

The shaping of a KPI framework to strategically guide the European Innovation Council

Preface

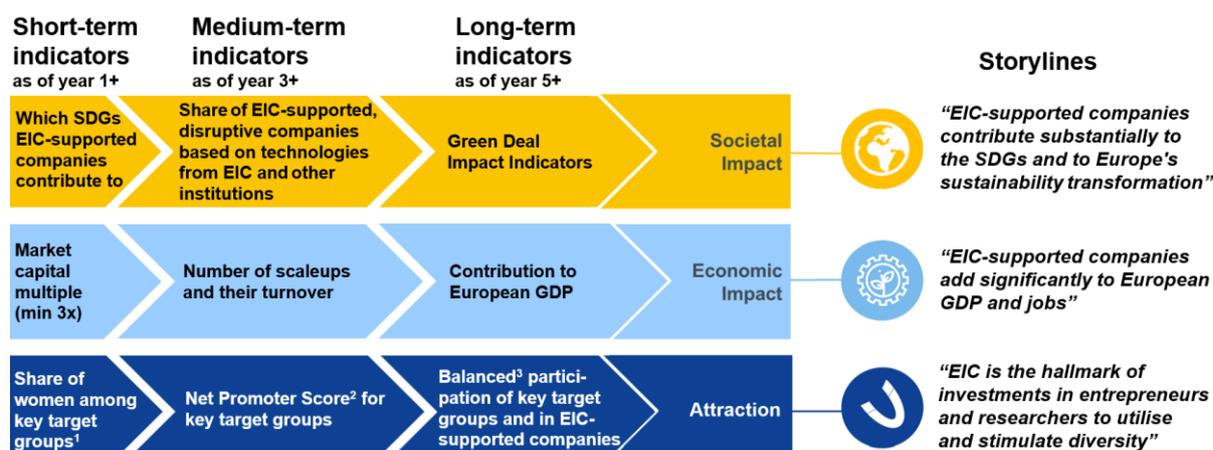
This paper was developed in 2019-2020 by a working group of the European Innovation Council (EIC) Advisory Board. During the autumn of 2019, the group was tasked with the assignment to propose KPIs to monitor and strategically guide the EIC, in terms of investments and resource allocation as well as strategic market communication and branding.

The point of departure is Europe’s world leadership as a technology and innovation region throughout the 20th century that, sadly, has shifted in recent decades. Albeit Europe being at par with the US and Asia in terms of scientific output it lags in terms of innovation, and societal and economic impact stemming from research and radical new technologies. Europe needs to improve its game in *going from input to impact*, i.e. turning research investments into tangible societal and economic impacts in order to stay ahead of the US and Asia in global competitive markets.

Over the coming decade, large parts of the global economy and society will undergo a sustainability transformation and become climate-neutral, environmental-friendly and digital. Along the terminology of the Soviet economist Nicolai Kondratieff, this transformation is the sixth major wave of innovation since the start of the industrial revolution and it is fueled by emerging technologies such as biotechnology, quantum, artificial intelligence, robotics and advanced materials. It offers Europe to become a winner and leading the world with its strong talent base, scientific position, political will and business-to-business leadership in many sectors.

To become a leader in the sixth wave of innovation Europe needs to overcome barriers of fragmentation and inertia, and needs daring public policy and public funding. This is what the EIC offers, at the heart of Horizon Europe’s innovation pillar with a focus on the development of breakthrough market-creating and disruptive innovation, from idea to market deployment and scale-up. The EIC supports high-risk cutting-edge research projects to develop radical and innovative technologies, as well as startups and scaleups commercialising disruptive innovation.

The proposed KPI framework underlines this, being centred on the EIC’s main Key Impact Pathways and their related Storylines, i.e. powerful statements of what the EIC successfully may become, and complemented by indicators on short-, medium-, and long-term.



1 Key target groups include entrepreneurs, researchers and investors

2 As outlined by Reichheld, F. (2003), *The One Number You Need to Grow*, Harvard Business Review, December

3 Balanced across various categories (gender, states, regions, etc)

The essence of the Storylines is that the EIC is the hallmark of investments in innovative entrepreneurs and researchers, being equal and gender-balanced, and that EIC-supported companies contribute substantially to Europe's sustainability transformation with a particular focus on health, resilience and the green and digital transitions, GDP and jobs.

Unsurprisingly, the EIC, nor any other single public instrument, could alone carry the transformation and future of Europe. Even if the EIC becomes a success in instrumental terms and the Storylines hold true, the EIC is simply far too small in relation to the monumental size of European economy to suffice.

Nevertheless, we believe the importance of the EIC goes far beyond its instrumental output. We believe that a successful EIC can carry the vision that European innovation can make all the difference - in the eyes of industry, academia, politicians, entrepreneurs, and the broad European public. Resources and talents are spread and fragmented across Europe. The EIC can help them rise and unite, work in entrepreneurial networks and inclusive, open innovation eco-systems to develop new European fortes.

In this sense, we firmly believe that the EIC carries the fortunes of Europe and that it is the lever for Europe to solving the most relevant problems of humankind's futures and doing so in responsible and democratic ways that are acceptable and fair to the citizens of Europe and of the world.

Here lies the real power of the EIC, in becoming a beacon that proves Europe as the 21st century technology and innovation leader with clear technological sovereignty and with a great conscience and care-taking for a world with a dire need for climate-neutrality and a sustainable future.

This is the overall context of the KPI framework purposed to successfully guide the EIC towards the Storylines, enabling a new vision of innovative Europe. The framework is based on input from the EIC Advisory Board, the EIC Secretariat, and on the Horizon Europe Key Impact Pathways framework. It is a paper in the tradition of previous recent advisory bodies relating to the European Commission's investments in innovation, research and entrepreneurs: the High-level group of innovators, the FET Advisory Group and the RISE group.¹

The Working Group was led by Fredrik Hörstedt, who took a burden of making a coherent document out of intense debates within the group and most insightful contributions from all members of the EIC Advisory Board. The assistance and factual contribution of the EIC secretariat is greatly appreciated.

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¹ Previous publications are available from the [High-level group of innovators](#), the [FET Advisory Group](#) and the [RISE Group](#).

Background and main considerations

The assignment was plainly given by the EIC Chair: “Define a set of 3-4 KPIs. Take a standpoint in the uniqueness of the EIC.”

The meeting of the EIC Advisory Board in September 2019 provided, indeed, many different perspectives on what KPIs could be relevant and a diverse selection of numerous potential KPIs were outlined. This was seen as all natural and it depended in part on that the EIC has multiple purposes and many different instruments. It depended also in part on the diversity of the Advisory Board consisting of board members with diverse backgrounds and perspectives. All in all, it seemed to be a clear-cut task and a head start for the Working Group that was formed during the board meeting.

When gathering all notes and input from the board meeting it became apparent that it might not be so clear-cut after all. The following key considerations emerged:

- What are the unique features of the EIC that make it stand out from other tools of the European Commission?
- How can the full complexity of the EIC effectively be captured by a few KPIs, bearing in mind that the main beneficiaries are both entrepreneurs and researchers, and the support offered goes to high-risk research as well as to companies?
- How can the EIC be confident in that it funds the right projects and companies on the short-term when the sought-after societal and economic impacts are visible only in the long-term, when it is too late to rectify decisions made?

These considerations became subject to continuous debates and scrutiny and we returned to them until the very last day of the work. Why we are monitoring the EIC at all and why KPIs are needed in the first place also became lingering questions that we often back-tracked to. The principle answer to these questions was clear from the start - that we needed KPIs to strategically guide the EIC - but the detailed and contextualised answer did not become obvious until the final stages of the work.

Traction equals attraction

A key assumption in this work has been that *traction equals attraction*. It was obvious that the long-term fulfilment of EIC goals and objectives would delude us - you could simply not wait that long to let the long-term impact (and non-impact, in failure cases) appear - and that a different approach was needed.

An interesting comparison between the EIC and early-stage startup companies had already been made in the September board meeting. For early-stage startups it is in most cases not meaningful to measure what an investment will yield in terms of revenues and profits. For investors this is an accepted condition and a logical consequence of the high uncertainties and long time perspectives at hand. Instead the focus is put on traction, i.e. the fulfilment of short-term and medium-term milestones to develop those precise resources and requirements that are deemed to generate future revenues and profits.

The EIC is obviously not a startup company but it is clearly in startup mode, and it faces the same uncertainties and long time perspectives as a startup investor. The EIC strives to get a fair societal and economical return on its investments but the high technological, market and economic uncertainties blur the picture. The similarities were certainly there, and we saw a strong logic in considering the concept of traction also for the EIC, sorting out milestones and KPIs on the short-term, medium-term and long-term.

In mid-October, a consultation with all Advisory Board members was made to inventory their views on what KPIs were relevant. The result was a massive 60 proposals of potential KPIs gathered. The on-following analysis showed that the proposals were spread across time perspectives and had short-term, medium-term and long-term orientation. Some were addressing societal and economic impact measures directly, others addressed outputs or first- and second-order effects of outputs. Some proposals targeted entrepreneurs while other targeted researchers or capital investors. Further, the proposals were scattered across the quite complex value chain of the EIC including high-risk research paving the way for emerging technologies that can be the basis for radical innovation and disruptive companies sustaining societal and economic impact. Other proposals addressed the attraction of the EIC *per se*, both in general terms and more specifically, to selected target groups and stakeholders. Yet, others focused on selected activities, operational issues and general success factors of EIC execution.

As the proposals were stratified and clustered it became clear that *EIC traction was equal to EIC attraction*, attraction of those resources that are needed to be mobilised on the short- and medium-terms in order to be successful in fulfilling the EIC's goals of societal and economic impact on the long-term.

The Key Impact Pathways Framework of Horizon Europe

Even if some certainties did emerge from the board members consultation it is fair to say that it left the Working Group confused on a higher level. There were so many dimensions, relations, aspects, outputs, effects and impacts to consider, perhaps it was not possible to stick to a set of only 3-4 KPIs after all?

At this stage of the work, it had also become clear that the diversity of the group was of immense value. To say the least, it is not every day that you gather a pan-European team of thought-leaders with diverse backgrounds from industry, venture capital, academia and the public sector, and let them loose solving a fuzzy and highly complex task. The dynamics of such a group gets interesting and, at best, it becomes highly productive. Luckily, the latter was the case here.

During this period, we also received what turned out to be a key piece of input from the Secretariat, namely the Key Impact Pathways framework of Horizon Europe² (the KIP Framework) that outlines nine Key Impact Pathways of Horizon Europe with related Storylines, time-sensitive indicators and data needs for measuring scientific, societal and economic impact in the short, medium and long-term.

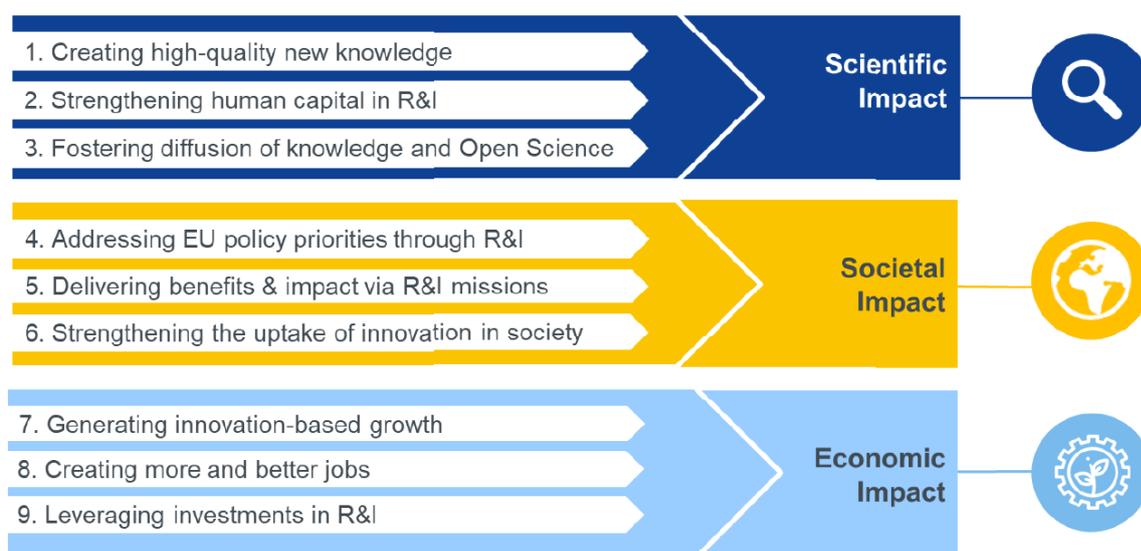


Figure 1. Nine Key Impact Pathways of Horizon Europe. Source: Bruno, N. & Kadunc, M. (2019).

The KIP Framework focus on the most typical changes that are expected to occur on short-, medium- and long-term as a result of Horizon Europe activities. Each pathway consists of the following three components:

- *A Storyline* illustrates the typical message that can be communicated on the progress of the program on this Pathway over time.
- *A time-sensitive indicator* distinguishes between the short-term (typically as of one year, when the first projects are completed), medium-term (typically as of three years, and for the interim evaluation of the Program) and long-term (typically as of five years, and for the ex-post evaluation) to monitor the progress over time in a realistic way. To ensure the measurement focusses on the program achievements the indicator starts from the projects' and projects' portfolios outputs to then look at their diffusion into results and impacts.
- *Data needs* identify the main information needed and possible methodologies to collect the data, while minimising the reporting burden on beneficiaries.

To us in the Working Group it was obvious that the KIP Framework was suitable to the EIC, that we should apply it and that our recommendations should follow its format and structure. With the KIP Framework we realised how to respond distinctly to the assignment given and also acknowledge and incorporate the complexity and many nuances of the EIC.

² *Horizon Europe – Key Impact Pathways*, an official working document of the European Commission by Nelly Bruno and Martina Kadunc in 2019.

Adapting the KIP Framework to suit the EIC

However, there was still a problem with the KIP Framework and it had to do with its origins and the purpose it is intended to fulfil. The KIP Framework takes for granted that relevant projects will materialize which is relevant in most cases, especially when the instruments are well-established like with the European Research Council, ERC. At the same time, it is an indisputable fact that the EIC is entirely new and unestablished. This was a point of departure for the Working Group and from this followed the key assumption that traction equals attraction. It is attraction that adds to the awareness and profiling of the EIC brand that in turn generates a stronger project pipeline. Therefore, we made a first adaptation of the KIP Framework and added Attraction as a Key Impact Pathway of the EIC, and particularly attraction to the main target groups and stakeholders of the EIC.

There was also another aspect of the KIP Framework that caused discussions in the Working Group, namely its explicit focus on scientific impact. It is a given that science is crucial to the EIC since its value chain obviously consists of high-risk research activities (that underpins groundbreaking technologies that in turn underpins radical innovation and disruptive business models that are taken to the market by entrepreneurial teams). This is how the EIC sustains societal and economic impact. Furthermore, the Pathfinder instrument is a significant engagement in EIC's portfolio.

Still, even if science is crucial, the purpose of the EIC is not to create scientific "output" (which is the purpose of other instruments within Horizon Europe), but to leverage scientific input to create innovation output. In other words, the core of EIC's interest when it comes to science is to what extent EIC-supported companies base their offering on new ground-breaking technologies that offer unique opportunities for radical innovation and disruptive business models. *In this way the character of the technology and the role it plays for entrepreneurs taking it to the market is emphasised.*

We acknowledge that technological sophistication and uniqueness can be a major driver of innovation with a following sustained long-term competitive advantage. Further, we acknowledge that scientific advancements have a potential for broader impact in multiple industries and markets. Certainly, these are the reasons why the EIC includes a major science and technology program such as Pathfinder. However, we also acknowledge that radical innovation and disruptive business models can be beautifully executed without ground-breaking technologies based on high-risk research that are not necessities in this sense. Consequently, we were assured to make a second adaptation to the KIP Framework and lifted out scientific impact as a Key Impact Pathway.

Figure 2 shows the Key Impact Pathways of the standard framework for projects and project portfolios alongside the adapted framework to suit the EIC being a portfolio of funding and support instruments.



Figure 2. The Key Impact Pathways of the standard framework for projects and project portfolios alongside the adapted framework to suit the EIC being a portfolio of funding and support instruments. Source: Elaboration on Bruno, N. & Kadunc, M. (2019).

Narrowing down, zooming in on conclusions

To some of us in the Working Group it was obvious that the meeting in late October would be a critical moment. Up until that point we had been problematising the assignment rather than solving it. We had learnt the key issues involved and how to intellectually navigate its territories and subdomains. We had also realised that the

group members clearly had differing opinions about what the distinguishing features of the EIC were and which KPIs should be selected in the end.

The meeting's main agenda item was the point where each group member should propose their preferred set of 3-4 KPIs, the main purpose being to signal that we now entered the phase where we needed to narrow down the work and zoom in on results and conclusions. Having group members with widely different backgrounds and experiences we knew this would mean prioritisations, negotiations and compromises.

The purpose was also to let group members summarise what they have learnt so far. We had already given our initial opinions on which KPIs should be selected for the EIC. This was in the EIC Advisory Board in September but thereafter we had all taken an active part in the Working Group efforts and really learnt a lot.

The agenda item was run with an open mind where group members were asked to listen out and embrace all proposals. This meeting was not the time for criticism and negotiations, those would take place later. Everyone had their say and when the meeting notes were circulated for review, they consisted of in total 15 KPI proposals out of which 10 were distinctly different. It was not obvious that the meeting had been a success, but the next step was anyways to arrange the proposals using the KIP Framework.

Defining EIC Storylines

In hindsight, the meeting in late October was indeed the point where things started to narrow down. The focus was first on defining Storylines, where we had a rigor basis in the recent KPI proposals. Three Storylines, one for each Key Impact Pathway, was formulated to capture the uniqueness of the EIC, as shown in Figure 3.

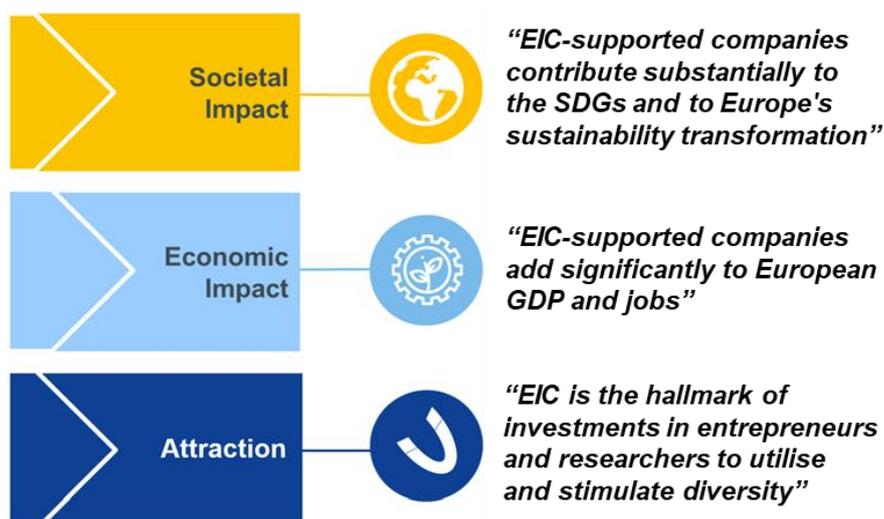
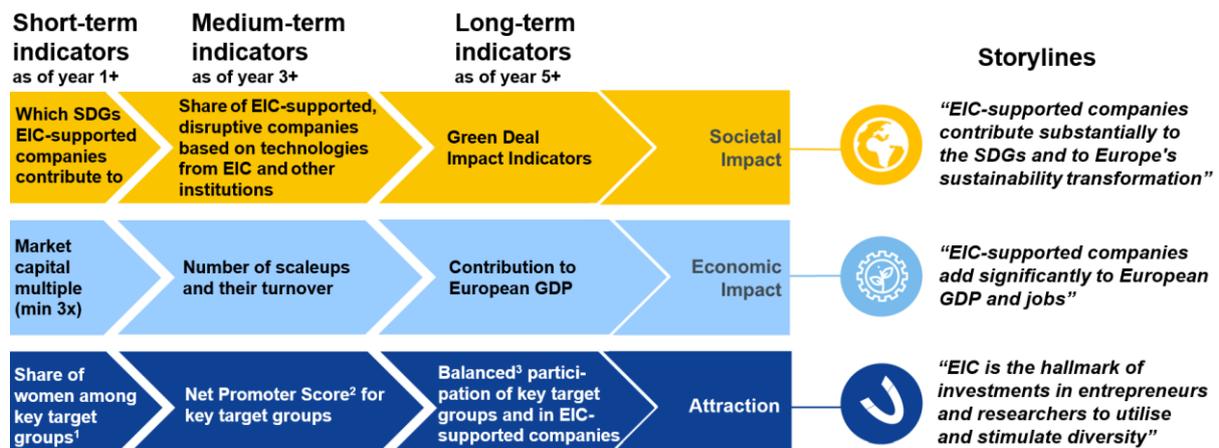


Figure 3. The Storylines of the EIC, one for each Key Impact Pathway.

EIC Storylines need to be distinct, unique and crystal clear. This is to avoid that the EIC becomes something that it was not intended to be, and to avoid that the EIC becomes “the Swiss army knife of the European Commission”, i.e. an instrument that does what all other EC instruments are already doing creating unrealistic expectations of solving any problem of Europe with innovation. Further, Storylines should enable clear and simple communication and brand profiling of the EIC to its main target groups and stakeholders.

Adding indicators on short-, medium- and long-term

The next step was to outline the indicators of each Key Impact Pathway on short-, medium- and long-term. Again, we could rely on the proposals emanating from the meeting in late October. The level of complexity increased significantly but this was deemed acceptable since there were only three and Storylines.



1 Key target groups include entrepreneurs, researchers and investors

2 As outlined by Reichheld, F. (2003), *The One Number You Need to Grow*, Harvard Business Review, December

3 Balanced across various categories (gender, states, regions, etc)

Figure 4. The Storylines and short-, medium- and long-term indicators of the EIC Key Impact Pathways. Source: Elaboration on Bruno, N. & Kadunc, M. (2019).

Regarding Societal Impact we note the EIC's strong interest in ground-breaking technologies that can underpin radical innovation and disruptive business models that challenges current industrial paradigms. This is one important way to support the development of unique and competitive companies that contribute to Europe's sustainability transformation and yields an economic impact. The sustainability transformation is suitably described in the Next Generation EU recovery plan³ emphasising that Horizon Europe should fund initiatives that contribute to the health, resilience and the green and digital transitions of Europe.

EIC-supported companies can rely on technologies coming from EIC Pathfinder projects but also from other instruments and funding bodies. At the same time, the EIC has strong interests in companies with non-disruptive business models and companies that are not based on ground-breaking technologies but can impact Europe in similar ways. Due to the interest in these two types of companies we propose that the share between them is monitored and that the portfolio of supported companies is kept at a balance in this respect.

Regarding Societal Impact we see the importance to align the long-term indicators to those of the Green Deal, the reason being to avoid replication of efforts and parallel work to other parts of Horizon Europe that address similar challenges. It also makes good sense to consider current good practices since measuring societal impact is complex and requires rigor and expertise. The Green Deal call that was launched in May 2020⁴ proposes a goal-structure of ten overall sustainability goals and more than 150 impact indicators across the call areas. This structure is a good basis for defining Green Deal Impact Indicators of the EIC.

Regarding Economic Impact we propose that GDP contribution of EIC-supported companies is the main indicator, rather than the number of European jobs created. We acknowledge that both aspects are critical and both are kept in the Storyline. We also saw the need to prioritise and go for only one indicator where GDP contribution has a productivity aspect to it that makes it more favourable. We believe that the EIC should not support just any job creation but primarily jobs that create higher value-add compared to the EU average. We believe this is captured in the GDP-indicator.

For Economic Impact the term scaleups is used where we have taken a standpoint in the definition of The UK ScaleUp Institute and then modified it to fit with the wide array of companies that the EIC is interested in supporting. A scaleup is here defined as a company that grows by more than 20% per annum by employee growth, or by more than 20% per annum by turnover growth, or by more than 20% per annum in both

³ https://ec.europa.eu/info/sites/info/files/factsheet_1_en.pdf

⁴ https://ec.europa.eu/info/research-and-innovation/strategy/european-green-deal/call_en

employees and turnover. These three conditions are similar to the ones of The UK ScaleUp Institute but we have added a fourth one, namely a company that captures a follow-up investment with a certain order of magnitude in relation to the investment made by the EIC (time duration and order of magnitude to be specified).

One additional note on Economic Impact is that we see that the EIC should act as a catalyst in the capital market aiming at multiplying the EIC investment with a factor of 3-5.

Regarding Attraction we wish to highlight the ambition to be perceived as open to all entrepreneurs, researchers or investors independent of who they are in terms of gender, geography, ethnicity, religion, sexuality, age or education. The support from the EIC should be given in meritocratic and non-discriminative ways. In this way Europe's great diversity can both be exploited and stimulated. Short term focus will be on gender equality. In fact, gender cuts across all other dimensions of equality and is therefore seen to be of particular importance. As studies has shown that a market-driven innovation system is affected by biases⁵, an excellent public-supported program should address and correct those biases. In the long run the focus will be extended on the other dimensions of equality and diversity. The aspect of geography will be important as we anticipate a broader participation in Horizon Europe due to the future potential of central and European countries.

The Working Group efforts have been notably endorsed by the colleagues at the EIC Secretariat who have put in significant working hours to assist us. As our results became more stable, the Secretariat ran test samples and probed the European Commission's databases with the purpose to see if the data needs could be met. The probing involved data sets of venture capital investments, FET projects, and female entrepreneurs among other things. Conclusions on data quality and cohesiveness have been drawn for each information area and strategies for data capture can now be formulated. Another aspect in this area was the need to compare and follow-up EIC-supported companies against samples of non-supported companies.

Where the power of the EIC really lies: Awakening Innovative Europe

During the final stages of the work we could easily envision an EIC that efficiently is fulfilling its tasks, performing strongly in terms of KPIs and making way for true, impressive stories along its Storylines.

Even if the EIC in absolute numbers is a substantive commitment of more than a billion EUR per year it is quite small in relation to Europe and the European Union as a whole, even if it successfully catalyses the venture capital market. The European Union has a massive annual GDP of around 16 000 billion EUR⁶. This means that the economic volume of the EIC is no more than approximately some tenths of ppm's of Europe's total GDP. This relation obviously points at that it is not the instrumental output of the EIC that might matter the most, even if the EIC would become a great success.

Therefore, we would like to believe that a high-performing EIC is much more potent and much bigger than its instrumental output. Our fantasy is that the EIC becomes a beacon and a symbol of pan-European collaboration that produces a radically innovative and disruptive outcome where Europe really makes a mark. We believe that the EIC can influence the minds, attitudes, ideas and initiatives of many other Europeans that can be inspired to acts of innovation and entrepreneurship. We see that this is where the true potential of the EIC lies.

Decision-makers of our close institutional siblings like the European Research Council, European Institute of Innovation and Technology, European Regional Development Fund and other instruments of the European Commission are certainly key to inspire. But Europe's main innovative resources - in terms of talent, monetary funds, guts and ideas, relational networks etc. - are distributed across all member states and in all regions. Being the beacon that helps to awake and revitalise this resource is the real lever of the EIC. There is also a justified hope that the EIC, as the ERC, may become a key transformative initiative both at the EC level and among the member states in awakening the untapped innovative potential at the individual level in Europe.

This is how the EIC can play an actual and truly important role with impacts far beyond its actual size and budgets. This is how the transformation of Europe into a healthy, resilient, climate-neutral and green continent can be accomplished, a Europe that rides the sixth major wave of innovation, that is fit for the digital age reaching technological sovereignty and nurturing companies that outcompete their US and Chinese rivals, solving the relevant problems of the world and does so in fair, righteous and equal ways. This is the Europe of our dreams and we are convinced that the EIC can pave the way for it.

⁵ Kanze, D., Huang, L., Conley, M.A., and Higgins, E.T., "We Ask Men to Win and Women Not to Lose: Closing the Gender Gap in Startup Funding", *Academy of Management Journal*, Vol. 61, 2018, No. 2s

⁶ See Eurostat's GDP and main components, http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=namq_10_gdp&lang=en.