

# Innovation perspectives in the mobilization for Horizon Europe

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# Horizon Europe: an overview

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## Horisont Europa

Totalbudsjett: 95,5 mrd. euro

|  Fremragende forskning<br>(24,9 mrd. euro)  |  Globale utfordringer og konkurransedyktig næringsliv<br>(53,8 mrd. euro)   |  Innovativt Europa<br>(13,4 mrd. euro) |
|--|--|---|
| <b>Det europeiske forskningsrådet (ERC)</b><br>(16,1 mrd. euro)  | <b>Klynger</b> <ol style="list-style-type: none"> <li>Helse (8,0 mrd. euro)</li> <li>Kultur, kreativitet og inkluderende samfunn (2,3 mrd. euro)</li> <li>Samfunnssikkerhet (1,9 mrd. euro)</li> <li>Digitalisering, næringsliv og romvirksomhet (15,5 mrd. euro)</li> <li>Klima, energi og mobilitet (15,2 mrd. euro)</li> <li>Mat, bioøkonomi, naturressurser, landbruk og miljø (9,0 mrd. euro)</li> </ol> <hr/> <b>EUs felles forskningscentre (JRC)</b> (2,0 mrd. euro) | <b>Det europeiske innovasjonsrådet (EIC)</b><br>(9,7 mrd. euro)   |
| <b>Marie Skłodowska-Curie Actions (MSCA)</b><br>(6,4 mrd. euro)  |  | <b>Økosystemer for innovasjon</b><br>(0,5 mrd. euro)  |
| <b>Forskningsinfrastruktur</b><br>(2,4 mrd. euro)  |  | <b>Det europeiske instituttet for innovasjon og teknologi (EIT)</b><br>(3,2 mrd. euro)                                    |
| <b>Bredere deltakelse og styrking av Det europeiske forskningsområdet</b> (3,4 mrd. euro)  |  |   |
| Bredere deltakelse og spredning av fremragende kvalitet (3,0 mrd. euro)<br>Reformere og forbedre det europeiske forsknings- og innovasjonssystemet (0,4 mrd. euro) |  |   |

# Innovation in all 3 pillars

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# Innovation is in all 3 pillars; 70% of budget is linked to innovation

ERC Proof-of-Concept

EIC Pathfinder grants for high-risk, market-creating breakthrough technologies; further development through EIC Transition and EIC Accelerator funding

| Horisont Europa  |   |  |
|--|---|--|
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Innovation collaboration and knowledge transfer in MSCA

European Innovation Ecosystems support schemes

Research and Innovation Actions (RIAs) and Innovation Actions (IAs) in Pillar 2

New EIT KIC in the field of water, marine and maritime sectors in 2026

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# Pillar 1: ERC proof-of-concept

- Extra grant for **ERC project holders**
- 150.000 € lump sum
- Facilitate **exploration of commercial and social innovation potential** derived from the ERC main project
- Research activities to explore innovation potential possible
- Key for EIC mobilization (EIC Pathfinder, EIC Transition)
- Short, 10 page proposal
- Evaluated by experts from business and science. All criteria need to be passed: idea, approach, capacity
- **Success rate over 40%** in 2021



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## Pillar 2: RIAs and IAs to address global challenges

- Most pillar 2 projects are financed through Research and Innovation Actions (RIA) or Innovation Actions (IA)
- Pillar 2 with **56% of the entire Horizon Europe budget**
- RIAs in pillar 2 are arguably the most important financing opportunity for UiB researchers
- RIA and IA projects need to address societal needs, outline target groups and exploitation measures, and create impacts; i.e., **innovation perspectives are integral**

## KEY ELEMENT OF THE IMPACT SECTION

### SPECIFIC NEEDS

*What are the specific needs that triggered this project?*

#### Example 1

Most airports use process flow-oriented models based on static mathem values limiting the optimal man of passenger flow and hamperir accurate use of the available res to the actual demand of passen

#### Example 2

Electronic components need to smaller and lighter to match the expectations of the end-users. / same time there is a problem of of raw materials that has an environmental impact.

### EXPECTED RESULTS

What do you expect to generate by the end of the project?

#### Example 1

**Successful large-scale demonstrator:**

### TARGET GROUPS

*Who will use or further up-take the results of the project? Who will benefit from the results of the project?*

#### Example 1

**9 European airports:** Schiphol, Brussels airport, etc.

**The European Union aviation safety agency.**

**Air passengers (indirect).**

#### Example 2

**End-users:** consumers of electronic devices.

**Major electronic companies:** Samsung, Apple, etc.

**Scientific community** (field of transparent electronics).

### D & E & C MEASURES

What dissemination, exploitation and communication measures will you apply to the results?

#### Example 1

**Exploitation:** Patenting the algorithmic model.

### OUTCOMES

*What change do you expect to see after successful dissemination and exploitation of project results to the target group(s)?*

#### Example 1

**Up-take by airports:** 9 European airports adopt the advanced forecasting system demonstrated during the project.

#### Example 2

**High use of the scientific discovery published** (measured with the relative rate of citation index of project publications).

**A major electronic company** (Samsung or Apple) **exploits/uses the new product** in their manufacturing.

### IMPACTS

*What are the expected wider scientific, economic and societal effects of the project contributing to the expected impacts outlined in the respective destination in the work programme?*

#### Example 1

**Scientific:** New breakthrough scientific discovery on passenger forecast modelling.

**Economic:** Increased airport efficiency  
Size: 15% increase of maximum passenger capacity in European airports, leading to a 28% reduction in infrastructure expansion costs.

#### Example 2

**Scientific:** New breakthrough scientific discovery on transparent electronics.

**Economic/Technological:** A new market for touch enabled electronic devices.

**Societal:** Lower climate impact of electronics manufacturing (including through material sourcing and waste management).

EU Grants: Application form (HE RIA and IA): V2.0 – 21.01.2021



# Pillar 3: Overview

| Pilar 3 – Innovativt Europa   |  |   |
|---|--|---|
| Det europeiske innovasjonsrådet (EIC)   | Europeiske innovasjonssystemer (EIE)   | European Institute of Innovation and Technology (EIT)   |
| <p><b>EIC Pathfinder</b><br/>Finansierer tværfaglige forskningsprosjekter på gjennombruddsteknologier.</p> <p><b>EIC Transition</b><br/>Bygger bro til Accelerator for lovende prosjektresultater med innovasjonspotensial fra Pathfinder, FET og ERC PoC, CHISTERA, QUANTERA, FLAGERA.</p> <p><b>EIC Accelerator</b><br/>Tilbyr tilskudd og egenkapital opp til 17,5 millioner euro til teknologibaserte oppstartselskaper eller SMB-er som jobber med innovasjoner med stort internasjonalt markedspotensial.</p> | <p>Skal skape sterke, inkluderende og effektive innovasjonssystemer som støtter skalering av selskaper og stimulerer til innovasjon.</p> <p>Tiltaksområder:</p> <ul style="list-style-type: none"> <li>• CONNECT - Interconnected Innovation Ecosystems</li> <li>• SCALEUP - Elevating the scalability potential of European business</li> <li>• INNOVSMES - Partnership on Innovative SMES Inkl. EUROSTARS</li> </ul> | <p>Skal styrke høyere utdanning, forskning og innovasjon innenfor definerte samfunnsområder.</p> <p>Eksisterende Knowledge and Innovation Communities (KICs)</p> <ul style="list-style-type: none"> <li>• EIT Climate-KIC</li> <li>• EIT Digital</li> <li>• EIT Food</li> <li>• EIT Health</li> <li>• EIT InnoEnergy</li> <li>• EIT Manufacturing</li> <li>• EIT Raw Materials</li> <li>• EIT Urban Mobility</li> </ul> |

Source: Research Council of Norway

## Pillar 3: The European Innovation Council (EIC)

- **EIC is the main novelty** in Horizon Europe
- EIC Pathfinder, EIC Transition and EIC Accelerator programs
- For **breakthrough technologies** with market potential
- “Technology” to be interpreted broadly, including for example the understanding of human behavior
- **High risk / high gain**
- Both bottom-up and top-down: Open calls, Challenges calls

## Pillar 3: EIC Pathfinder

- Funds research to develop the scientific basis to underpin breakthrough technologies
- **EIC Pathfinder Open**: bottom-up. Any field of science without predefined thematic priorities
- **EIC Pathfinder Challenges**: top-down. Challenge-driven; project portfolios with portfolio managers

## Pillar 3: New EIT KIC in 2026?

### EIT Strategic Innovation Agenda (2021-2027)

- KICs to become more open; Publication of calls in the EC Participant Portal
- A pilot programme to support the development of entrepreneurial and innovation capacity in higher education institutions; within 2023 involve 100 HEIs outside of EIT KIC ecosystem
- Active participation of member and associate state delegates and NCPs to give feedback and undertake national mobilization
- Launch of a new KIC in 2022 or 2023 in the field of cultural and creative sectors and industries (CCSI)
- A second new KIC in the field of water, marine and maritime sectors and ecosystems in 2026



# UiB performance in Horizon 2020 and Horizon Europe

# UiB innovation activities in H2020 + Horizon Europe

## Status på UiBs deltakelse i relevante innovasjonsaktiviteter i Horisont 2020 og Horisont Europa

I forrige rammeprogram, Horisont 2020, var UiB involvert i følgende innovasjonsaktiviteter:

- FET-prosjekter (tilsvarer HEU EIC Pathfinder): 2 RIA prosjekter med et budsjett til UiB på € 1,2 millioner.
- Innenfor søyle 2 «Samfunnsutfordringer og industrielt lederskap» var UiB med i 53 RIA og 8 IA prosjekter med en budsjettandel til UiB på €26,1 millioner i RIA prosjekterne og €2,2 millioner i IA prosjektene. Total finansiering til UiB bar på € 29,5 millioner (ca. 281 millioner kroner).

I Horisont Europa er UiB så langt involvert i følgende innovasjonsaktiviteter:

- ERC-PoC: ett prosjekt på «reserverliste».
- EIC Pathfinder: UiB har sendt inn fem søknader
- Innenfor søyle 2 «Globale utfordringer og konkurransedyktig næringsliv» er UiB deltaker i to RIA-prosjekter med budsjett til UiB på € 1,4 millioner.
- Total finansiering til UiB så langt i rammeprogrammet utgjør €1,4 millioner (ca. NOK 13 millioner).

# UiB performance in Horizon 2020

|   | Contracts  | Proposals  | Success rate |
|---|------------|------------|--------------|
| <b>UiB</b>  | <b>165</b> | <b>808</b> | <b>20 %</b>  |
| <b>Excellent Science:</b>                               | <b>99</b>  | <b>577</b> | <b>17 %</b>  |
| ERC   | 26         | 156        | 17 %         |
| FET   | 2          | 31         | 6 %          |
| INFRA   | 19         | 32         | 59 %         |
| MSCA  | 52         | 358        | 15 %         |
| <b>Societal Challenges:</b>                             | <b>53</b>  | <b>175</b> | <b>30 %</b>  |
| ENERGY  | 4          | 12         | 33 %         |
| ENV   | 15         | 27         | 56 %         |
| FOOD  | 12         | 28         | 43 %         |
| HEALTH  | 17         | 73         | 23 %         |
| SECURITY  |            | 4          | 0 %          |
| SOCIETY   | 5          | 30         | 17 %         |
| TPT   |            | 1          | 0 %          |
| <b>Industrial Leadership:</b>                           | <b>5</b>   | <b>23</b>  | <b>22 %</b>  |
| <b>Science with and for Society:</b>                    | <b>6</b>   | <b>24</b>  | <b>25 %</b>  |
| <b>Spreading excellence and widening participation:</b> | <b>2</b>   | <b>9</b>   | <b>22 %</b>  |

#1 in Norway

Predecessor to EIC

Pillar 2

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Source: Research Council of Norway

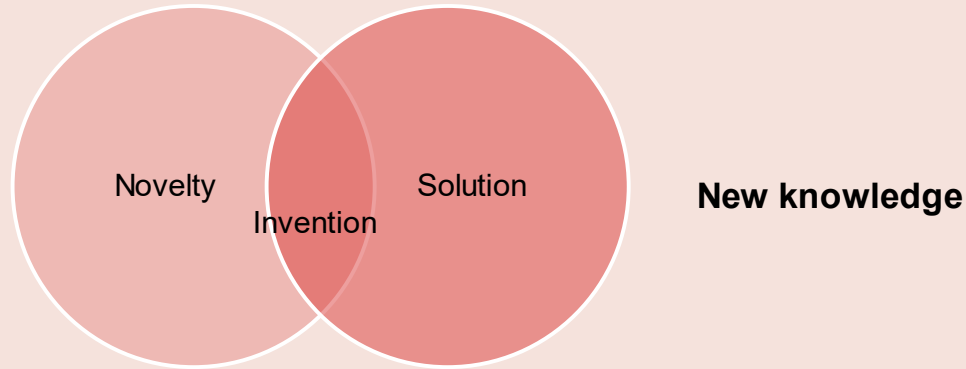
# Leverage innovation opportunities to succeed in Horizon Europe

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## Pillar 2: Strengthen innovation perspectives in RIA/IA

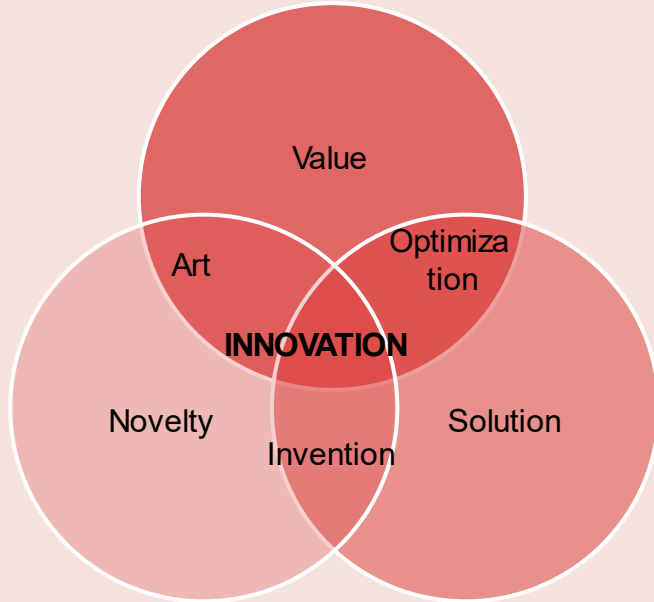
From research....



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# Pillar 2: Strengthen innovation perspectives in RIA/IA

... to innovation



**Societal value**



**New knowledge**

The innovative researcher succeeds in translating knowledge to societal value.

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## Pillar 2: Strengthen innovation perspectives in RIA/IA

- Research translation: Examples of **pathways to innovation**

| Type                             | Goals  | Drivers                          | Features  | Results  |
|----------------------------------|--|----------------------------------|---|--|
| <b>Commercialization</b>         | New or better products or services that can be purchased | Public value, market demand      | Requires business model and market strategy                     | New product, service   |
| <b>Public service innovation</b> | Improve public sector services                           | Public need                      | Requires integration into public sector organization            | New service, infrastructure, administration                    |
| <b>Social innovation</b>         | Strengthen civil society                                 | Social need, challenge, inequity | Exchange of ideas and values, shifts in roles and relationships | Changes in society, new solutions to challenging social issues |
| <b>Process innovation</b>        | New or improved way of doing things in an organization   | Organizational need              | Increases efficiency, reduces costs                             | New processes, techniques, equipment, software                 |

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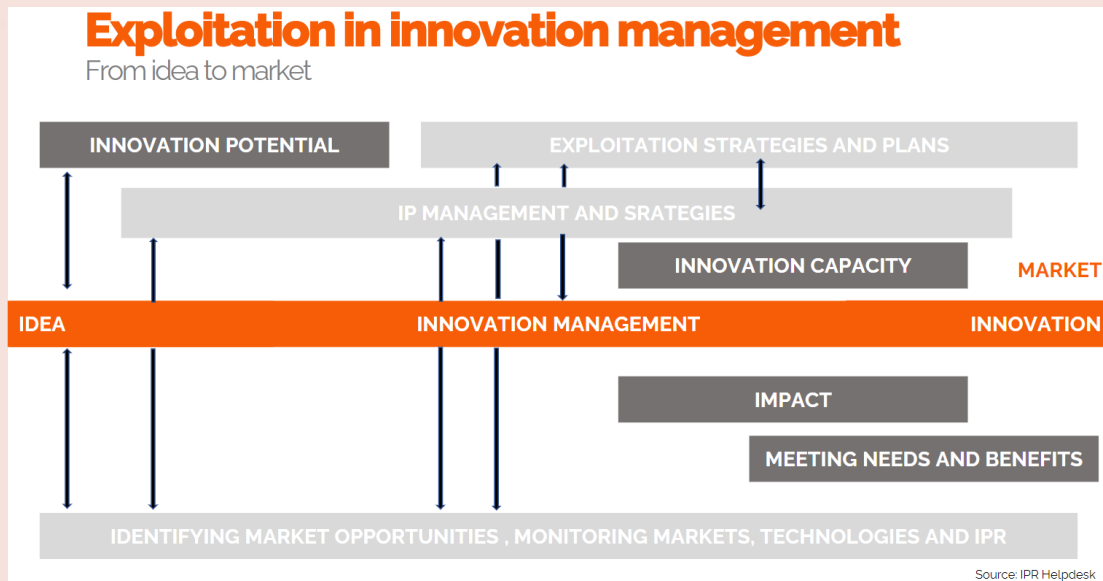
Source: Yves Aubert, UiB

## Pillar 2: Strengthen innovation perspectives in RIA/IA

- Increase **innovation potential** in RIA and IA projects
- Increase researchers' **innovation literacy**
- Create innovation plan
- Prepare for research translation
- Build **collaborations** and networks
- Outline measures to **maximize impact**
- Understand and address **innovation indicators**, e.g.
  - Technological novelty
  - Market scope
  - Ecosystem embeddedness
  - Innovation readiness

## Pillar 2: Strengthen innovation perspectives in RIA/IA

- Create work packages that reflect innovation activities: **Innovation management** with specific tasks and structures, incl. exploitation and IP management (capture, assess, protect, exploit, disseminate)



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## Pillar 2: Strengthen innovation perspectives in RIA/IA

- **Internal training programs:**
  - **UiB Opp.** Target group: advisors
  - **Momentum, TMS** and **UiB FERD** career programs.  
Target group: selected early-/mid-stage researchers
  - Innovation courses on demand. For example Bergen Offshore Wind, CET201, CCBIO/NeuroSysMed, Health innovation. Target group: various.
- Courses by external consultancy firms, organized by RCN, e.g. Europa Media, Innovayt, Enspire, Hyperion.  
Target groups: researchers, advisors

# Pillar 2: Strengthen innovation perspectives in RIA/IA

- **UiB Horizon Europe Toolbox**

## Toolbox for Horizon Europe proposal preparation

- Developed for RIA, (IA), can be modified for other proposal types
- Continuously updated by FIA together with UiB advisor corps

### Content

Process descriptions, templates and checklists for the entire process.

### Users

Research advisers working with support for EU coordinator proposals

### How to use the toolbox

All documents can/should be used for concrete proposal and consortium.

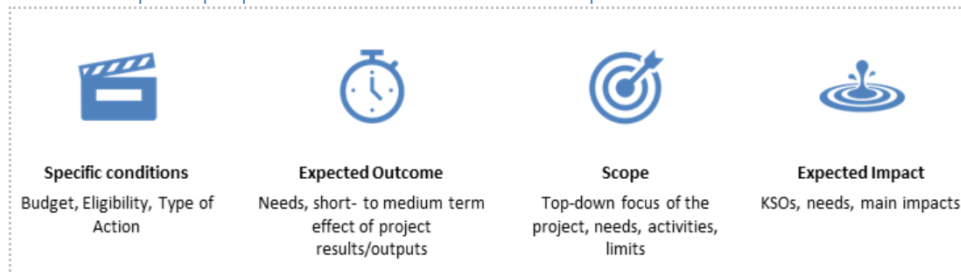
- Start with **0-0 Proposal Progress Plan** refers to.

### List of documents

| Tool name                       |
|---------------------------------|
| <a href="#">0 Central tools</a> |
| 0-0 Proposal Progress Plan      |

## Analyse the Call & develop the proposal towards outcome and impact

### Topic Architecture:



Topic description

Destination

## Enabling Outcomes and Impacts

It is imperative that your Objectives and Ambition formulated in Section 1, Excellence, are aligned with the Impact Table 2.3. Similarly, the activities/tasks required to reach the expected results and impacts as formulated in Section 2, Impact need to be reflected in Section 3, Implementation.

**Table 2.3**, the essence of the Impact section, can be built from tools 1-1-Call alignment, 1-3-Generic Proposal Canvas and the tables presented in this Guide.

Information collected by the Impact-related tools provides essential input for:

- 2.1 Project's pathways towards impact
- 2.2 Measures to maximise impact - Dissemination, exploitation and communication.

And also:

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## Pillar 1: Systematic mobilization for ERC PoC

- **Low effort, high success rate**
- Usually 3 deadlines per year, next deadlines 19.5.+29.9.22
- ERC PoC project holders are **eligible to apply for EIC Transition** funding (€ 2,500,000)
- An ERC PoC application needs to show that the idea has the potential to drive innovation (tackle societal challenge, create market value)
- Breakthrough innovation potential
- Needs a sound approach and methodology
- **FIA is visiting with all ERC project holders**



## Pillar 3: Mobilize for EIC

- EIC Pathfinder projects require specific researcher and project profiles:
  - ambitious, high risk projects
  - pioneering, ground-breaking science
  - long-term vision, high gain
- Points above **significantly overlap with ERC characteristics**
- Both ERC and EIC Pathfinder share high expectation on novelty and groundbreaking nature (contrast to Pillar 2)
- Risk evaluation similar between ERC and EIC Pathfinder: high conceptual risk, low operational risk, high feasibility
- Evaluation standard similarly high as ERC (and higher compared to Pillar 2)

→ **ERC candidates might also be good EIC Pathfinder candidates**

→ UiB has good ERC track-record; add innovation perspectives onto solid ERC foundation

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## Pillar 3: Mobilize for EIC

- **ERC PoC as stepping stone** toward EIC Pathfinder or EIC Transition
- EIC Transition projects are mainly recruited from EIC Pathfinder and ERC PoC projects. In 2021: 42% of EIC Transition projects are further developments of ERC PoCs
- **UiB idé** as tool to link to EIC Pathfinder
- In coordination with faculty and institute research advisors, FIA initiated a project to **map potential EIC Pathfinder candidates** all across UiB

## Pillar 3: Mobilize for EIC

- Ideas to incentivize ERC PoC and EIC at UiB?



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## Pillar 3: EIC Pathfinder

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Council



### EIC Pathfinder Open

- Do you have a **vision for a future technology** that could make a real difference to our lives?
- Do you see a plausible way of **achieving the scientific breakthrough** that will make this technology possible?
- Can you imagine collaborating with an **interdisciplinary team of researchers and innovators** to realise the **proof of principle** and validate the scientific basis of the future technology?

Source: European Commission



## Pillar 3: EIC Pathfinder

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### EIC Pathfinder Open: Gatekeepers

Collaborative, interdisciplinary research, meeting the following Gatekeepers:

- **convincing, long-term vision of a radically new technology** that has the potential to have a transformative positive effect to our economy and society
- **concrete, novel and ambitious science-towards-technology breakthrough**, providing advancement towards the envisioned technology
- **high-risk & high-gain research approach & methodology**, with concrete and plausible objectives

Source: European Commission



## Pillar 3: EIC Pathfinder

European  
Innovation  
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### Expected outcomes of EIC Pathfinder Open projects

- the **proof of principle** that validates **the scientific basis of the envisioned future technology**
- projects must adequately **protect the generated Intellectual Property (IP)**
- projects should involve and empower **key actors** that have the potential to **become future leaders** (e.g. excellent early-career researchers, promising high-tech SMEs & start-ups)
- project are encouraged to **empower female researchers** and have **gender balance** among the work package leaders

All the above will **strengthen Europe's capacity for exploiting the scientific discoveries made in Europe** throughout the steps to market success or for solving global challenges

Source: European Commission



## Pillar 3: EIC Pathfinder

|                               | Pathfinder Open   | Pathfinder Challenges   |
|-------------------------------|---|---|
| <b>Total budget</b>           | €183 million  | €167 million  |
| <b>Proposals (indicative)</b> | Up to €3 million  | Up to €4 million  |
| <b>Funding rate</b>           | 100% of eligible costs  | 100% of eligible costs  |
| <b>Opening</b>                | 1 March 2022  | 16 June 2022  |
| <b>Deadline</b>               | 4 May 2022 at 17.00 CET   | 19 October 2022 at 17.00 CET  |
| <b>Length of proposal</b>     | 17-page proposal (part B)   | 25-page proposal (part B)   |
| <b>Applicants</b>             | Consortia: min. 3 partners from 3 different MS/AC (of which at least 1 partner in a MS) | 1. Single legal entities in a MS/AC (conditions apply)<br>2. Consortia:<br>- If 2 partners: from different MS/AC, otherwise<br>- Min. 3 partners from 3 different MS/AC (of which at least 1 partner in a MS) |

Source: European Commission