



Funding - Awareness - Scale - Talent (F.A.S.T.)

# Europe is back: Accelerating breakthrough innovation

*Full set of recommendations from the  
Independent High-Level Group of Innovators  
on establishing a European Innovation Council*

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**Europe is back: Accelerating breakthrough innovation**

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*24 January 2018*



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## Foreword by Hermann Hauser, Chair of the High Level Group of Innovators

In 2017 the European Commissioner for research, science and innovation Carlos Moedas invited us to help implement his vision of a European Innovation Council (EIC) that he has made a top priority during his mandate. We were delighted to accept the Commissioner's challenge. Our ambitions for EIC are unashamedly high: to empower our most talented innovators to fulfil their potential and so help catapult Europe into pole position in the global innovation stakes.

We are fifteen in total and come from distinct but complementary parts of the innovation ecosystem including entrepreneurship, venture fund management, industry and the startup community. This report is the output of the Group's deliberations over the last ten months, which included four meetings (held in Brussels, Copenhagen and Paris) as well as engagement between individual members and many different interlocutors.

The Group has built on the results of the interim evaluation of Horizon 2020 and the report of the independent High Level Group on maximising the impact of EU Research & Innovation Programmes ('Lamy' Report) that pointed to the urgency of addressing Europe's untapped potential in the area of breakthrough, market-creating innovation and in particular providing the means for scaling up such innovation. To this we have added a special focus on targeted support for deep tech innovation where we believe the case for public support is compelling.

Our fourteen recommendations are grouped into four sections: Funding, Awareness, Scale and Talent ("F.A.S.T."). If these are followed through in practice, we are convinced that a step change in the impact of European support to innovators will follow.

Our recommendations are intended to assist the European Commission in its task of finalising the design of a fully-fledged EIC in the successor programme to Horizon 2020. At this key juncture in discussions on the new EU budget planning period for the period post-2020, and ahead of a planned discussion on innovation at the European Council in March this year, we also address them to the European institutions, national governments as well as other innovation stakeholders. We have been particularly encouraged and inspired in this respect by interventions by President Macron of France.

I would like to warmly thank my colleagues and the European Commission secretariat for an excellent team effort. I have greatly enjoyed the lively debates we have held and valued the shared belief that Europe can and must do better in scaling up innovations. We will further amplify and refine our advice on the design of an EIC in the months ahead.

*Hermann Hauser*

## Europe is open to breakthrough innovation

At the start of the 20<sup>th</sup> century, Europe was the world leader in technology. Based on their breakthrough innovations, Europe's scientists, inventors, engineers and entrepreneurs created great companies that shaped new markets and transformed living standards. Leaps in economic prosperity were unprecedented.

At the beginning of the 21<sup>st</sup> century Europe is far from this position of global leadership. Few of the global tech companies that emerged over the past 20 years come from Europe. Many promising European start-ups have relocated to the US where the level of venture capital funding is 5 times greater than in Europe. Not only may we have lost the battle in digital technologies, we are now facing a very real risk of being overtaken by Asia, China in particular. This should be a major, if not the major, concern of policy makers in Europe where ageing populations and limited natural resources call for innovative solutions and new sources of growth.

We do believe we are at an historic moment of opportunity for Europe to regain innovation leadership. Over the coming decade, large parts of the economy will be reinvented. Massive opportunities for breakthrough innovation will appear. Economic progress and societal value will increasingly come from innovations that rely heavily on science and engineering ("deep tech") where Europe excels. Values that are at the heart of the European project – such as social equality, environmental protection, open rules-based markets, diversity – will be a critical asset.

Europe has the talent, motivation and resources to lead the world in the next generation of transformational technologies. The growth of entrepreneurship among the young over the past decade is truly unprecedented. Europe has an emerging generation of world-class entrepreneurs. It has vibrant technology hubs, several of which can realistically compete with the likes of New York and Boston, if not yet San Francisco. As the locus of breakthrough innovation moves to deep tech, Europe is ideally positioned to benefit from this trend.

Entrepreneurs, investors and innovators, not governments, build innovative companies. But smart public policy and funding at the EU level are needed to turbocharge the exciting trends in European entrepreneurship and help usher in a new era of European technological leadership.

We have identified four factors that hold back breakthrough and deep tech innovation in Europe.

1. **Funding.** — Breakthrough innovation, in particular deep tech, requires large investments, over a significant time period. This is the kind of finance that is missing in Europe and presents a systemic failure: venture capital is too small, fragmented, short term, concentrated on digital, not enough oriented towards deep-tech and lacking critical mass for patient capital. Bank lending, Europe's predominant investment channel and inherently risk adverse, is not adept at supporting breakthrough and deep-tech innovation. Public support for innovation – including EU support - is perceived as complex, slow, designed for R&D and fails to bridge the gap to private investment.



**2. Awareness.** — Europe needs a flagship initiative on breakthrough innovation that can attract the best innovators and connect local and sectorial ecosystems.

**3. Scale.** — Europe needs continental scale to compete at global level. It cannot compete with the US or China on the basis of national and local initiatives. European start-ups should not be forced to relocate to the US to access larger financing rounds.

**4. Talent.** — Europe needs role models and champions. Its funding needs to empower people, create a culture of risk-taking and stimulate entrepreneurship rather than encouraging risk avoidance and paper shuffling.

In this report we present a set of recommendations and related actions for a European flagship initiative – the European Innovation Council (EIC) – as the central pillar of EU support for breakthrough innovation. It should provide a critical mass of funding and expertise for high risk / high gain breakthrough innovation, which is simple, empowers the innovator and incentivises private investment. The key to success will lie not in replacing private markets, but in removing market failures and gaps in the European innovation ecosystem. The EIC should focus on what cannot be done at local level or by national governments: providing critical funding for the rapid scale-up to compete globally and leveraging the value of European networks.

It's time for Europe to act **FAST!**

## Summary of recommendations

### **F**unding: empower the innovator, simplify, incentivise private investment

1. Simplify current schemes into a small set of “EIC Awards” (grants and other forms of funding) supporting the emergence and the scaling up of breakthrough market-creating innovation
2. Enable grants, loans and equity investments to be awarded in combination
3. Create a EIC advisory board to put the focus on the innovator
4. Change evaluation, selection and management to enable risk taking and flexibility
5. Design websites, application forms, etc., with innovators’ needs uppermost

### **A**wareness: champion innovators, communicate success

6. Set up comprehensive monitoring and information systems that combine data from EIC with other sources
7. Collect and make available intelligence on emerging technologies coming from national and EU programs
8. Communicate success stories

### **S**cale: build the camp, leverage European ecosystems

9. Help EIC awardees access high-quality partnerships and networks across Europe
10. Continue improving access to risk finance for innovators
11. Partner and share practice with other innovation agencies and programmes
12. Help EIC Awardees overcome regulatory barriers and improve the early identification of regulatory barriers for emerging technologies

### **T**alent: connect people, create prestige for innovators

13. Introduce prestigious “EIC fellowship” to recognise leading innovators
14. Pair up EIC awardees with experience peers

# WHY DO WE NEED A EUROPEAN INNOVATION COUNCIL?

There are many well-known reasons why breakthrough innovators find it hard to start up and scale up their businesses in Europe: universities that lack expertise; adverse attitudes to entrepreneurship; thin and fragmented venture capital markets; the incomplete single market; access to talent; regulatory barriers. And many more.

A European Innovation Council should not try to solve all of these problems or replicate existing initiatives. But as a European level funding initiative we believe it has a central role to play for breakthrough innovations, in particular in deep tech.

During our discussions we have debated intensively the following issues.

- **Breakthrough innovations and deep-tech:** No two innovations or innovators are the same, and public funding needs

to be discerning. Breakthrough innovations are ones that create new markets with radically new products, services or business models. They typically come from startups which lack internal capital or existing revenues. The high degree of technological, regulatory or market risk deters private investment. These risks are exacerbated for deep-tech innovations that draw heavily on new science, technology or engineering. In contrast to digital innovation, these deep-tech innovations require large amounts of patient capital with highly uncertain returns (see Table 1). Smart public funding is essential to cross the so called “valley of death” between traditional grants and investable projects for private finance. This is particularly pronounced for biotech, but also applies to the increasing number of innovations that combine digital and physical such as medical devices, energy, aerospace, robotics or artificial intelligence.

**Table 1:** Characteristics of breakthrough innovations in digital and ‘deep tech’ (R&D based)

	TIME TO MARKET	PRODUCT DEV'T COSTS	PRODUCT RISK	BARRIERS TO ENTRY FOR OTHERS	KNOWLEDGE SPILLOVERS
<b>BREAKTHROUGH NON-R&amp;D-BASED (DIGITAL) COMPANY</b>	SHORT	LOW	LOW	LOW	LOW
<b>BREAKTHROUGH R&amp;D-BASED (DEEP TECH) COMPANY</b>	LONG	HIGH	HIGH	HIGH	HIGH

■ = advantage    ■ = disadvantage

**Table 2:** Main similarities and differences between the ERC and an EIC

European Research Council (ERC)	European Innovation Council (EIC)
Focus on excellence (attract best researchers)	Focus on excellence (attract best innovators)
Focus on the individual (the researcher)	Focus on the individual (the innovator)
Remove constraints (field of science, collaboration partners)	Remove constraints (field of innovation, collaboration partners)
Selection by scientific peer review	Selection by peer innovators and aligning with private investors
Long-term grants with guaranteed funding	Combination of grants and financial instruments (equity/ debt), flexibility to stop or reorient

— **European vs national & local support:**

Many countries already deliver great support to their innovation systems. But, we strongly believe that work on the European level adds a lot of value to all of us. It enables high potential innovators to access support and receive recognition wherever they come from. Working together on EU level helps develop the European networks – between firms, investors and institutions. The EIC should draw on a network of agile innovators as the winning setup to compete. Thanks to this approach, the EIC would facilitate and accelerate the sharing of ideas, best practices, access to talent, funding, etc. The EU level can help innovators navigate regulatory barriers across the single market.

— **Targeted vs bottom-up:**

Public support often targets particular technologies or sectors. This works well for building technological capabilities and longer term strategies (technology roadmaps, etc). It does not work well for breakthrough innovation, because it is difficult to predict in advance, occurs at the interface between sectors and technologies, and the dynamics are

of speed and relatively high failure rates. So we believe the EIC should not pre-determine which technologies or innovations are supported. This “bottom-up” approach has been highly effective for the European Research Council (ERC) and many of the lessons apply to the EIC (see Table 2). At the same time, the EIC should pro-actively engage with leading expertise, startups and innovators to provide state of the art intelligence on emerging technologies.

The European Research Council has a distinct branding, reputation for excellence, structure and governance. It represented a transformation in European support for fundamental science. We advocate the same transformation is now needed for European innovation support.

# RECOMMENDATIONS FOR A EUROPEAN INNOVATION COUNCIL

## 1. Funding: empower the innovator, simplify, incentivise private investment

The EU already has many schemes to support new technologies and innovative companies. But seen from the perspective of the innovator, there are too many schemes, which are often too complex to understand (focus, criteria, constraints, how to apply, etc.). As a result, innovators often don't know where to look, nor have the time to do so.

We commend the steps the Commission has taken with the EIC Pilot bringing together some existing schemes (SME Instrument, Fast Track to Innovation, Future and Emerging Technologies - Open and Prizes), making the SME instrument fully bottom-up and introducing interviews with applicants.

The EIC should avoid a "one size fits all" and target market failures and EU added value with a focus on breakthrough innovation leading to the creation of new markets and scaling-up highly innovative firms. EIC awards (meaning grants and other financial support) should be able to support highly novel and risky innovations at the intersection between different technologies, business sectors and scientific disciplines. The awards should be managed in a flexible and agile way, with the ability to stop, to reorient, and to follow investments as companies scale.

The EIC should avoid a "one size fits all" and target market failures and EU added value with a focus on transformative, breakthrough science leading to market-creating innovations and scaling-up highly innovative firms. These often take shape at the intersection between different

technologies, business sectors and scientific disciplines. The number of awards should be limited to focus on the highest potential innovators across Europe and with the ability to follow investments as companies scale.

The awards should recognise different financing requirements at early stage technology, startups, scale-ups and long-established companies. At early stage (e.g. breakthrough ideas in universities or technology organisations) financing is not just for technology development but also to understand different pathways to commercialisation. While the problems faced by EU startups are no larger than their US counterparts, there are substantial differences in the scaling-up phase (partly due to the relatively low volume and small size of VC funding available).

A limitation of current EU support is that it is either purely grant-based (and so there is no private investor with "skin in the game") or is a financial instrument (risk sharing on equity, loans, etc.) assessed on the financial risk involved (and so can't finance high levels of risk).

The EIC should introduce a graduated approach. At early stage where the risk is too high for private investors, a grant-based approach is justified. When larger investments are required (e.g. for pilot manufacturing, larger trials, regulatory compliance, etc.) a combination of grants and financial instruments (debt and equity) is needed. Grant financing should be limited to amounts that make the investment possible for private investors and leverage the overall volume of finance necessary to develop the innovation to a stage where it can be financed through private capital.

## Testimonial: Hermann Hauser

The EU is perceived by the global investment community as “under fished”. Deals in Europe are still cheaper than in the US although the technical talent pool is just as good. As Europe has only 1/5 of the VC of the US there is ample room for expansion which is happening now.

The amount of VC raised by European companies has increased from €4bn in 2012 to €16bn in 2016. This is an exceptional growth rate with money coming not just from European VCs but significantly also from the US and Asia.( data from dealroom.co). EU VC is now growing much faster than the US all be it from a lower level.

The sector expertise of VCs in Europe is excellent especially in the important areas of Artificial Intelligence, Blockchain + smart contract and Life sciences.

These are areas with deep European expertise at University level supported by the ERC.

There is also a big cultural change among the brightest young graduates who now want to become entrepreneurs and not only join the big US banks or consultancies.

This bodes well for the next decade especially as there is also the political will to support this change with initiatives like the EIC.

## Recommendations:

- 1: Rationalise the existing multitude of schemes with a small set of ‘EIC Awards’ that target breakthrough & deep-tech innovation differentiated by:
  - Early stage technology and technology commercialisation (feasibility & commercial pathways, development of full-scale commercial models)
  - Acceleration and scale-up (market introduction, expansion and growth).
- 2: Enable EIC Awards to combine (blend) forms of funding — grants, loans and equity investments – to incentivise, align and amplify private investment
- 3: Create an EIC strategic advisory board to ensure a continuous focus on the innovator and adaptation to new trends. This should involve leading innovative entrepreneurs, universities, research organisations, venture capitalists, other investors (business angels, banks, etc.) and corporates.
- 4: Change evaluation and selection processes to enable risk-taking and align with incentives and capabilities of private investors. Use face to face interviews to identify the people who have what it takes to build and grow successful companies. Introduce flexibility to stop an Award or change its focus.
- 5: Design all EIC websites, application forms, etc. focusing on the needs of innovators, and minimise administrative and financial reporting.

## 2. Awareness: champion innovators, communicate success

Europe has many successful innovators, but few are known to the public. EU strengths in emerging technologies such as Artificial Intelligence are only known to experts in the field. The EIC should therefore be highly active in identifying and communicating success.

EIC Key performance indicators used should be defined covering the various stages from inputs to outputs to outcomes (e.g., is the EIC attracting the best innovators, what are the most important breakthrough products and services supported, how much private investments (VC, IPOs, etc) have EIC awarded innovators attracted, how many jobs have been created in EIC awarded companies).

Much of the necessary data is available from existing sources such as the Innovation Radar (assessing the market potential of innovations and the market-readiness of innovators), automated web searches, third-party databases (company reporting, patents, VC investments,

etc) and internal data from the Commission and other innovation funders. Assessments should combine quantitative metrics with expert views. Data should be benchmarked against other initiatives and counter-factuals. The findings should be fed back to the EIC's managers, policy-makers, awardees and other stakeholders.

Transparency is needed to animate the innovation system; this can be stimulated by sharing intelligence on emerging breakthrough technologies and innovations generated from EU and national programmes. Access to such information would enable the quicker uptake of knowledge and possibly open up new avenues for commercialising knowledge in areas such as photonics, quantum computing, machine learning, and smart materials. This can be achieved, amongst other ways, through better information-sharing (via databases, etc.), scouting for talent and breakthrough technologies, community-building across value-chains, IP brokering, and EU-wide prizes with startup residency programmes. Policy-makers in different domains should benefit from the knowledge made available through the EIC for shaping thematic policies in emerging fields.

### Recommendations:

- 6: Set up a comprehensive EIC monitoring and evaluation system to communicate data, findings and recommendations to a wide audience and demonstrate what EU support can accomplish.
- 7: Collect, analyse and make available data on new technologies, breakthrough innovations and value-chains generated in particular from EU and national programmes, combining feedback from EIC Awardees with other existing data sources.
- 8: Communicate success-stories to a wide audience.

### 3. Scale: build the camp, leverage European ecosystems

Innovation happens in specific places, contexts and ecosystems. The EU's innovation system is a complex mixture of people, enterprises and institutions acting at regional, national and EU levels. The EU's innovation performance depends on the relationships between these actors. Creating more and deeper connections will help innovators scale their businesses.

EIC awards should provide the necessary financial support for fast-growing, highly innovative companies. But they should be about much more than money. Awards should open access knowledge, skills, finance, infrastructures, customers and collaborative partners from across Europe. In each case, the EIC should not replicate services that already exist (many of which are already supported by the EU, such as the EIT's Knowledge and Innovation Communities and the Startup Europe Partnership), but facilitate access and match needs. In this way, **high-potential innovators located anywhere in Europe** would be able to build a world-leading business without having to relocate.

The connections with different communities are needed. We highlight: venture capital, universities, large corporates, national and regional agencies, and regulators.

**Venture capital** in Europe is maturing, with a growing number of professional venture capitalists and increasing cross border funds. But there is a long way to go. We commend the Commission's initiative to incentivise larger scale pan-European venture capital funds of funds. Such initiatives should continue. The EIC should not replicate but provide the bridge between breakthrough innovators and VC communities through co-investments and building a pipeline of investment opportunities.

#### Testimonial: Bindi Karia, Start-up expert and advisor

Having been part of the ecosystem since 2000, I have witnessed an incredible explosion of growth, companies, technologies and connectivity across borders and time zones. Having sat on the Advisory Board for Startup Europe Project, and now the EIC, what I am witnessing is a concerted effort of the EU to bring together universities, entrepreneurs, national and local governments, investors and corporates to create a truly pan-European ecosystem. Ecosystem players from across Europe are all involved in the Startup Europe project, and what has transpired is that these leaders from each country collaborating and learning from each other borders. And it continues to grow. From cities like Paris to Berlin to Stockholm to Lisbon, the key people in these communities know each other and are increasingly collaborating with each other, deal by deal and company by company. These days, when I attend European technology conferences I continually meet peers and colleagues from around Europe, learn what is happening on the ground in each other's home countries, and I know who to call upon when I happen to pass through these cities. It's happening, and the creation of the EIC, who are openly taking guidance from those of us in the private sector, is just proof that this will continue to grow over the years. The dream of a pan-European technology ecosystem supporting the Innovator is beginning to be realised

**Universities** and Research and Technology Organisations (RTOs) are a key source of talent and breakthrough ideas. While many are becoming more entrepreneurial, they often lack the in-house capabilities to nurture breakthrough innovations and their spinouts find it difficult to scaleup. The EIC should support the best ideas and talent early on and thereby increase the number of ideas that become successful innovations. Best practice exchanges on technology transfer and commercialisation among the institutions could also be facilitated.



## Testimonial: Jim Hagemann Snabe

Large corporates have during the industrial era gained sustainable competitive advantage through economies of scale. Size and global scale enabled large corporates to develop market leadership over decades. With the introduction of digital technologies in all industries this has changed. Size is no longer sufficient to be successful over time. Instead large corporates are challenged by fast moving start-ups disrupting traditional business models. As a consequence large corporates need to re-invent themselves at high speed as market conditions and technology opportunities evolve. Successful re-invention requires the combination of new innovative ideas and scale. Large corporates have scale, but are often limited when it comes

to developing new ideas that challenge existing business models. A partnership between innovative start-ups and large corporates is a way to overcome this challenge. Large Corporates will benefit from participating in EIC by getting access to innovation from an ecosystem of innovative start-ups and research across Europe. At the same time Large Corporates are able to help scale new innovative solutions to global markets faster. The EIC is a unique opportunity for small and large European companies to collaborate and leverage the diversification of Europe in order to win in the digital era and develop new sustainable business models and opportunities for the benefits of all citizens

The industrial capacity and presence of **large corporates** gives a clear advantage to many parts of the EU, though achieving the benefits is not straightforward: due to the information asymmetry between big firms and startups, the different cultures and motivations. The EIC can reduce this asymmetry by incentivising and facilitating collaborations between large corporates and most promising start-ups.

The EIC should stimulate strong collaboration and information-sharing with **national and regional innovation agencies**. Such agencies have strong knowledge about the firms active in their area. There are many ways in which these different layers of support could work together –through knowledge exchange, sharing of best practice, and support for capacity-building in less developed innovation systems.

Breakthrough innovations often don't fit easily within existing regulatory frameworks. A key added value of the EIC should be to facilitate interactions between breakthrough innovators and EU level **regulators**. The EIC should help innovators navigate regulatory uncertainties and work with regulators to develop guidance on how regulatory frameworks can be interpreted for breakthrough innovations. The EIC's

direct engagement with innovators should enable it to provide early signals of possible regulatory barriers to regulators.

### Recommendations:

- 9: Help EIC Awardees access partners across value-chains (corporates, investors, public procurers, technology providers) and support (public, private, philanthropic) throughout the EU and internationally.
- 10: Continue improving access to finance and attract private funds into VC and risk finance.
- 11: Partner with regional, national and international innovation-related agencies and programmes to map and emerging existing innovation systems and services, share information and best practice.
- 12: Help EIC Awardees overcome regulatory barriers and improve the early identification of regulatory barriers for emerging technologies

#### 4. Talent: connect people, recognise leading innovators

EIC Awards should be about the people. They should be a badge of honour recognising those who pursue breakthrough innovations. And the potential of bringing together recipients of EU innovation funding is vast – for peer-learning, sparking new ideas, and shaping role-models for future innovators.

Successful entrepreneurs have several traits in common: courage, an appetite for risk, the capacity to imagine and envision novel futures, and the ability to inspire their teams to turn visions into reality. Some of these characteristics are personal traits, and difficult to acquire; but others are skills and capacities that can be developed with the help of a support network.

As entrepreneurs we know that the hardest part of building a successful innovative business is the soft skills. How to transform from an academic environment to a commercial one, how to integrate new people in a fast growing business, how to manage relationships with investors, clients and suppliers. How to retrain and recognise when you are no longer the best person to lead the business.

#### Testimonial: Taavet Hinrikus, co-founder and Chairman of TransferWise

New ventures can only succeed if there is an abundance of talent to create them. Europe is one large talent pool that can support fast growing companies by giving them access to very diverse sets of people. Many world class universities in Europe continue to educate the young population in all areas of science and liberal arts. And its easy and normal for people to move around Europe as they look for opportunities to have an impact.

And lastly one should think of Europe as a market of 500 million people. Its both a single market and a collection of different cultures. Once you succeed with European markets it will be easy to run your global operation from here – both San Francisco and Singapore are a 12 hour direct flight away.

#### Recommendations:

**13: Introduce a prestigious “EIC Fellowship” scheme to honour and recognise Europe’s leading innovators.** They would be recognised as ambassadors for innovation in Europe and play an important role in the ongoing development of the EIC. Potential EIC Fellows — no more than 30 a year — should be evaluated by a high-level selection committee against criteria covering leadership, innovativeness and impact on the innovator community.

**14: Pair up EIC Awardees with experienced peers** who will provide trusted advice and exchange of views for CEOs of EIC companies. The EIC fellows would provide a pool of such peers.

## WHAT DOES SUCCESS LOOK LIKE?

The assessment of the EIC should be an ongoing exercise or continuous learning and improvement, starting with the EIC pilot. This should cover issues such as whether the EIC is attracting the best innovators to apply, and whether the website, applications, selection and evaluation processes are simple and fast.

Success-stories with inspirational narratives that highlight strong role-models should be widely promoted to advertise the benefits that EIC support can bring to Awardees and build the EIC's reputation amongst innovators and other stakeholders.

A number of performance metrics could be used, such as overall EU innovation performance, increases in GDP and employment, increasing levels of venture capital or of the number of EU unicorns.

But we think the EIC should also establish some inspirational goals that symbolise its objectives. Given our proposed focus on scaling up breakthrough and deep-tech innovations, we suggest these goals should be formulated in terms of:

- **Increasing the number of EU startups that scale up to become larger than SMEs (more than 250 employees) and larger than small mid-caps (more than 500 employees).** Breakthrough innovation should create jobs, not just market value. So a clear symbol of success would be a new generation of large companies from Europe.

- **EU leadership in emerging technologies.** In the next decade, the EU should be home to leading companies (e.g. 1/3 of the leading global companies should come from Europe) in major areas areas for breakthrough an deep tech innovation such as Artificial Intelligence, biotech, and augmented/virtual reality

If the EIC achieves these goals the impacts would go far beyond the economic sphere. It would help change mindsets and create a culture where risk taking and entrepreneurship are welcomed. But more than this, we think the only solutions to the major challenges the world faces, as encapsulated in the **U.N. Sustainable Development Goals**, will come from breakthrough innovations. And Europe should lead the way.



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The High Level Group of Innovators, which consists of 15 individuals who represent the different stakeholders of an innovation community, are supporting the European Commission in developing a European Innovation Council in the next research and innovation framework programme (post-2020). This publication represents their advice on how a European Innovation Council (EIC) could fund and nurture breakthrough innovation from start-up to scale-up.

*Studies and reports*

