



The ins & outs  
for a successful  
application

New EIC expert  
insights & advice

Open Call  
success story

# EIC Pathfinder

## 2024 Programme Summary

 **Catalyze** | THE INNOVATION CONSULTANTS

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# 1. Introduction

## One of the most prestigious funding schemes in the EU

The European Commission created the European Innovation Council (EIC), Europe's flagship innovation funding institute, with the aim of supporting breakthrough innovators facing difficulty financing their research and development activities. In total, the EIC programme has a budget of >€10 billion for 2021-2027, divided across three subprogrammes that address all stages of technological development.

By nature, novel scientific discoveries and their translation to an applied breakthrough technology are associated with high-risk, but also high-gain potential. To support visionary scientists and entrepreneurial researchers in early stages of technological development, the EIC created the EIC Pathfinder programme, which consists of open calls ('EIC Open' deadlines in Q1/Q2 every year) and challenge-driven calls ('EIC Challenges', deadlines in Q3/Q4 every year). The Pathfinder funds interdisciplinary R&D, based on a long-term vision of societally transformative, radically new technology.

### 2023 insights

## Submissions data: Open/Challenges



788/371

Proposals submitted



€3.06M/€3.2M

Average EU grant requested



€179.5M/

€163.5M

Budget

## Open Call results

(Challenges Call results expected Spring 2024)



53

Projects chosen



343

Participants



33

Countries

EIC Pathfinder aims to support discoveries and research in the earliest stages of technological innovations (R&D stage, TRL1-4) that have the potential to disrupt their respective scientific disciplines, and eventually be exploited to create new markets and address global changes. With a high-risk/high gain approach, an interdisciplinary consortium of minimum 3 partners from academia or industry can work together.

The aim of an EIC Pathfinder project should be to realise proof of principle and validate the scientific basis of a science-towards-technology breakthrough. The results obtained from the research should lead to top publication(s), and subsequently, to generating Intellectual Property and the further exploitation of the technology.



## Catalyze is an official Partner of the EIC

Catalyze is an official EIC Partner and member of the EIC Ecosystem Partnership and Co-investment Support programme. All EIC supported projects and companies get access to coaching, mentoring, partnering and other EIC Business Acceleration Services from partners as part of the programme.

[Learn more about the programme](#)

### Featured project

## 3D-BrAIIn: a bio-digital twin human brain

“We hope that this model will be standardized enough that you can essentially get an electrical signature of cortical organoids per individual or patient. Then with artificial intelligence, you can start comparing that in an unbiased way. Beyond personalized use of the 3D-BrAIIn model, it can also be used more broadly to stratify patients with a certain disease into specific disease phenotypes.”

**Dr Femke de Vrij**  
Project Leader



[Read more on Page 12](#)

## 2. Open Call

### Open Call aim

The Pathfinder Open programme supports projects in any field of science, technology or application without predefined thematic priorities. Successful EIC Pathfinder projects often discover and develop life science technologies (medtech- artificial organs, implants, sensing and imaging, diagnostic or therapeutic platforms, biomaterials), physics, electronics and computing innovations, deep green (bio)technologies and energy transition platforms.

### Application and evaluation process

The EIC Pathfinder proposal consists of a maximum of 17 pages and will be evaluated by remote reviewers on the criteria: Excellence, Impact, and Quality and Efficiency of the Implementation. After 1.5-2.5 months you will be able to write a short rebuttal on reviewers' comments and the final outcome of the evaluation will be provided within 5 months after the call deadline (start of the project: 8 months after the deadline).

### Summary & deadlines

#### Subsidy

Max. €3 million

#### Total budget available

€136 million

#### Deadline

7 March 2024

#### Consortium

A consortium of minimum 3 partners from academia or industry (including SMEs) established in at least 3 different EU Member State countries can work together.

# 3. Challenges Call

Next to the EIC Pathfinder Open Call there are 5 EIC Pathfinder Challenges Calls in 2023 all with specific, pre-defined topics. The applications are positioned in a slightly different way than for the Open programme and the project's match with specific criteria described for pre-defined Challenges (incl. stage of development) is the most critical element for success. The same application process applies.

## EIC Pathfinder Challenges

In 2024 there are 5 Challenge Calls:

1. Solar-to-X devices for the decentralized prosumption of renewable fuels, chemicals and materials as climate change mitigation pathway
2. Towards cement and concrete as a carbon sink
3. Nature inspired alternatives for food packaging and films for agriculture
4. Nanoelectronics for energy-efficient smart edge devices
5. Strengthening the sustainability and resilience of EU space infrastructure

## Summary & deadlines

### Subsidy

Max. €3 million

### Total budget available

€120 million

### Deadline

16 October 2024

### Consortium

A consortium of minimum 3 partners from academia or industry (including SMEs) established in at least 3 different EU Member State countries can work together. For specific challenges, other rules may apply. As such, a proposal could be submitted by single applicant or a small consortium with 2 partners.



# Overview of Challenge Calls

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## **1. Solar-to-X devices for the decentralized prosumption of renewable fuels, chemicals and materials as climate change mitigation pathway**

In this Challenge, solar-to-X technologies must address societal needs not already sufficiently covered by other energy technologies. The developed technologies should demonstrate how they can be embedded in the full functional value chain from generation to use, be self-sustaining in the long-run and provide a win-win opportunity for prosumers and the environment. The objective is to make progress towards synthetic fuels and chemicals technologies which integrate all necessary conversion steps into a single device, and which are solely and directly driven by solar energy.

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## **2. Towards cement and concrete as a carbon sink**

Current mainstream cement and concrete technologies are the source of 8% of our CO<sub>2</sub> emissions (about 600 kg per capita), which are “embodied” in our buildings and infrastructures. This Pathfinder Challenge seeks to support breakthrough innovations and (alternative) pathways for decarbonized and carbon-negative cement and concrete. Future pathways must meet some important conditions to be ultimately successful (see Work Programme document).

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## **3. Nature inspired alternatives for food packaging and films for agriculture**

This Pathfinder Challenge aims to support ambitious interdisciplinary research that will lead to the development and production of sustainable nature inspired alternatives for food packaging and agricultural production such as, but not limited to, greenhouse and mulch films. These materials must have a reduced environmental impact, through design and production, while delivering the functional characteristics of plastics.

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#### 4. Nanoelectronics for energy-efficient smart edge devices

Power consumption and heat dissipation are the most urgent challenges in electronics ranging from mobile devices to large data centres and becomes especially relevant for smart edge devices. The overall goal of this challenge is to explore novel materials and beyond CMOS devices, non-von Neumann architectures and alternative information processing paradigms to drastically reduce energy consumption in order to meet application specific needs of smart edge devices and circuits.



#### 5. Strengthening the sustainability and resilience of EU space infrastructure

The ever-growing orbital population of satellites and space debris poses increasing challenges to space infrastructure. This challenge addresses the long-term emerging need for green, compact and affordable de-orbiting solutions and in-space recycling of space debris. The specific goals of this challenge are 1) development of technologies for space debris mitigation and active debris removal; 2) concepts for in-space recycling of dysfunctional orbital assets; 3) innovations for protecting EU space infrastructure.

## Want to take your proposal to the next level?

Get in touch with one of our experts. We are ready to help you out with every question. You can reach us via:

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# 4. Application Advice

The EIC Pathfinder is an extremely competitive funding programme, with success rates in the 5-10% range. As a programme that provides 100% funding rates for academic organisations and companies working on early-stage research, it is no wonder that the total number of applications submitted to Open and Challenge calls surpasses the 1100-1200 mark every year. If you want to get your EIC Pathfinder proposal funded, you need to make sure to implement the following four tips.

## 1 Understand the purpose of the EIC Pathfinder programme

Take a helicopter perspective and understand why the Pathfinder programme exists and its positioning in the context of the EIC funding opportunity spectrum. The EIC provides a funding route for disruptive, high-risk/high-reward ideas to achieve proof of concept (EIC Pathfinder), investment readiness (EIC Transition), and then reach the market (EIC Accelerator).

Even if the Pathfinder is the first step in the innovation value chain, you have to understand the feasibility of translating the results into the market, and the pathways in which this can be achieved. Ignoring this in your project will make it really difficult for you to get the funding.

## 2 Understand how to position your project

It is vital that you convey how groundbreaking your concept is, given that the Pathfinder programme seeks to fund transformative ideas that have the potential to make major impact. The list of winners is made available every year by the EIC, and we can learn a lot by just looking at the titles of winning proposals. Most winning projects present their innovations as platform technologies. This makes sense looking at the scope of the Pathfinder and the EIC innovation value chain that prioritises a high level of return on investment. *(Tip 2 continues on next page)*

For example, in projects focusing on just one product or disease rather than a platform, the scale of the impact will be viewed as smaller. You can have specific use cases that you would like to test in the Pathfinder project, but the innovation should be presented as a platform technology with broad future applicability and wide capacity to generate impact.

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### 3 Building the right consortium

Take your time to brainstorm and consider any consortium partner that can push your project ideas forward in a more innovative way, better fitting the scope of the Pathfinder programme. As a programme with a 100% funding rate provided by the EU, it is relatively easy to convince a new partner to join your project, so consider reaching out to new potential partners beyond your network. Give special attention to the interdisciplinarity aspect too.

This is one of the three 'Pathfinder gatekeepers'. You should aim to combine traditionally distant disciplines into your project. Finally, although there is nothing wrong with fully academic consortia, having an industrial partner or small R&D company in your project can improve your scores on the Impact criteria, as they can be positioned as a vehicle for exploitation of the project outcomes.

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### 4 Applying to Pathfinder Challenges presents a unique opportunity

A set of new Pathfinder Challenges is released every year. The Challenges tend to be very specific, and some applicants may be discouraged to apply if they believe that they do not fit well with the given Challenge. At Catalyze, we believe this is a unique opportunity to tap into a higher success chance, given the lower number of applicants in comparison to the Open programme. In 2023, 783 proposals were submitted to the Open call and only 371 to the Challenge calls, despite the budget being very similar – €169.5M and €163.5M, respectively. In 2024, the EIC Pathfinder has an indicative budget of €136 million for the Open Call, and €120 million for the Challenges.

One of the major lessons that we have learned at Catalyze is the importance of not being discouraged to apply and instead try to go the extra mile to align with the call requirements. As long as there is initially some overlap, it is usually possible to further align the project to the Challenge call text. We have been successful in securing Pathfinder funding for clients that were not considering applying to a Challenge call. Therefore, do not be discouraged about a very stringent call text, and instead brainstorm with us on how to make the best out of it.

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## Let's discuss your Pathfinder project.

Get in touch with one of our experts. We are ready to help you out with every question. You can reach us via:

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# 5. Developing a Bio-digital Twin Model of the Human Brain

## Revolutionising personalised precision medicine for CNS disorders

The EIC Pathfinder Open project ‘3D-BrAIIn’ aims to revolutionise personalized precision medicine for central nervous system (CNS) disorders through development of a bio-digital twin model of the human brain. The project combines breakthrough human brain modelling technology, state-of-the-art 3D multi-electrode array technology, and a novel data analytical approach using tailored biology-inspired automated artificial intelligence (AI)-based algorithms.

Erasmus Medical Center (NL) lead the project, while partners 3Brain (CH), Ludwig-Maximilians-University (DE), and the University of Genoa (IT) complete the consortium. 3D-BrAIIn was awarded €2 million under the EIC Pathfinder Open call.

“The project is basically aiming to develop a multidisciplinary tool to allow robust and accurate modelling of the CNS across a broad range of neuropsychiatric diseases, including epilepsy, autism, schizophrenia, and Dravet Syndrome.”

[Read the full interview](#) with Dr Femke de Vrij, Associate Professor of Stem Cell Modelling at the Department of Psychiatry of Erasmus Medical Center.



“We saw this EIC Pathfinder Open call and thought it seemed very suitable, but **the deadline was very close**. I think in particular for the EU grants, there is so much administration in the portal and with many **extra documents required**. It was really nice to have Catalyze’s support who could take this out of our hands, **enabling us to focus on the scientific content**.”

– Dr Femke de Vrij, Project Leader



# Ready for your EIC Pathfinder application?



**Talk to one of our experts**

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