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XR2Industry 1st Open Call for Hardware Enablers

Rafał Oświęcimka
Project Manager *at* FundingBox
17.04.2024

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#FundingChampions

The Agenda

1. Who can apply?
2. What are the benefits of the XR2Industry Open Call?
3. What are the extended reality challenges that you could address?
4. How to apply
5. Q&A

How to get 500,000 EUR to boost your Extended Reality product

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About the XR2Industry Project

XR2Industry (*Tailoring eXtended Reality to Industry's needs*) is an EU-funded project aiming to contribute to European sovereignty in the Extended Reality (XR) area.

The project will boost the European technological ecosystem and create a European XR reference platform by developing the first European XR headset.

Its priorities are data privacy, empowerment, industrial relevance and openness.

The project will distribute up to **€4,8M** among beneficiaries that will be selected to participate in the support programme.

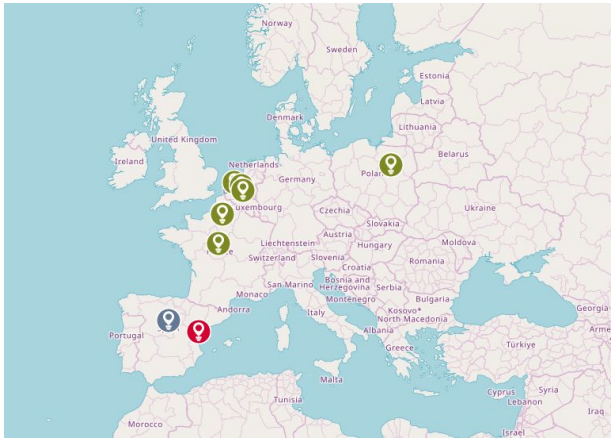
About XR2Industry Project

Coordinator

UNIVERSITAT POLITECNICA DE VALENCIA

Address

CAMINO DE VERA SN EDIFICIO 3A
46022 Valencia
Spain



Participants (8)

Sort alphabetically | Sort by Net EU contribution | Expand all

SUPPORTSQUARE NV Belgium	Net EU contribution € 357 700,00	
ALTHERIA SOLUTIONS Belgium	Net EU contribution € 192 062,50	
SL PROCESS France	Net EU contribution € 1 338 025,00	
FUNDINGBOX ACCELERATOR SP ZOO Poland	Net EU contribution € 5 124 250,00	
THIRD-PARTY FUNDINGBOX COMMUNITIES SL Spain	Net EU contribution € 62 050,00	
TKORP SAS France	Net EU contribution € 129 675,00	
MAOUI MOUNDJI France	Net EU contribution € 225 575,00	
FLUX50 Belgium	Net EU contribution € 104 125,00	

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1. Who can apply?

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1. Who can apply?

Single SME or MidCap registered as a legal entity before the start date of the XR2Industry 1st Open Call for Hardware enablers (before 2 April 2024).

Companies from the following countries:

- **EU Member States and its Overseas Countries and Territories** (OCT), or
- **Horizon Europe Associated Countries**.

Projects that develop and integrate **innovative hardware based on emerging technologies** (such as 5G/6G, IoT, data, artificial intelligence, edge and cloud computing, and microelectronics) to enable possibilities of XR experiences by addressing one of the XR2Industry challenges.

2. What are the benefits of the XR2Industry Open Call?

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2. What are the benefits?

The XR2Industry 1st **Open Call for Hardware enablers** will select up to **7 Developers of XR components** aimed at integrating emerging technologies to enable possibilities of XR experiences.

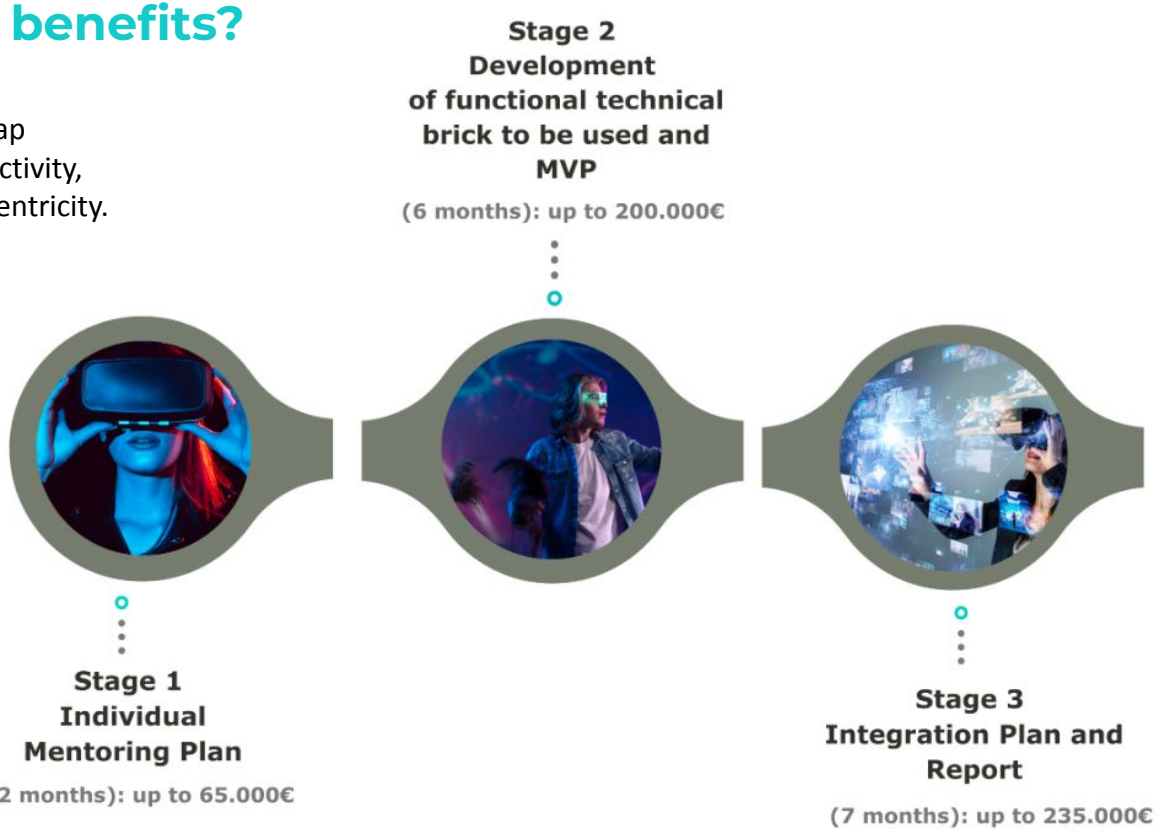
In the 1st XR2Industry Open Call, each selected SME/Mid-cap will receive a **maximum of 500.000 €** (fixed lump sum), during the **15-month Support Programme** you will be supported by Technical Experts.

Stage 1
Individual
Mentoring Plan

(2 months): up to 65.000€

2. What are the benefits?

Increasing SMEs/Mid-Cap competitiveness, productivity, efficiency and human-centricity.



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3. What are the extended reality challenges that you could address?

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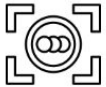
3. What are the XR challenges that you could address?

High-Accuracy GPS



Motion capture system to track several objects

External HDR camera

Overhear audio with hearing protection

External 5G Modem

Biometric Human Sensing

External ToF Camera

Haptic Gloves for XR standalone headsets supporting OpenXR

Universal Tracker

Hard hat with the front of the HMD

Interaction device that fits disabled people

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Each applicant must address only one of the challenges

3. What are the XR challenges that you could address?

Universal Tracker

Description: Taking an existing tracking solution and making sure it works with the XR standalone headsets.
Problem to be solved: Self-tracking and tracking relative to the headset.
Use case: Training (precisely tracking part of the body or tools), precise object localization (out-of-sight objects can be tracked) and facilitating the creation of 3rd party tracked devices (like haptics gloves).

Overhear audio with hearing protection

Description: Integrating an existing audio system that allows people to communicate, hear and protect themselves in a loud environment
Problem to be solved: Hearing protection, Filter audio inputs, API for active noise filtering (being able to choose the specific frequency to cancel)
Use case: Communication in a loud/busy environment (e.g. SafeHear).

Biometric Human Sensing

Description: Design hardware inspired by OpenBCI (for EEG, ECG, EMG), Emotibit (for PPG, EDA / GSR, 9-axis IMU, body temperature), uMyo (EMG) to increase the quantity of sensors per device and reduce final hardware cost. Add an XR headset holder on the OpenBCI ECG headset.
Problem to be solved: New ways to interact with XR and deeper human understanding.
Use case: Research, work and recreational.

High-Accuracy GPS

Description: Designing the mechanical and electrical components of the GPS system integrating the GNSSRTK technology.
Problem to be solved: Antenna placement, power consumption
Use case: MR outdoor applications (robust to environmental change, precise enough to visualise underground models (e.g. underground pipes/wires).

3. What are the XR challenges that you could address?

Hard hat with the front of the HMD

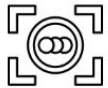
Description: Integration of the front of the R2 on a certified hard hat. Special focus on the battery, speaker and hinge integration.
Problem to be solved: The main product will need a specific retrofit to modify the battery and speakers placement to accommodate the hard hat instead of the default strap. Mechanical design and electrical engineering will be required for this challenge.
Use case: Safety hat to be able to use Mixed Reality in hard hat environment (construction, oil & gas, industrial sites, etc).

External ToF Camera

Description: Design a module that can be attached and plugged into the XR standalone headsets, Mechanically and electronically working.
Problem to be solved: Latency, physical interface with headset, create OpenXR extension for mesh environment.
Use case: 3D scanning, scene understanding.

External HDR camera

Description: Design a module that can be attached and plugged into the XR standalone headsets HMD, Mechanically and electronically working
Problem to be solved: Latency, physical integration on the headset, accessible software interface, power consumption
Use case: Training, Welding, firefighter vision (HDR cameras see a wide range of light intensity).



Motion capture system to track several objects

Description: Adapt an existing motion capture system to the XR standalone headsets.
Problem to be solved: Defining shape and radio protocols for the headset manufacturer to implement
Use case: Training to ensure that the right and secure protocol is understood, simulation.

3. What are the XR challenges that you could address?

Interaction device that fits disabled people

Description: Designing an interaction device that allows disabled people to interact with the XR environment.
Problem to be solved: Defined the targeted disabilities. Connectivity with the headset. Tracking of the device(s).
Use case: Accessibility for every user in an industrial environment. Especially people with hand disabilities that do not allow them to interact (ex: hand tracking or controllers).

External 5G Modem

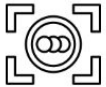
Description: Design a module that can be attached and plugged into the XR standalone headsets HMD, mechanically and electronically working.
Problem to be solved: Connectivity, power consumption,, OS compatibility, headset attachment, antenna placement.
Use case: Compatibility with 5G cellular network in rural or remote areas for remote assistance and/or streaming content.

Haptic Gloves for XR standalone headsets supporting OpenXR

Description: From existing haptic gloves, adapting them to XR standalone headsets supporting OpenXR. Make sure the tracking solution works properly.
Problem to be solved: Low-level integration of haptic gloves with embedded tracking solution.
Use case: Training (learn to manipulate tools or small objects virtually), Design & Engineering (designers can touch/interact with their product during the design phase), Sales (clients could virtually try products like cars or aircraft).

3. What are the XR challenges that you could address?

High-Accuracy GPS



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4. How to apply

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https://xr2industry.fundingbox.com

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1. LOGIN OR SIGNUP
2. CLICK THE APPLY BUTTON
3. START A NEW APPLICATION
4. FILL OUT THE APPLICATION
   Complete all the sections that are marked with A RED STAR. Fill out the required fields.
5. SUBMIT YOUR APPLICATION

4. How to apply?

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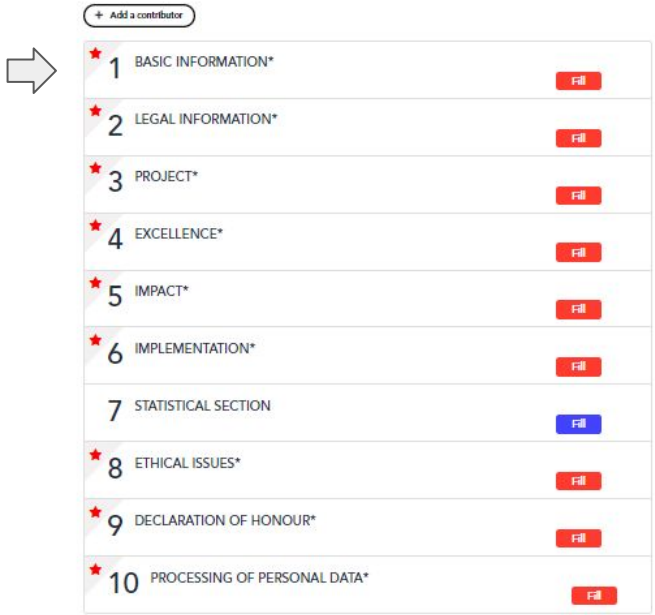

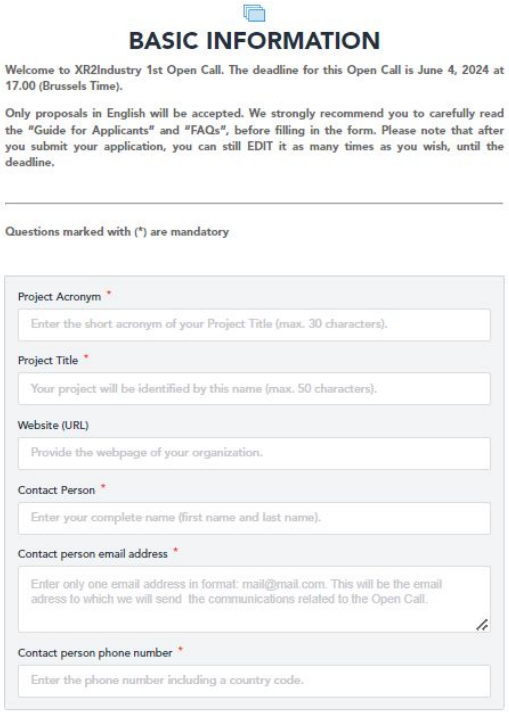

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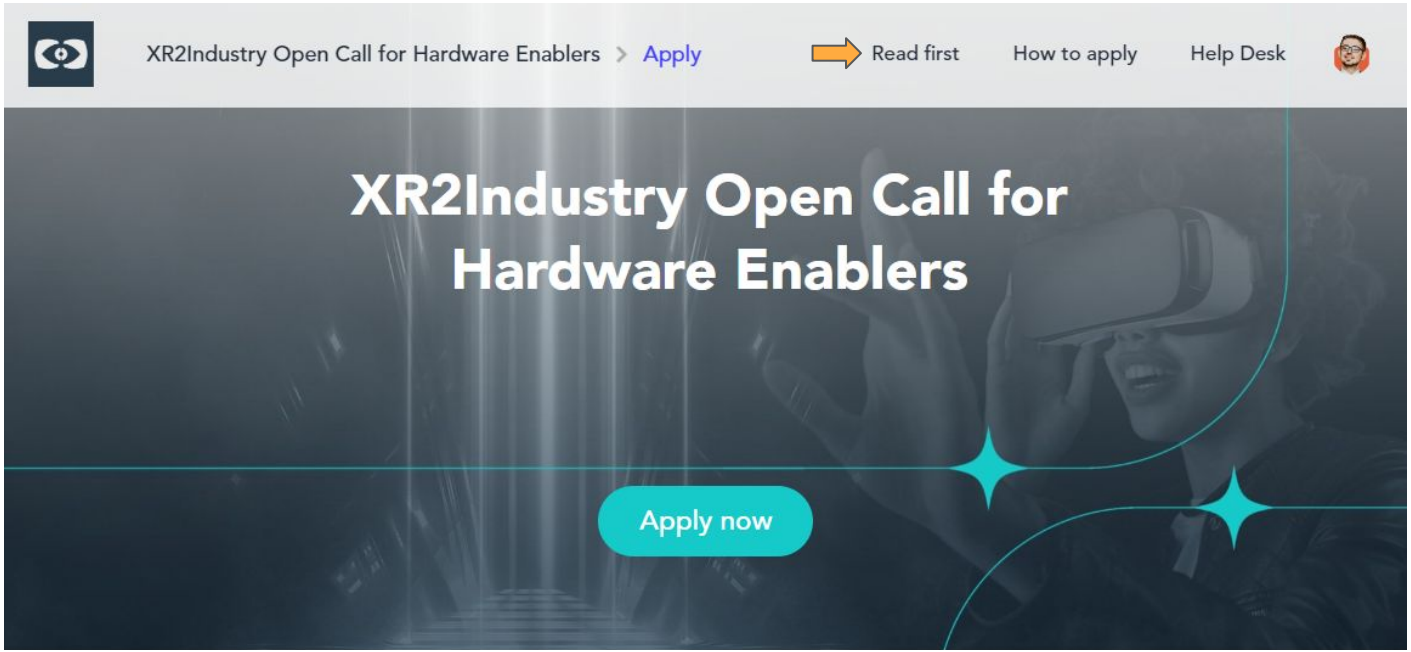

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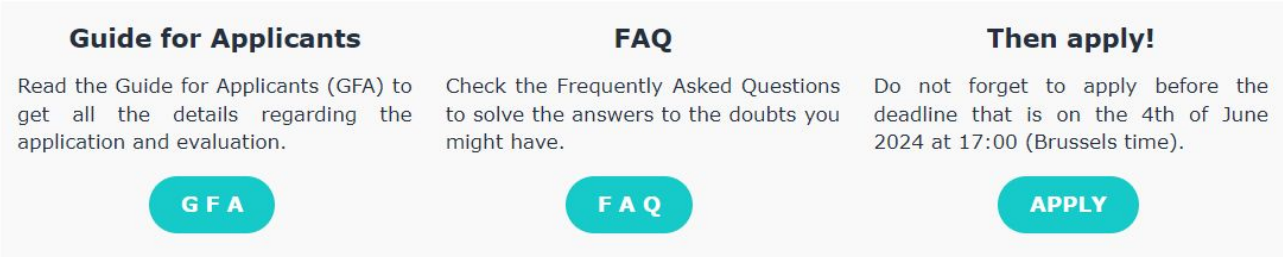

- Be on time and use our system (deadline of **June 4, 2024, at 17:00** Brussels time)
- English Language
- Every question deserves your attention
- Be exhaustive

- Less is more
- European dimension
- Conflicts of interest:
- Healthy finances and a clean sheet are a must
- It is your proposal
- Acceptance of the open call rules

Helpful tips

The requested Technology Readiness Level (TRL) of the solution is defined **from initial 3 to 7**.

- TRL 1 — Basic principles observed
- TRL 2 — Technology concept formulated
- TRL 3 — Experimental proof of concept
- TRL 4 — Technology validated in a lab
- TRL 5 — Technology validated in a relevant environment (industrially relevant environment in the case of key enabling technologies)
- TRL 6 — Technology demonstrated in a relevant environment (industrially relevant environment in the case of key enabling technologies)
- TRL 7 — System prototype demonstration in an operational environment
- TRL 8 — System complete and qualified
- TRL 9 — Actual system proven in an operational environment (competitive manufacturing in the case of key enabling technologies, or in space)

HELPFUL TIPS

Remember to **SUBMIT** your application before the **DEADLINE**

SUBMITTING your application is **AVAILABLE** only after all the red star marked sections are **CORRECTLY FILLED OUT**

There is an **OPTION** to add **CONTRIBUTORS** on the application submission page

Only the **LAST PROPOSAL** which has been submitted in order of time, **WILL BE EVALUATED**

You can **ALWAYS EDIT** all bookmarks and fields until the end of the deadline, **EVEN AFTER SUBMISSION**

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Contact Us

If you have questions
regarding the open call reach us at

info.xr2industry@fundingbox.com

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Q&A

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Thank you for you attention

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Backlog slides

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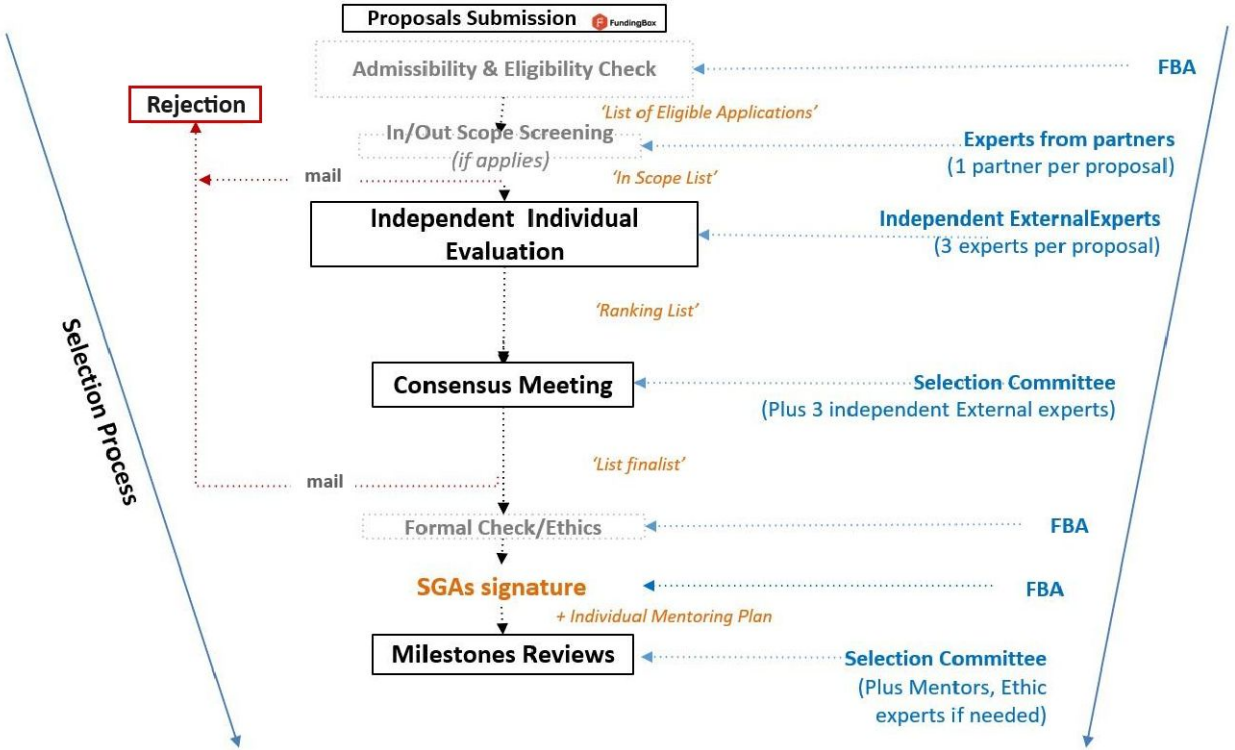
Evaluation process



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Evaluation process

Phase	Time	Approximate Date	Number of applicants passing to the Next Phase
Admissibility and Eligibility Check	3 days	05/06/2024 - 07/06/2024	-
In/out scope screening	14 days	10/06/2024 - 24/06/2024	-
External Evaluation	Approx. 4 weeks	25/06/2024 - 23/07/2024	Up to 21
Consensus Meeting	1 day	2nd half of July	Up to 7
Finalist Communication	1 day	1 week after Consensus Day	Up to 7
Legal Check	Approx. 4 weeks	August /September 2024	Up to 7
Sub-Grant Agreement Preparation and Signature	Approx. 4 weeks	September /October 2024	Up to 7

Stages of the XR2Industry Project

Stage No and Name	Stage duration	Deliverable	Delivery Month	Lump sum
Stage 1: Individual Mentoring Plan	2 months	Individual Mentoring Plan	M2	Up to €65.000
Stage 2: Development	6 months	Development of functional technical brick to be used	M6	Up to €100.000
		MVP	M9	Up to €100.000
Stage 3: Integration	7 months	Integration Plan	M12	Up to €120.000
		Report	M15	Up to €115.000
Total:	**15 months**	-	-	**Up to €500.000**