# **XR FUNDING**



# IN H2020 & HEU

# PUBLIC REPORT

The public version of a special report created by XR4Europe for its members to promote better understanding of the Horizon Europe programme and identify opportunities and strategies for participation and consortium building.

For the full report, which includes additional insights and detailed annexes, visit XR4Europe.eu



Amplify - Advocate - Facilitate

Last updated 13 August 2025

### **PREFACE**

This report has been prepared by XR4Europe and authored by Michael Barngrover, Managing Director of the association. It draws exclusively on publicly available data from the European Commission's CORDIS database (<a href="https://cordis.europa.eu/projects">https://cordis.europa.eu/projects</a>) and represents a structured effort to map and analyse the landscape and impact of EU-funded projects involving extended reality (XR) and virtual worlds technologies.

XR4Europe is a non-profit international industry association supporting the European ecosystem of universities, research institutions, startups and SMEs, and large enterprises engaged in immersive and virtual worlds technologies. The association provides its members with hands-on support and informed insights, including Horizon Europe funding opportunities, building and joining project consortia, and engaging in strategic dialogues shaping the future of European XR.

This public report is an example of the kinds of independent studies that XR4Europe undertakes with the support of its members and partners. A more detailed, extended version of this analysis is made exclusively available to XR4Europe's Full, Associate, SME, and Professional members, reflecting the association's commitment to deliver both public knowledge and tailored insights to those most directly engaged in advancing Europe's immersive technologies sector.



Fig. 1. Word cloud created by project descriptions of the 182 H2020 and HEU projects that were identify for this study.

Michael Barngrover Managing Director



## **EXECUTIVE SUMMARY**

This report reviews extended reality (XR) and virtual worlds projects funded under Horizon 2020 (H2020) and Horizon Europe (HEU). H2020 (2014–2020) funded 91 XR-relevant projects with €336.6 million. HEU (2021–2027) has already supported 91 projects with €329.1 million, despite gaps in calls in 2023 and 2024, and is expected to exceed H2020 funding by over €100 million before the programme ends.

H2020 prioritised Research and Innovation Actions (RIAs), allocating over €200 million across 39 projects, while HEU has distributed funding more evenly—€139.8 million for RIAs and €121.6 million for Innovation Actions (IAs). The average IA project under HEU is larger, pointing to a shift toward deployment-focused efforts. HEU has also expanded support for Marie Skłodowska-Curie Actions (TMA-MSCA), with over €14 million in XR-relevant projects.

A prominent group of institutions, including CERTH, CNR, and MAGGIOLI have coordinated multiple projects covered in this report. Others, like Fraunhofer and F6S, have participated in large numbers of projects. However, participation remains uneven across Europe. Countries in Central and Eastern Europe, despite possessing professional and academic XR communities, remain under-represented in HEU.

At the regional level, funding is notably concentrated in several metropolitan areas: organisations from Paris, Helsinki, Barcelona, and Athens alone have accounted for more than €116 million in total contributions from H2020 and HEU programmes.

With several calls open or upcoming, particularly the four virtual worlds-specific HUMAN calls in 2025, HEU is on track to launch two cohorts of new XR and virtual worlds projects in 2026. Ensuring broader participation and lowering access barriers should be key goals for the post-2027 programme.

#### GLOSSARY OF TERMS FOUND IN THIS REPORT

- H2020: Horizon 2020 The European Union's 2014-2020 research and innovation programme.
- HEU: Horizon Europe The EU's current 2021-2027 research and innovation programme.
- RIA: Research and Innovation Action Projects focused on generating new knowledge or exploring novel technology applications.
- IA: Innovation Action Projects focused on prototyping, testing, piloting, and scaling up innovations.
- CSA: Coordination and Support Action Actions that coordinate networks, develop policies, disseminate results, or support the wider innovation ecosystem; no core research activities.
- EIC: European Innovation Council Supports breakthrough innovations and scaling of startups/SMEs; includes Pathfinder, Transition, and Accelerator funding instruments.
- ERC: European Research Council Provides frontier research funding to individual researchers and teams pursuing groundbreaking scientific discoveries.
- IL: Industrial Leadership A thematic pillar in H2020 promoting industry participation and private sectordriven innovation.
- SME: Small and Medium-sized Enterprises Key target beneficiaries of EU funding, with specific instruments and evaluation thresholds.
- TRL: Technology Readiness Level A scale used to assess the maturity of a technology, ranging from basic research (TRL 1) to fully deployed systems (TRL 9). It helps funders and developers determine how close a technology is to market readiness.
- MSCA: Marie Skłodowska-Curie Actions Fund mobility and training for researchers at all career stages, emphasizing interdisciplinary and international collaboration.



## HORIZON 2020 AND HORIZON EUROPE

#### AN OVERVIEW

Horizon 2020 (HEU, the EU's flagship research and innovation programme, ran from 2014 to 2020 with nearly €80 billion of funding available over seven years. It was succeeded by Horizon Europe, launched in 2021, with a budget of €95.5 billion for 2021–2027. Both programmes fund research consortia across academia, industry, and the public sector to drive scientific excellence and societal impact. Within these frameworks, XR and virtual worlds technologies have been supported through thematic calls spanning digital transformation, culture and creativity, health, mobility, and security.

HORIZON-EIG-2022-ACCELERATOR-01 H2020-SC1-2020-Two-Stage-RTD H2020-EeB-2014 ERC-2024-STG H2020-FETPROACT-2018-01 H2020-ICT-2014-1 H2020-NMBP-F0F-2018 H2020-ICT-2017-1 H2020-EIC-SMEInst-2018-2020-3 H2020-ICT-2016-ADG H2020-EINFRA-2015-1 HORIZON-MSCA-2024-PF-01 HORIZON-CL4-2022-HUMAN-02 H2020-ICT-2016-1 H2020-SC1-DTH-2018-1 HORIZON-HLTH-2023-CARE-04 HORIZON-MSCA-2021-SE-01 H2020-ICT-2019-2HORIZON-MSCA-2022-DN-01 EDD. 2023-STG HORIZON-INFRA-2024-TECH-01 H2020-FCT-2014 H2020-MG-2018-TwoStages HORIZON-HLTH-2023-TOOL-05 HORIZON-CL4-2021-HUMAI RIZON-CL4-2023-HUMAN-01-CNE H2020-ICT-2018-3 FRC-2020-STG H2020-ICT-2019-3 H2020-ICT-2016-2 H2020-ICT-2018-2 H2020-EIC-FTI-2018-2020H2020-ICT-2020-1 HORIZON-CL4-2022-HUMAN-01 H2020-SU-DS-2020 HORIZON-JU-SNS-2022 H2020-SC6-CULT-COOP-2016 H2020-ICT-2020-2 H2020-NMBP-ST-IND-2020-singlestage HORIZON-QL2-2028-HERITAGE-03 H2020-SU-SEC-2018 HORIZON-MSCA-2023-PF-01 HORIZON-CL2-2022-HERITAGE-01 H2020-MSCA-ITN-2019 H2020-SMEINST-3-2016-2017 H2020-S2RJU-0C-2020 HORIZON-MSCA-2022-PF-01 H2020-REFLECTIVE-7-2014HORIZON-CL3-2022-CS-01H2020-SMEInst-2018-2020-2 ERC-2019-ADG HORIZON-EIC-2022-TRANSITION-01 H2020-LC-SC3-EE-2019

Fig. 2. Word cloud of H2020 and HEU calls which led to XR and virutal worlds projects. Size of the call title indicates a larger number of projects funded through the call.

Horizon 2020 and Horizon Europe are structured into thematic clusters that group related research and innovation activities under strategic policy areas. Each cluster issues specific annual or biannual calls for proposals, targeting defined societal, industrial, and technological challenges. These calls often fall under "destinations" or objectives, which in turn house multiple individual topics—each linked to a specific type of action (RIA, IA, CSA).

For example, the 2023 Horizon Europe call HORIZON-CL4-2023-HUMAN-01-CNECT falls under Cluster 4: Digital, Industry and Space, and more precisely, under the HUMAN destination. The HUMAN destination supports a human-centered and ethical development of digital and industrial technologies. This particular call focuses on supporting the design and validation of next-generation virtual worlds technologies and immersive environments. It was issued as a Research and Innovation Action (RIA), meaning it prioritises foundational work such as technology exploration, experimental development, and early testing phases—rather than full deployment or market replication.



#### FUNDING OUTLOOK AND FUTURE INVESTMENT TRAJECTORY

Between 2014 and 2020, the H2020 programme invested a total of €335.304.525 across 91 projects identified in this study as incorporating XR or virtual world technologies. HEU, launched in 2021, has already funded 92 projects with a total of €330.629.970, nearly matching H2020 in total EC contributions despite the temporary slowdown in calls during 2023 and 2024 and the remaining calls left before the conclusion of the programme.

A closer look at the funding schemes reveals different strategic approaches between the two programmes. Under H2020, more than €200 million was directed into RIAs across 39 projects, while IAs received a comparatively smaller share of €63 million for 21 projects. In contrast, Horizon Europe shows a more balanced distribution between RIA and IA funding, with €139.8 million allocated to 24 RIAs and €121.6 million to 17 IAs. Interestingly, while the number of IA projects is slightly lower under HEU, the average funding per IA project has increased significantly, indicating a strategic shift toward larger-scale, deployment-orientated innovation efforts.

Another notable trend in HEU is the emergence and expansion of the TMA-**MSCA** funding schemes, which а broader represent and more structured effort to support researcher mobility, doctoral networks, and career development. These schemes collectively account for over €14 million across multiple project types in HEU, compared to just a few, albeit wellfunded, projects in H2020.

Table 1. List of European Commission funding contributions to projects through funding schemes in H2020 and HEU programmes.

Framework Programme	Sum of EC Contribution	Funding Scheme	Number of Projects
H2020	207.805.554 €	RIA	39
	63.001.239 €	IA	21
	14.239.078 €	CSA	7
	12.982.409 €	SME-2	7
	12.136.306 €	ERC-ADG	5
	9.514.561 €	TMA-MSCA-ITN	3
	4.498.155 €	ERC-STG	3
	3.825.149 €	IL	1
	2.411.063 €	SME	1
	2.253.125 €	SME-2b	1
	1.988.168 €	ERC-COG	1
	1.500.000€	JU-RIA	1
	499.719€	CS2-IA	1
HORIZON	139.811.999 €	RIA	24
	121.630.441 €	IA	17
	3.039.396 €	TMA-MSCA-PF-01	13
	1.200.000€	ERC-POC	8
	9.948.736 €	EIC-ACC-BF	4
	6.819.265 €	CSA	3
	6.524.623 €	ERC-COG	3
	5.224.409 €	ERC	3
	4.314.361 €	ERC-STG	3
	4.190.021 €	TMA-MSCA-DN-ID	3
	13.923.061 €	JU-RIA	2
	2.447.200 €	TMA-MSCA-SE	2
	2.254.000 €	TMA-MSCA-SE-01	2
	2.657.167 €	TMA-MSCA-DN-01	1
	2.498.390 €	ERC-ADG	1
	2.496.603 €	EIC	1
	150.000€	ERC-POC2	1





HEU is poised to further increase the amount of XR and virtual worlds funding compared to H2020. With one dedicated call currently open in 2025 and another expected in early 2026, the total investment in XR likely will exceed H2020 by more than €100 million by the end of the programme. The current 2025 work programme's Cluster 4 features four virtual worlds-specific calls (HUMAN-14 through HUMAN-17), with a combined budget of €80 million (distributed as €2.5M + €14.5M + €20M + €43M). Additional funding opportunities include HERITAGE-05 in Cluster 2 and CARE-01 in Cluster 1, both of which are expected to fund projects prominently featuring XR or virtual world components.

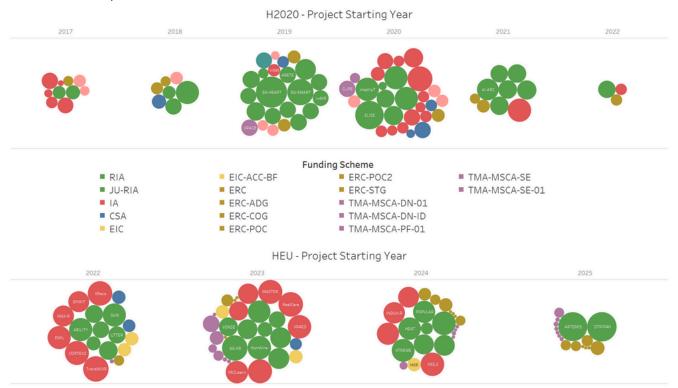


Fig. 3. Circles represent projects funded by H2020 or HEU. Size of the circles indicates the amount of EC funding contribution.

Color of the circles indicates in which funding scheme it was supported.

With the Virtual Worlds Partnership launching in September 2025 and reflecting the EU's strategic prioritisation of XR and virtual worlds and the new HEU calls on the horizon, a resurgence in XR and virtual world project launches is anticipated in 2026. This likely double-cohort year will be strategically important in shaping Europe's digital and immersive future.

#### SIZES OF PROJECTS

A closer look at the differences between Horizon funding schemes reveals considerable variation in both the size of project consortia and the scale of EC contributions. Determining the "right" number of partners for a proposal is often more of an art than a science, and as illustrated in Fig. 3, there is no evident sweet spot. Projects with large consortia can secure substantial funding, but what may be most striking is the number of smaller projects—including those led by single organisations—that receive over €1 million, and in some cases, more than €2 million in EC contributions.

These high-value, small-consortium projects are most commonly funded under RIA or ERC schemes. This suggests a focus on frontier research and advanced technological exploration, where deep expertise and scientific ambition outweigh the need for broad collaborative structures.



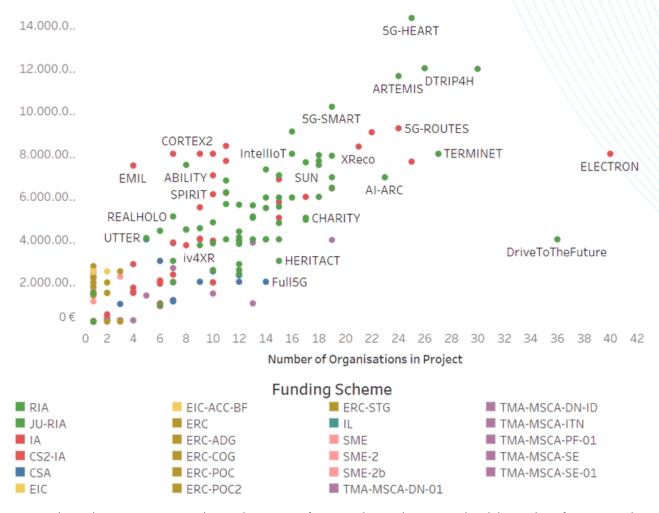


Fig. 4. Plots indicate projects according to the amount of EC contribution they received and the number of partners in the consortium. Color indicates the funding scheme.

#### H2020 AND HORIZON EUROPE OVER TIME

Projects funded through Horizon 2020 and Horizon Europe often span multiple years, with durations determined by the scope of the call and particularly the nature of the funding scheme. While the H2020 programme has formally concluded its call cycle, many of its funded projects remain active and will continue into the coming years. Similarly, current Horizon Europe projects are expected to extend well beyond the programme's 2027 endpoint, overlapping with the next EU research and innovation framework beginning in 2028.

Maintaining visibility of these long-running projects is a persistent challenge, especially for those focused on fundamental technologies and large infrastructure. Knowing which projects are actively working on XR and virtual worlds makes possible opportunities for collaboration, whether through technical synergies, community engagement, or policy coordination. This is particularly important for new consortia preparing proposals, as the European Commission actively encourages horizontal coordination across funded projects.



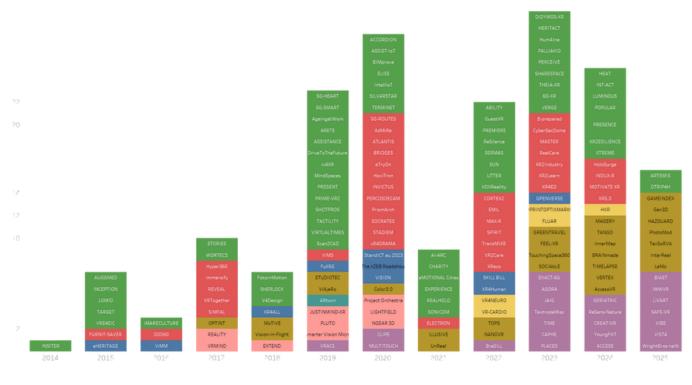




Fig. 5. Top graph shows the number of H2020 and HEU projects by the year they start. The bottom graph shows the projects according to the year they finish (limited to present and future years). Projeccts that finished prior to 2025 are not shown in the bottom graph. Color indicates their funding scheme.



#### GEOGRAPHIC PARTICIPATION ACROSS PROGRAMMES

A key dimension of the Horizon 2020 (H2020) and Horizon Europe (HEU) programmes is the diversity of participating countries and the extent of geographic representation across Europe and beyond. In our study, H2020 projects included organisations from 42 countries, while HEU projects have so far included participants from 40 countries. It is important to distinguish, however, that eligibility for European Commission (EC) contributions is typically limited to EU Member States and associated countries, with eligibility criteria differing slightly between the two programmes (see Fig. XX). Thus, organisations that participate in projects from countries outside the EU may not receive funding from the EC.

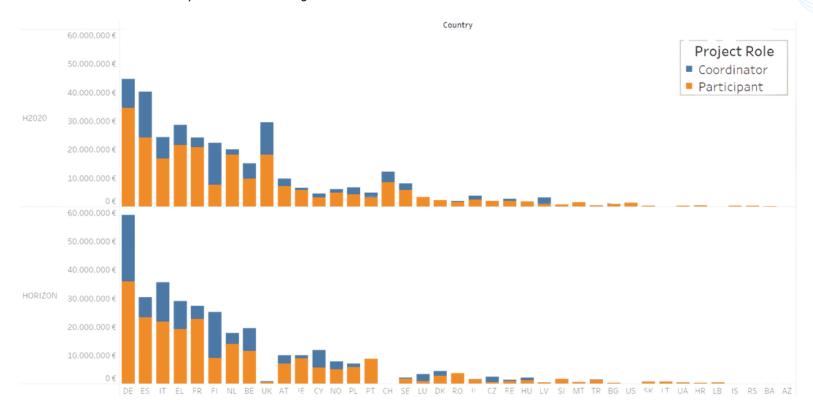


Fig. 6. Amount of EC contributions received by organisations by country across H2020 and HEU programmes. Color indicates whether the organisation received funding as a project coordinator or as a beneficiary partner.

Some changes in funding patterns are clearly observable in our selection of projects between H2020 and HEU. The impact of Brexit (and Swiss-EU relations) is dramatic, as it goes from being a leading source of H2020 funding to almost totally absent from HEU. That seems to have benefited German organisations, as they saw a large increase in funding but even more so in the number of projects coordinated by Germany organisations. Conversely, Spain seems to have lost some coordinating roles between the programmes. Finnish organisations stand out in both programmes for providing an uncommonly large portion of their participation in coordinating roles. It is important to note that this does not reflect the lack of participation of UK and Swiss organisations, but that their coordinating roles, as well as their funding, changed between programs and may have contributed to more coordination and funding going to other EU member states, such as Germany, Belgium, and Cyprus.

In terms of EU Member State participation, Lithuania was the only country not represented in the H2020 projects identified in this study. However, this gap has already been addressed in Horizon Europe, where all EU Member States have been represented. Ensuring broad geographic involvement remains a critical goal for achieving balanced innovation, equitable capacity-building, and inclusive growth across Europe's research and industrial ecosystems.



Despite full Member State representation, participation in XR and virtual worlds projects under Horizon Europe remains unevenly distributed, with a clear under-representation of countries in Central and Eastern Europe. Notably, Poland, the Czech Republic, Slovakia, and Hungary—each home to active XR researchers, developers, and innovative companies—have seen limited involvement to date. This is despite the fact that one of the world's most advanced immersive social platforms, Resonite (successor to Neos), is led by a developer based in Prague, and that Polish and Slovak universities are known for producing highly skilled programmers and technical artists with capabilities well suited to immersive technologies.

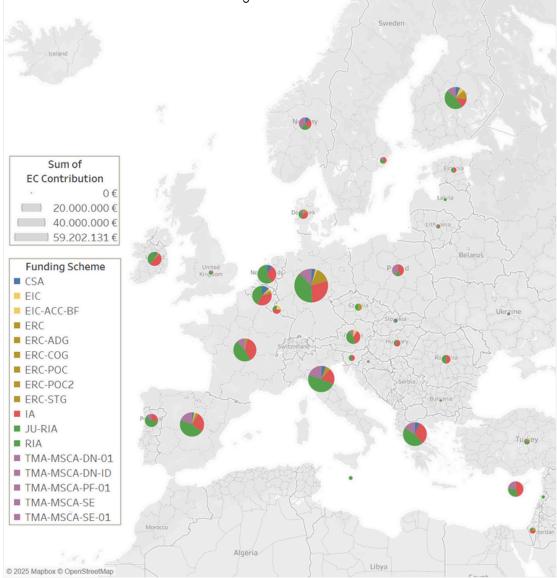


Fig. 7. Distribution of EC contributions in HEU programme. Size of the circle indicates the amount of EC contribution received. Color indicates portion of EC contribution drawn from projects from funding schemes.

The reasons behind this disparity are complex and likely multifaceted. National initiatives, such as Horizon4Poland, are attempting to address the perceived lack of applications coming from that country. There is a perception that Horizon Europe is so competitive, administratively complex, or informally dominated by well-established institutions in Western Europe as to not be feasible or worth the effort of applying. The requirement for consortia-based applications tends to favour existing networks and longstanding partnerships, making it more difficult for newcomers or smaller players from under-represented regions to gain traction. As the EU looks ahead to the next framework programme beyond 2027, strategies to lower barriers to application and support broader geographic integration, especially in Central and Eastern Europe, should be prioritised to ensure a more inclusive and representative innovation landscape.

## TOTAL CONTRIBUTIONS OF H2020 & HEU

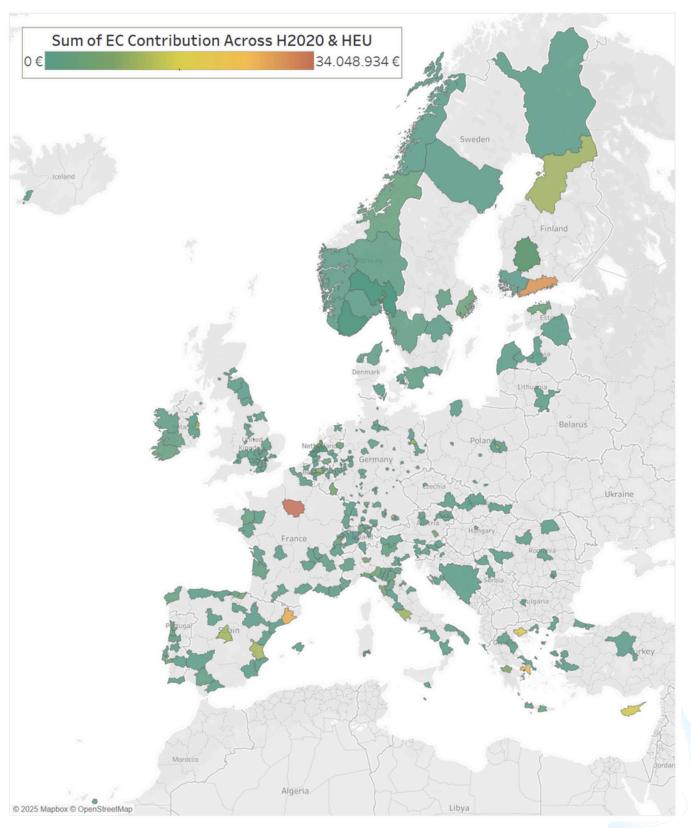


Fig. 8. Sum of EC contributions across regions of Europe from both H2020 and HEU programmes. Color gradiate represents total amount of EC contribution by NUTS geo-coded region

