Horizon Europe Framework Programme

Collaborative innovation and research with IMR

IRISH MANUFACTURING RESEARCH

TECHNOLOGY CENTRE
ENTERPRISE IRELAND
IDA IRELAND SUPPORTED

A bit about

IRISH MANUFACTURING RESEARCH

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

IRISH MANUFACTURING RESEARCH

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

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Dr Kevin James Fraser

EU Programme Manager

Competitive Funding

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

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

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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.

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 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.

IMR EXPERIENCE

- 70 experienced researchers
- 500+ years of combined industrial experience
- 4000 m^2 of R&D pilot lines & development lab pace
- 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

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DEMYSTIFY, DERISK, DELIVER

emerging technologies
for manufacturing

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- Digitisation
- Automation and Control
- Design for Manufacturing
- Sustainable Manufacturing

IMR Manufacturing Vision

Creed:

Demystify
De-risk
Deliver

Strategic Objectives:

Capability
Impact
Networks

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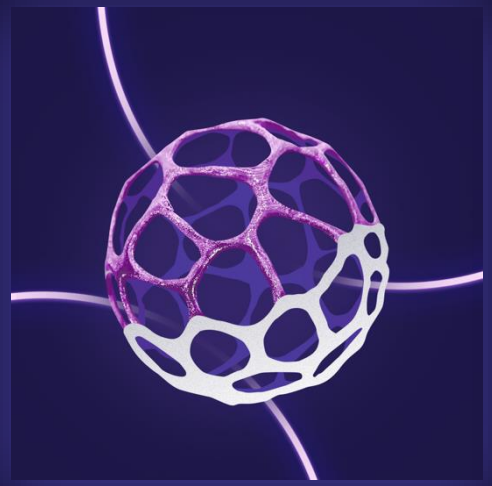
IMR 4 Thematic Pillars

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

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	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

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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

70+ Highly Skilled Researchers

500+ Years of Combined industry Experience

45 000 sq. ft of R&D Pilot Lines and Development labs

State-of-the-Art production Equipment in Additive Manufacturing

Industry Impact

40+ Active Research Partnerships with Industry

€8.5m in Competitive R&D funding won for Industry-focused Research

€M's saved in productivity and efficiency improvements for Industry

Connectivity

Irish leadership on 12 major EU decision making bodies

Strategic Partnerships with 8 Academic Institutes

300+ Industry Network

Training and Dissemination

900+ attendees at IMR courses and dissemination events

5000+ students involved in STEM programs

XR Team
Example Projects

IRISH MANUFACTURING RESEARCH

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.

Enterprise Ireland

Embed XR

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

Enterprise Ireland

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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