

Horizon Europe Framework Programme

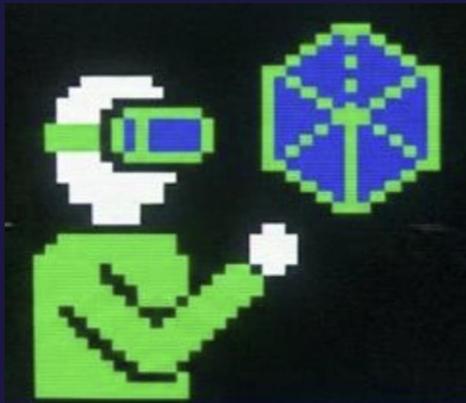
Collaborative innovation
and research with IMR



A bit about



Highly experienced and award winning XR specialist with a background in design and engineering, passionate about using XR to deliver innovative human centric solutions in industry.



Eoghan Kidney

Senior Researcher,
Extended Reality

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A bit about



**Here to support & execute
impactful proposals to the
European Community.**

Dr Kevin James Fraser

EU Programme Manager
Competitive Funding



Kevin.fraser@imr.ie



HORIZON-CL4-2026-04-HUMAN-02: Web 4.0 architectural framework and Open Internet Stack applications for virtual worlds (RIA)



SCOPE OF THE CALL:

"Applications" area

Proposals will cover the one or more of the following technologies:

- Alternative decentralised applications and services such as synchronous and asynchronous messaging, videoconferencing, collaboration and groupware or social media that can be exploited through Virtual Worlds technologies, including immersion and interaction.
- App-stores (incl. web-based) adapted for Virtual Worlds Shared, robust and trustworthy cross-technology Virtual Worlds for user and attribute management

Applicants should create the conditions for successful collaboration and synergies with other European initiatives such as the Virtual Worlds/Web 4.0, 3C and Open Internet Stack initiatives as well as with like-minded funding efforts at national, European levels and beyond Europe such as Digital Commons initiatives.

Applicants should demonstrate their experience and understanding of Open Source communities and their expertise covering the full Open Source life cycle through proven track record including years of experience.

Deadline: 14 April 2026
Technology Readiness Level: N/A
HE Type: RIA

IMR PROPOSITION:

We are seeking to be a member of a work-package and support consortium building. We can deliver some or/all of the following solutions for the consortium:

- IMR can deliver the required application layer and real-world validation for decentralised Virtual Worlds technologies, ensuring alignment with Industry 5.0 and EU Data Sovereignty goals.
- Provide background IP to jumpstart the development of hardware-agnostic, open-source 4D Gaussian Splat viewing.
- Deploy existing research pipelines to automate the conversion of industrial CAD/LiDAR data into streamable volumetric assets.
- Design and execute comprehensive industrial pilots to prove technical maturity and scalability on a live factory floor.
- IMR has expertise in edge-native XR architectures that protect European manufacturing IP from third-country cloud reliance.
- IMR is a proven location for technology demonstration, resource dissemination, and establishing industry best practices.

IMR EXPERIENCE

- 70 experienced researchers
- 500+ years of combined industrial experience
- 4000 m² of R&D pilot lines & development lab space
- 40+ active research partnerships with industry
- 8 strategic academic partnerships
- 100+ industry network
- 1000+ attendees at IMR training & courses

www.imr.ie

Implementing EU projects:

- Digiwind: [@Digiwind](#)
- Resqtool: [@RESQTOOL](#)
- Ecofact: [@Ecofact_Project](#)
- iBECOME: [@iBECOME_EU](#)

CORE THEMATIC AREAS



Digitisation



Automation and Control



Sustainable Manufacturing



Design for Manufacturing

IMR UNIQUE SELLING POINTS:

- Operates a large-scale pilot factory located in Mullingar, Ireland, complete with robotics and fabrication teams ready to validate digital twin interactions.
- Subject matter experts in XR Industry 5.0 integration, with direct access to a vast network of Irish SMEs and MNCs (e.g., aerospace, automotive, medtech) for widespread use-case validation.
- Recently launched ESA's Phi-Lab in Ireland, demonstrating IMR's capacity to partner on and deliver high-level European deep-tech and space-tech initiatives.

HE PROJECT LEAD:

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IMR H2020 PROJECT SUPPORT

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DEMYSTIFY, DERISK, DELIVER

emerging technologies
for manufacturing



Digitisation



Automation and Control



Design for Manufacturing



Sustainable Manufacturing

IMR Manufacturing Vision



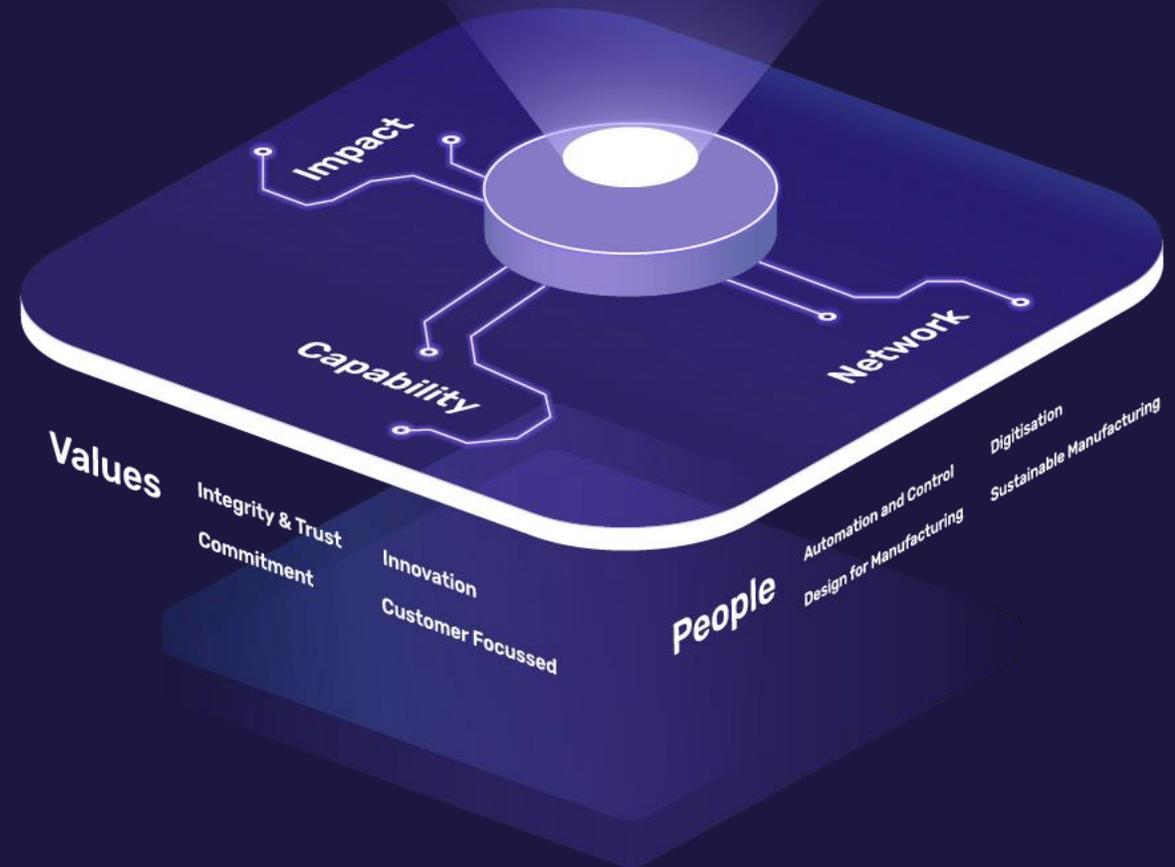
Enabling Advanced
Manufacturing
in Ireland

Creed:

Demystify
De-risk
Deliver

Strategic Objectives:

Capability
Impact
Networks

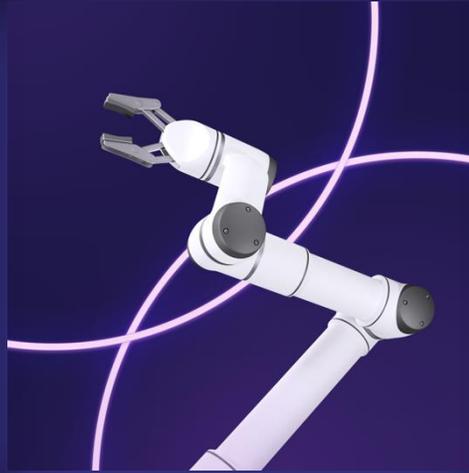


IMR 4 Thematic Pillars



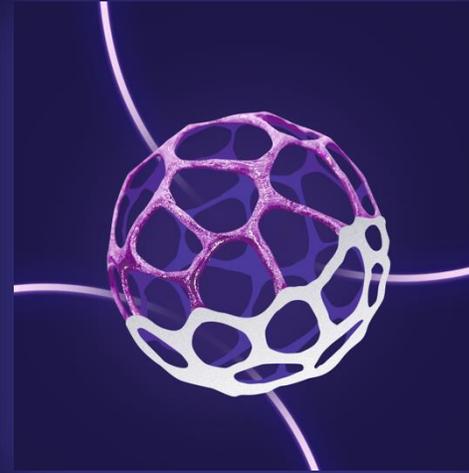
Digitisation

Data driven business



Automation & Control

Self Adaptive
Autonomous Automation



Design for Manufacturing

Customer defined
manufacturing



Sustainable Manufacturing

Zero Net Carbon
Manufacturing

Core Thematic Areas



Digitisation



Automation and Advanced Control



Design for Manufacturing



Sustainable Manufacturing

What IMR does

Help Industry to gain value and competitive advantage from data through extraction and transformation to action

Help Industry to develop and deploy automation and control technologies and strategies

Help Industry to design and manufacture complex products and processes on emerging technologies

Help Industry maximise energy efficiency, minimise environmental impact and create value

Skills involved

IOT, Data Analytics, Human Factors, AR/VR, Software Development + Domain expertise

Robotics and Automation, Process Automation, Simulation, Controls Engineering

AM, Machining, Automation, Mech Eng., Materials Scientist

IOT, Data Analytics, SW dev, Domain Expertise, Materials Eng.

Example Success Stories

- Inline analytics (QA/QC, image analytics, bin picking)
- Machine health monitoring (vibration analysis, predictive maintenance)
- Scheduling
- Supply-chain data

- Labour Optimisation
- Quality and repeatability
- Lights-out manufacturing

- Complex Geometries
- Light weighting
- Hard metals
- Mass customisation
- Simulation and FEA
- Cycle-time Optimisation
- Conformal Cooling
- Testing and validation

- Circular supply chains
- Energy Efficient Design
- Energy Efficient Operations
- Demand Side Management
- Plant Optimisation

Irish Manufacturing Research

High TRL research centre focused on the delivery of cutting edge technological solutions for manufacturing challenges to industry.

Core Thematic Areas



Digitisation

IOT, Data Analytics, Human Factors,
AR/VR, Software Development +
Domain expertise



Design for Manufacturing

AM, Machining, Automation,
Mech Eng., Materials Science



Automation and Advanced Control

Robotics and Automation,
Process Automation, Simulation,
Controls Engineering



Sustainable Manufacturing

IOT, Data Analytics, SW dev,
Domain Expertise, Materials Eng.



Testbeds and Pilot Lines in Mullingar
35000 Sq Ft



Innovation Centre in Rathcoole
8500 Sq Ft



**Tacit Knowledge
Management**



**Software
Engineering**



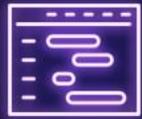
**UX
Research**



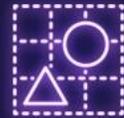
Design



**Data
Analytics**



**Schedule
Optimisation**



**Modelling
and Simulation**



**Data
Visualisation**



**Energy
Efficiency**



IIoT



Virtual Reality



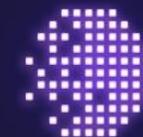
**Augmented
Reality**



3D Printing



Robotics



Digitisation



**Innovation
Management**



Capacity for industry



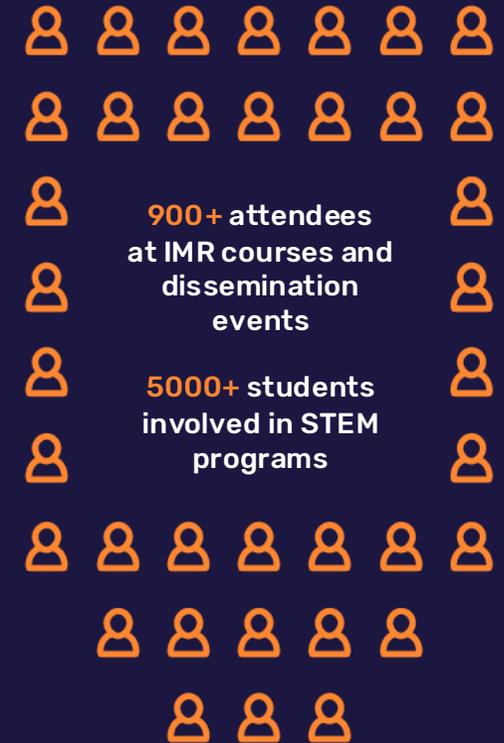
Industry Impact



Connectivity



Training and Dissemination



XR Team

Example Projects



Navit

Optimise visitor preparation and orientation by including Navit links and QR codes in meeting and appointment invitations, SMS messages, company website.

DIGIWIND

DigiWind is a pioneering EU-co-funded project, within the Digital Europe Programme (DEP), that aims to support Europe's digital and green transformation.



This project has received funding from the European Health and Digital Executive Agency under the Grant Agreement No 101122836.

QUANTIC

Quantic Defect Analytics is a cloud-based application designed to help manufacturers capture, understand, and extract business value from production defect data.



Embed XR

Create a visual, standardised execution layer around SOPs that captures, guides, and evidences real-world procedure execution, without replacing existing QMS systems.



XR Digi

Solving Content Creation for XR including digitization of physical assets, realtime remote AR Assistance w. Translation and optimising content viewing



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