we've setup a €100M VC fund in order to invest in AI startups from within the university. We need to bring this to an EU level.
- Slush, one of the largest startup events in Europe is organized by students from university. Creating startup ecosystems in university campuses gives a lot of power to specialized regions. (i.e. Math in Thessaloniki, Computation in Grenoble). It's a way to decentralize the focus on big cities around talent.
- Right now, there is no common language between startups and the university. It's more of a culture clash and not just a communication issue. For example, I don't know any university that's training VCs.
- All the initiatives we use to provide computer science talent are private, and not coming from university. Public providers are failing to provide qualified talent.
- Some concrete actions: Persuade the top MBA school to put their students in front of the top scaleups of the countries.

Tatiana Panteli, Head of Brussels Office of EuroTech Universities Alliance

- A good example of collaboration is what we have at the EuroTech Universities Alliance. It's formed by size technical universities from different member states (France, Greece, The Netherlands, Switzerland, and Israel). It's not a network, but a closely working group of technical universities focused on working on engineering and AI.
- As mentioned before, university are talent growers of future actors of the innovation ecosystems. We should develop and grow students providing them with the right tools, enabling students in whatever they want to do. We should be connecting the dots for them.
- In our case, the university is bringing cutting-edge technology to the students through things like Fablabs, Hackathons. It's also responsible for integrating the technology with society (i.e. Center for technology in society in Munich university) with a focus on human centered technology. Universities should teach ethics and morals of technology.
- Right now, there is a lack of capital to do so. There isn't enough capital deployed to support projects coming out of the university. We created the EU Venture program where we provide some funding to 5 startups from each university (25 overall per year). We expose them to different professionals either researchers or business people and provide them with skills and funding. The program has given great results so far. We've been running it since 2015 and we could scale it to the whole European Union.
- It's true that having a common language with startups isn't in our nature. It takes time and plenty of effort, it needs training (i.e. our EU Venture program). Knowledge exchange is critical and requires hard work, not only from the university bringing all actors together, but from the actors themselves.
- It's important to look around and check what's already been done (at a local and regional level) ad to not duplicate efforts.
- In smaller countries startups go international immediately. We need to look how EU policy can help the fostering of international ecosystems.
- As a concrete action, I propose the creation of an innovation day for the Alliance. We can bring entrepreneurs and startup recruiters together at our campuses. We have to focus on small steps and less on big ideas. The focus should be on the implementation.

Session 2: Regions & cities

Isidro Laso Ballesteros, Deputy Head of Unit Innovation Ecosystems, EIC Task Force

- Today it's all about how and where to deploy Horizon program 500 million euros. In Europe, 67% of all scaleups (>€1M raised) are located in only 48 cities (34% of the GDP). Most are located in either one or two cities per country.
- We need to give more power transfer to the regions. In 13 member states, 100% of the scaleups are located in only one city (i.e., Sofia in Bulgaria). This is completely unsustainable and creates social unrest (i.e., España vaciada, France's Yellow Vests)

Aleksandra Olejnik, Policy Advisor, Eurocities

- Eurocities is the network of EU cities. We focus on the role of the cities in the innovation ecosystem. For example, medium-size cities provide interesting innovation possibilities and have the infrastructure to support it. However, it's impossible to visualize the impact of the cities without the help of the EU and regional bodies. We see the positive impact EU funds have in our cities and the role of the Horizon instrument as a way to connect all stakeholders: cities, innovators and universities.

- We share some challenges the regions. We need help supporting innovation through Public Procurement. Cities should have a bigger saying within the innovation procurement process, as we provide the safety to deploy such help to boost innovation. Overall, we need to talk more between cities and regions.
- There are specific challenges for cities though. All cities don't have to have the same innovations. We have to work on solutions that are sustainable for us and our citizens. We should be working closer with the citizens. A good example is the iCapital Award. We need support for the innovation know-how capacity-building of local authorities. This support shouldn't be unique to the frontrunners, but to all cities.
- Executive actions: We need better data and time to deploy innovation projects that require full cycle deployments. Right now, cities don't have the luxury to engage in trial and error projects. We need to be able to fail and try without political repercussions. We need collected data for districts so we can use it to further advance our innovative projects.

Vassilis Tzanidis, Innovation Policy Coordinator, Region of Central Macedonia, Greece

- Regions have a unique in the innovation ecosystem. They're the closest entities to the citizens, they know best their competitive advantages, and this enables them to connect all relevant players in the area. They have a pivotal role on funding schemes, facilitating clustering, FDI, access of SME to certain markets. They help in the internationalization of their SMEs, and enhance the skills of citizens and entrepreneurs living there. Overall, they help prepare the market for a big change, so it can absorb new innovation disruptions.
- When we look at public procurement (it accounts for 14% of the total EU GDP which is 2 Trillion €), the majority takes place at local and regional levels. We support innovation through funding with such public procurements.
- One of the biggest challenges for us is the interlinking with other regional ecosystems. We can't leave regional ecosystems to be left behind. Top regions need to be interconnected with less advanced regional ecosystems. Currently there is no funding for tis, and we need it. We must create activities to interlink each region.
- At the moment there is limited private-public cooperation. We need to increase such cooperation. The role of startups in the ecosystem is often downplayed or ignored.
- Also, regions need to be supported so that they can increase their citizen participation, facilitating the commercial uptake of innovations.
- We need to place especial attention in rural areas. Innovation is mainly taking place in urban areas, nonetheless rural areas need to get some of this focus, especially in agriculture or maritime areas.
- There is limited innovation public procurement for regions. The public sector should invest more in innovative ecosystem.
- Executive actions: We should create open access innovation hubs and interconnect them with other regional innovation hubs and ecosystems. We need to integrate Public Procurement in the regional ecosystems and teach public procurers how to buy innovation. At the moment, very low public procurement goes to startups. The actual KPIs required aren't designed for startups. Finally, we must teach startups how to get procurements.

Session 3: Investors & corporates

Robin Wauters, CEO of Tech.eu

- Funding is progressing and growing. However, the larger the available growth capital, the less exits we're seeing. Right now, Corporates don't have much appetite for M&A in Europe.

Beatrice Maestri, Head of Open Innovation at Electrolux Group

- As Corporates, we struggle to connect with the ecosystem. We're well connected locally, but struggle at a regional, EU, and international level where we lack information and communication with our peers. We need more support on how to connect with everyone outside our comfort zone.
- As corporations we have certain responsibilities within the innovation ecosystem. We should invest more in innovation or buy when the technology is already proven. There is, however, a gap when it comes to emerging technology. In most cases, it's not ready to be used in a corporation and we might be able or not to invest in it.
- In other cases, we want to get exclusive use to that innovation, but we're not sure if we should buy the innovation. We've seen that acquisition by corporates limits the growth of the technology. We're afraid of killing the technology if we buy it. That said, there are situations where an acquisition for competitive reasons is justified.
- While the relationship between startups and corporations is improving, we need to educate startup founders. They need to have better awareness around what works for us, before we do an equity investment. Right now, it's more about being a client for the corporation, than an investment but it depends on the geographical areas.
- We want to better align the expectations we and the startup have and what is what we all want to obtain out of our collaboration. It's less about the technology itself and more about what can we build together, what's the shared business intent. The 'How' is important, but it's a surrogate to the 'What' and 'Why'.
- Many solutions from startups aren't designed for the corporation and they require a collaboration to adapt it to the reality of the corporation. Trying to put a startup's products or services through corporate procurement rarely works without adaptation. We work with everyone, but we have to choose those that are better suited for us. In most cases we push the challenges to them and see who comes back.

Niclas Holmberg, Managing Director of Global Listing Services, Nasdaq

- As a general note on the consultation process, the lack of the right mix of investors during the consultation workshop was a problem and should be reviewed for next feedback sessions.
- Right now, there is an Exit bottleneck for investors. We need to educate founders on how to do exits or go public (IPO). There are plenty of consumer startups that have great pitches. Nevertheless, startups in industrial, clean tech, or less traditional verticals don't do that well. They need to be better sellers and have bigger ambitions to grow the company.
- We need to teach them of the need for specialized lawyers and financial advisors, as well as the need for a long-term path to exit the company. It's essential that they plan for some savings too, as the route towards an exit is costly.
- We need to foster more cross-border investments and fix the regulatory issues that prevent this from happening. To foster this, we should build an active platform with updated information on investors that's actually used.

Session 4: Innovation agencies & ministries

Jean-David Malo, Director of the European Innovation Council, EIC Task Force

- Implementation is key in moving forward with new innovation strategies. The guidelines aren't being implemented because the rules of H2020 and other programs, like the structural funds aren't aligned. Right now, we have an opportunity to create the same set of rules that includes everyone.

- It's becoming critical to have a place where all the stakeholders can meet and share. This is the objective and reason for the creation of the EIC Forum. We want to test this with all stakeholders, Ministries and Innovation Agencies.
- The new Co-fund and joint implementation is a valuable instrument that allows us to pool resources at a national and EU level, while respecting the differences of each place and the exchange of good and bad practices.
- Startups are only one dimension of the innovation ecosystem, which holds many other stakeholders.
- Early education is a field we should explore both in Horizon and outside of Horizon too (i.e., structural funds) as the entrepreneurial/innovation dimension has to have bigger impact across the board. We need to start early.

Karina Anguelieva, Deputy Minister of Education and Science, Bulgaria

- Our job in the ministry is to create favorable conditions for everyone. We can't do this without knowing what's happening in the field. To achieve that, we need better cooperation between all actors. A good example we could use for inspiration is the existing transnational cooperation in education and science. This network is currently lacking for innovation.
- To achieve all these goals though, we need the necessary critical mass for innovation. We need to stick to those programs that are working right now like the Framework program and move it to a transnational effort.
- We need the EIC Forum to discuss and connect with the main stakeholders (also with the ones back in our home countries)
- As pointed before, we need a critical mass of administrators that know about Innovation, as politicians don't know how to implement these things.
- So far, I take home some actions we can implement: Horizon Europe should provide more support for the local business associations, which, working hand in hand with the ministry, can promote innovation skills for SMEs and businesses.
- There is a dire need for role models (i.e., Pathfinder, Accelerator program) and a one stop shop for the national innovation ecosystem. I wonder how can we replicate the EIC model, but at a national level. However, we need critical mass, quantity, for this to work locally.
- We need to be more deterministic around innovation topics. We should avoid generic temps like ICT and define emerging fields of innovation where we can contribute and create synergies (i.e., AI, Blockchain, etc.)
- Data availability, data utilization, and information sharing is of the essence. We have so much information, in research, energy consumption, efficiency, Horizon 2020 projects, nonetheless we're not exploring it.
- We must push for wider internationalization of the regions, not just in Europe, but globally, using regional development funds for it and looking for a wider mindset change. The more international a region is, the quicker we achieve the critical mass we need to make other changes.
- We have good innovation models in Europe (i.e., France, Portugal), why not export them to other regions like Africa, instead of the American or Chinese one?
- Suggested actions: Bring the people in member states doing Horizon, dealing with funds, and innovation together in a platform. We need a bigger voice, not only for capacity building, but to inform and share common innovation issues with local politicians.

- I'm a strong supporter of a Co-fund joint implementation program. We need to figure how to do joint programs for capacity building backed with national grassroots initiatives.
- We also must look into the evaluation criteria of our funding in education. Everyone is complaining about the lack of talent so we must foster programs that include students early on and teach them how do great research and quality innovation.

Eduardo Maldonado, President of the National Innovation Agency, Portugal

- One of the biggest challenges in that each European Innovation Agency is very different from each other. The only common thing is the word Innovation.
- Sadly, our first customer is our own government, and that's the priority. We need increased cooperation with other European agencies so we can exchange best, however, we need a carrot from the EU Commission, maybe through the Co-fund joint implementation program.
- Having a One stop shop is extremely important for the innovation ecosystem. Nonetheless, this challenge is still very complex to fix. Our current job is to advise them on what program is better and guide them. To do that, we need to know the landscape well, so we can communicate it to the innovators. We need to cooperate closely with the Commission to make sure we know all the conditions of each program and instrument.
- The innovation ecosystem needs to be able to go from idea to global market. However, the early stages of ideas (seed) aren't well supported by the commission. It currently falls into the national strategy of each country. We should develop the plugin stage together with the Commission through Co-fund joint-innovation program and share the information with our European colleagues.
- Suggested actions: We need to focus on the inclusiveness of all kinds of stakeholders: regional, local, national. We also need to take care of other types of companies that aren't scaleups (i.e. Accelerator programs) and take advantage of the diversity of our ecosystems to get the best from each.

Session 5: Diversity in business

Simon Schaefer, President of Startup Portugal & CEO of Factory.com

- The need for diversity isn't a question anymore, but there is a challenge about what we mean by diversity.
- A suggestion, could we link funding from the EU to diversity numbers of companies? We should make diversity data mandatory for every company in the EU.
- I believe the winner-takes-all startups have a chance to help with diversity by signaling how it's done.

Oana Bouraoui, Co-founder of StartUp Europe Lens

- Why is diversity important? It's not only gender balance, it's not a number's game or a statistic, it's about focusing more on how individuals shape the business. The current socio-economic situation of EU shows we have trouble attracting talent from abroad. We struggle to retain talent at home too.
- A good example of a powerful diversity program is La French Tech's Tremblin.
- Change has to start with the big companies. They have the budget to try different approximations and experiments and see what works and what not.

- We lack data around diversity numbers, even within the EU instruments. For example, the SME instrument has been operating for four years, but we don't have any data on the diversity of that instrument. Overall, there is no performance information on any of the funding instruments (SME, Horizon 2020, etc.)

Natalie Novick, Chief Community Officer at Startup Boost

- Diversity is a combination of different dimensions: Demographics (race, gender, orientation, etc.), experience (socio-economic status, social capital, etc.), and cognitive models (approach and outlook). Your own perspective on how you see the world, your political views.
- Many reports are missing diversity data. We don't have good sources to measure, track and deploy diversity actions.
- Some suggestions: We need to focus on wider inclusion. There are two private initiatives that are inspiring around better inclusion in VC: Fund Right from Startup Delta where they encourage VCs to fund more female entrepreneurs and promised better inclusion and diversity in their own teams. Another reference program is Inklusiiv, a Finish non-for-profit that has challenge European VC to take unconscious bias trainings.
- Corporates have a role on being leaders in diversity. They need to take the first step. As an example of their importance, many women feel safer working at a big technology corporation because there is a HR department. Most startups don't have one and tend to be more hostile towards females.
- Information on diversity should be public and available for all companies. We should put this as a priority area. We must collect that data ourselves within our own organizations, we can't rely on self-reported outsider data on diversity.

Main messages from each session and from the stakeholder's consultation on Innovation Ecosystems

Fabienne Gautier, Head of Unit of Innovation Ecosystems, EIC Task Force

- We produced a questionnaire, addressed to all stakeholders, in addition to the consultation workshops (Jan 2020) that achieved a balanced participation. The following are some of the conclusions:
- The excellence of the local innovation ecosystem is good, but gradually decreases as we move towards outside regions and Europe at large.
- Investment-wise, it's harder to raise growth money locally, but it improves as we expand internationally.
- When asked about connectedness, universities are the ones the lack the most connectivity with the rest of the ecosystem (industry and corporates).
- Access to talent is very hard at local level (local competition), but it eases up as we move to a National level. However, it becomes harder again when trying to attract talent from other EU countries.

Tatiana Panteli, Head of Brussels Office of Eurotech Universities Alliance

- We must enable innovation across universities. To do that, startups shouldn't just be receivers but active actors in the ecosystem. Stakeholders need to hear what startups need first-hand.

- We need to provide open spaces that enable startups, researchers and students to come together and collaborate. Creating these shared spaces helps connect them together around beers.
- We have to foster more virtual meetups between academics, startups, and VCs so they can start a discussion with one another around their shared challenges, improve the mobility between different ecosystems, and bring successful startups to the campuses as role models.
- When thinking of the European University initiative, we should think about how it can go hand in hand with innovation ecosystems, so we don't duplicate efforts.

Isidro Laso Ballesteros, Deputy Head of Unit of Innovation Ecosystems, EIC Task Force

- We need better interlinking of the innovation regional hubs. If we look at the US, they only have four actors: startups, VCs, some universities and corporates. The cooperation between them is extensive, in addition to having more money. In Europe, on top of the previous ones, we have many other stakeholders that need to be included: RTO, Scientific & Research centers, regions or cities.

Robin Wauters, CEO of Tech.eu

- Capital isn't abundant yet and it's still a problem. We have funding gaps in both local early stage, and late stages.
- Connectedness is very important for investments. The better connected, the better the investment.
- Innovation doesn't only come from startups but from corporations & research centers and we need to foster the collaboration.
- There is a critical need for more and better data. Not any data, but qualitative and actionable.

Karina Anguelieva, Deputy Minister of Education and Science, Bulgaria

- We must change the mindset in universities. So far, we've been giving stimulus to universities, but maybe we should provide stimulus to the industry and businesses and corporations instead, so they act as leaders within that cooperation effort.
- University don't know how to talk to business, so we should provide a special program to encourage businesses to create alliances with academia.
- Currently, more than 20% of Europe is illiterate. There is no shame in trying to have an equal education to everyone, however, we shouldn't be ashamed to foster specific talent programs for kids either.

Natalie Novick, Chief Community Officer at Startup Boost

- Each startup requires a different type of capital, these types change and evolve as startups have different needs at different moments. The needs at certain times are more unique than common. We need to be aware of such circumstances to avoid an overfitting of the ecosystem.
- The consultation survey is still very basic and provides a limited understanding. It creates more questions than it answers. For example, how do each people understand connectedness? What are the responses trying to say?
- As pointed before, we still don't have good data to make common decisions about startups. The more you know them the more we realize, they're more unique than similar.
- Key takeaway: The EU innovation ecosystem is made of many actors and we need a system that's as inclusive as possible to maximize entrepreneurship. We must identify the barriers

and challenges that prevent our citizens from becoming entrepreneurs, we need to remove the friction and make it easier to get them to where they're going.

Eduardo Maldonado, President of the National Innovation Agency, Portugal

- Many universities still want to talk to other universities instead of the industrial and corporate sector. Of course, the industry is reluctant to talk to university too. To fix this mutual dislike, we need to give corporations an incentive for join campus. Some industries are doing some work within the campus, but it's still a minority.
- We must link research with education, especially higher education and we need to start at a young age.

8.2. Genesis of the report

The following report collects the insights, suggestions, and key takeaways of a series of consultations, both online and offline, with the European innovation stakeholders. It was carried out by the Directorate General for Research and Innovation, European Innovation Council Task Force, Unit of Innovation Ecosystems and resulted in the conference '*A Robust Innovation Ecosystem for the Future of Europe*', which was held in Brussels on February 18th, 2020.

The aim of these consultations was two-fold. On one side, to increase the cooperation between the EU institutions and its citizens. On the other, to enrich and inform the strategic planning of the Horizon Europe (HEU) program.

Before the conference, the Innovation Ecosystems unit of the European Innovation Council (EIC) Task Force, organized eight workshops with each innovation stakeholder (Nov 2019 - Feb 2020):

- Startups and startup associations
- Industry and Corporations
- Investors (Venture Capital, Business Angels, Corporate Venture Capital)
- Universities and Research and Technology Organizations (RTOs)
- Cities
- Regions
- National innovation agencies
- Ministries

Overall, around 350 participants attended the workshops discussing the main challenges and suggested actions for each stakeholder group. Besides the workshops, an online stakeholders' questionnaire to include further feedback and complement the workshops was produced.

The final step was a conference with the representatives of the innovation ecosystem. The aim was to develop further actions based on the collected feedback during the previous two stages. The event held five roundtables pairing related stakeholders. Each moderator introduced the previously collected feedback and asked each panelist for additional action points.

This report attempts to capture, structure, and analyze all the produced feedback. The goal is to provide the comprehensive view of the challenges and main action lines for the Horizon Europe (HEU) program implementation.

8.3. Stakeholders' Questionnaire on the Innovation Ecosystems in Europe.

Introduction

This stakeholders' questionnaire is part of a broad consultation carried out by the European Innovation Council Task Force of the European Commission's Directorate General for Research and Innovation. This process will run from November 2019 to February 2020, and respondents have until 20 January 2020 to submit their replies via the survey.

In its proposal for the next research and innovation framework programme Horizon Europe, setting out the EU's priorities and funding for R&I from 2021 to 2027, the European Commission has included – for the first time – a section on European innovation ecosystems, under Pillar III of Horizon Europe, with a proposed budget of €500 million.

Concretely, the proposal calls for "connecting with regional and national innovation actors and supporting the implementation of joint cross-border innovation programmes by Member States and associated countries, from the enhancement of soft skills for innovation to research and innovation actions, to boost the effectiveness of the European innovation system. This will complement the ERDF support for innovation eco-systems and interregional partnerships around smart specialisation topics."

In this context, the **objective** of this questionnaire is to understand the challenges, needs and priorities of the innovation actors in Europe, with a view to gathering input as to how the European Innovation Ecosystems component of Horizon Europe can best support them, within the mandate set out in the Commission's proposal.

The **results** of this questionnaire will be analysed and summarised in a synopsis report, and presented in a conference on 18 February 2020 to a representative group of actors of the European Innovation Ecosystems. The results will feed into the preparation of the next Innovation Ecosystems Work Programme from 2021, and will help prioritise the activities including targeted issues, tools for implementation, instrumental stakeholders and expected impact.

Who is invited to contribute to this questionnaire?

Contributions are sought from stakeholders that had been consulted during the participatory workshops organised by the European Innovation Council Task Force of the European Commission's Directorate General for Research and Innovation and held in November – January 2020 in Brussels. These stakeholders are actors of the EU innovation ecosystem: start-ups, SMEs and corporates in all sectors, business support organisations including cluster organisations, public authorities, universities and research organisations, science and technology parks, incubators and accelerators, venture capital firms, business angels and other types of investors in innovative businesses, etc.

About you

*I represent a:

- Ministry
- Regional authority
- Funding Agency
- City
- University/research institution, technology/research transfer office
- Business support organization
- Start-up, SME
- Start-up association
- Corporate
- Accelerator
- Venture capital firm
- Business angel
- Other type of investor
- Citizen of an EU Member State or country associated to H2020 (Iceland, Norway, Albania, Bosnia and Herzegovina, North Macedonia, Serbia, Turkey, Israel, Moldova, Switzerland, Faroe Islands, Ukraine, Tunisia, Georgia, Armenia)
- NGO
- Other

*Which country or countries do your answers refer to? (Please check all relevant options)

- Austria
- Belgium
- Bulgaria
- Croatia
- Cyprus
- Czech Republic
- Denmark
- Estonia
- Finland
- France

- Germany
- Greece
- Hungary
- Ireland
- Italy
- Latvia
- Lithuania
- Luxembourg
- Malta
- Netherlands
- Poland
- Portugal
- Romania
- Slovakia
- Slovenia
- Spain
- Sweden
- United Kingdom

I agree with the [personal data protection provisions](#) (link to updated privacy statement)

II. State of Play of Innovation Ecosystems in Europe

To fully harness the potential of innovation involving researchers, entrepreneurs, industry and society at large, the EU must improve the environment within which innovation can flourish at all levels. This will mean contributing to the development of an effective innovation ecosystem at EU level, and encouraging cooperation, networking, and the exchange of ideas, funding and skills among national and local innovation ecosystems. (extract from Annex 1, Pillar III, section 2 of the Horizon Europe proposal).

The questions below relate to the “three C’s”, which are essential for a successful innovation ecosystem: **Capital** (access to funding), **Connectedness** (to actors of the ecosystem) and **Competence** (the best people for the job).

1. On a scale of 1 to 5, what is your overall evaluation of the innovation ecosystem you are operating in?

1 – very poor and 5- excellent

	1	2	3	4	5	N/A
At local level						
At regional level						
At national level						
At European level						

2. From your perspective, how easy is it to access **Capital** in your current ecosystem?

1 – very difficult and 5-very easy

	Pre-seed	Seed	Series A	Series B	Series C and beyond

At local level	1 2 3 4 5 n/a				
At regional level	1 2 3 4 5 n/a				
At national level	1 2 3 4 5 n/a				
At European level	1 2 3 4 5 n/a				

3. From your perspective, how would you evaluate the **Connectedness** between actors within your local ecosystem? For each question, we are interested in your assessment as an actor of the ecosystem, regardless of whether you represent or identify with any of the actors below.

1 – very poor and 5-excellent

	Start-ups/ SMEs	Public authorities	Investors	Industry and corporates	Universities/ research Institutions	Civil society
Start-ups / SMEs	1 2 3 4 5 n/a	1 2 3 4 5 n/a	1 2 3 4 5 n/a	1 2 3 4 5 n/a	1 2 3 4 5 n/a	1 2 3 4 5 n/a
Public authorities	1 2 3 4 5 n/a	1 2 3 4 5 n/a	1 2 3 4 5 n/a	1 2 3 4 5 n/a	1 2 3 4 5 n/a	1 2 3 4 5 n/a
Investors	1 2 3 4 5 n/a	1 2 3 4 5 n/a	1 2 3 4 5 n/a	1 2 3 4 5 n/a	1 2 3 4 5 n/a	1 2 3 4 5 n/a
Industry and corporates	1 2 3 4 5 n/a	1 2 3 4 5 n/a	1 2 3 4 5 n/a	1 2 3 4 5 n/a	1 2 3 4 5 n/a	1 2 3 4 5 n/a
Universities/research Institutions	1 2 3 4 5 n/a	1 2 3 4 5 n/a	1 2 3 4 5 n/a	1 2 3 4 5 n/a	1 2 3 4 5 n/a	1 2 3 4 5 n/a
Civil society	1 2 3 4 5 n/a	1 2 3 4 5 n/a	1 2 3 4 5 n/a	1 2 3 4 5 n/a	1 2 3 4 5 n/a	1 2 3 4 5 n/a

4. From your perspective, how would you evaluate the **Connectedness** between actors at regional level?

1 – very poor and 5-excellent

	Start-ups/ SMEs	Public authorities	Investors	Industry and corporates	Universities/ research Institutions	Civil society
Start-ups/SMEs	1 2 3 4 5 n/a	1 2 3 4 5 n/a	1 2 3 4 5 n/a	1 2 3 4 5 n/a	1 2 3 4 5 n/a	1 2 3 4 5 n/a
Public authorities	1 2 3 4 5 n/a	1 2 3 4 5 n/a	1 2 3 4 5 n/a	1 2 3 4 5 n/a	1 2 3 4 5 n/a	1 2 3 4 5 n/a
Investors	1 2 3 4 5 n/a	1 2 3 4 5 n/a	1 2 3 4 5 n/a	1 2 3 4 5 n/a	1 2 3 4 5 n/a	1 2 3 4 5 n/a
Industry and corporates	1 2 3 4 5 n/a	1 2 3 4 5 n/a	1 2 3 4 5 n/a	1 2 3 4 5 n/a	1 2 3 4 5 n/a	1 2 3 4 5 n/a
Universities/research Institutions	1 2 3 4 5 n/a	1 2 3 4 5 n/a	1 2 3 4 5 n/a	1 2 3 4 5 n/a	1 2 3 4 5 n/a	1 2 3 4 5 n/a
Civil society	1 2 3 4 5 n/a	1 2 3 4 5 n/a	1 2 3 4 5 n/a	1 2 3 4 5 n/a	1 2 3 4 5 n/a	1 2 3 4 5 n/a

5. From your perspective, how would you evaluate the **Connectedness** between actors at the **EU-level**?

1 – very poor and 5-excellent

	Start-ups/ SMEs	Public authorities	Investors	Industry and corporates	Universities/ research Institutions	Civil society
Start-ups / SMEs	1 2 3 4 5 n/a	1 2 3 4 5 n/a	1 2 3 4 5 n/a	1 2 3 4 5 n/a	1 2 3 4 5 n/a	1 2 3 4 5 n/a
Public authorities	1 2 3 4 5 n/a	1 2 3 4 5 n/a	1 2 3 4 5 n/a	1 2 3 4 5 n/a	1 2 3 4 5 n/a	1 2 3 4 5 n/a
Investors	1 2 3 4 5 n/a	1 2 3 4 5 n/a	1 2 3 4 5 n/a	1 2 3 4 5 n/a	1 2 3 4 5 n/a	1 2 3 4 5 n/a
Industry and corporates	1 2 3 4 5 n/a	1 2 3 4 5 n/a	1 2 3 4 5 n/a	1 2 3 4 5 n/a	1 2 3 4 5 n/a	1 2 3 4 5 n/a
Universities/research Institutions	1 2 3 4 5 n/a	1 2 3 4 5 n/a	1 2 3 4 5 n/a	1 2 3 4 5 n/a	1 2 3 4 5 n/a	1 2 3 4 5 n/a
Civil society	1 2 3 4 5 n/a	1 2 3 4 5 n/a	1 2 3 4 5 n/a	1 2 3 4 5 n/a	1 2 3 4 5 n/a	1 2 3 4 5 n/a

6. Which actors would you most need to connect to, within a European ecosystem?

- Start-ups and SMEs
- Public authorities
- Investors
- Industry and corporates
- Universities/research institutions
- Civil society

Other

50 character(s) maximum

7. To which local or regional ecosystem within the EU would you most like to be connected?

100 character(s) maximum

8. **Competence.** In your view, how easy is it to access the best people for the job (*referring to skills, talent, knowledge, ability*) in your ecosystem?

	1	2	3	4	5	NA
At local/ regional level						
At national level						
At European level						

9. In terms of scaling up business in your ecosystem, which do you identify as being the main challenges?

500 character(s) maximum

10. In which of the following areas would you say that EU support is most lacking, within your local ecosystem? (*you may select more than one*)

- early stage and feasibility study support
- academia-enterprise cooperation
- support to high-tech SMEs collaborative research
- market analysis and development
- digitalisation of low-tech SMEs;
- financial instruments for close to market innovations activities or market deployment
- social innovation
- joint public procurement initiatives
- joint programmes for mentoring and coaching
- joint programmes for technical assistance
- interconnection of innovation actors
- support in promotion of soft skills for innovation, incl network of vocational institutions
- mapping of support schemes,
- data sharing platforms
- benchmarking and evaluation of support schemes.
- I don't know
- Other (100 characters)

100 character(s) maximum

-

Closing question

Would you like to add any comments concerning actions supported by the European Innovation Ecosystems component of Horizon Europe?

1000 character(s) maximum

Getting in touch with the EU

IN PERSON

All over the European Union there are hundreds of Europe Direct information centres.

You can find the address of the centre nearest you at: https://europa.eu/european-union/contact_en

ON THE PHONE OR BY EMAIL

Europe Direct is a service that answers your questions about the European Union.

You can contact this service:

- by freephone: **00 800 6 7 8 9 10 11** (certain operators may charge for these calls),
- at the following standard number: **+32 22999696**, or
- by email via: https://europa.eu/european-union/contact_en

Finding information about the EU

ONLINE

Information about the European Union in all the official languages of the EU is available on the Europa website at: https://europa.eu/european-union/index_en

EU PUBLICATIONS

You can download or order free and priced EU publications from: <https://op.europa.eu/en/publications>.

Multiple copies of free publications may be obtained by contacting Europe Direct or your local information centre (see https://europa.eu/european-union/contact_en)

EU LAW AND RELATED DOCUMENTS

For access to legal information from the EU, including all EU law since 1952 in all the official language versions, go to EUR-Lex at: <http://eur-lex.europa.eu>

OPEN DATA FROM THE EU

The EU Open Data Portal (<http://data.europa.eu/euodp/en>) provides access to datasets from the EU. Data can be downloaded and reused for free, for both commercial and non-commercial purposes.

The report collects the insights, suggestions, and key takeaways of a series of online and offline consultations, with the European innovation stakeholders. These included Universities, Start-up communities, Investors, Corporates, Local, Regional and National authorities and National Ministries in charge of Innovation policies. Overall, around 350 participants attended the workshops discussing the main challenges and suggested actions for each stakeholder group.

It was carried out by the Directorate General for Research and Innovation, European Innovation Council (EIC) Task Force, Unit of Innovation Ecosystems and culminated in the conference 'A Robust Innovation Ecosystem for the Future of Europe', which was held in Brussels on February 18th, 2020.

The aim of these consultations were, on one side, to increase the cooperation between the EU institutions and its citizens and on the other, to enrich and inform the strategic planning of the Horizon Europe (HEU) program.

The report, as derived from these consultations should serve with policy recommendations to the relevant policy makers in the fields of innovation and the innovation ecosystems.

Studies and reports

