Slide number	Name	Organisation	Topic
4	Adam Edwards	Manufacturing Technology Centre (MTC)	CL4-2027-01-MAT-PROD-02
5	Dr Ali Aravand	Queen's University Belfast	CL4-2027-01-MAT-PROD-02
6	Asif Ur Rehman	3D Tact	CL4-2027-01-MAT-PROD-02
7	Kevin Hallas	Holdson Ltd	CL5-D5-08; CL4-2027-01-MAT-PROD-02
8	Xavier Montibert	Plasma Bound	In-line verification and digital certification of critical manufacturing processes
9	Alireza Rastegarpanah	Aston University	CL4-2027-01-MAT-PROD-03
10	Farzaneh Goli	University of Birmingham	CL4-2027-01-MAT-PROD-03 / 22; CL4-2027-04-DIGITAL-EMERGING-05
11	Karl Crowley	IMR / CIRCULÉIRE	CL4-2027-01-MAT-PROD-03
12	Senthil Kumar Raman	AMRC UK	CL4-2027-01-MAT-PROD-03 / 06 / 02
13	Aleksandar Nikolov	NMIS	CL4-2027-01-MAT-PROD-61
14	Fraser Borthwick	Impact Solutions	CL4-2027-01-MAT-PROD-61
15	Ke Li	University of Nottingham – PEMC	CL4-2027-01-MAT-PROD-61 / 06 / 03 / 02
16	Laurence de Lussy-Kubisa	Biozeroc	CL4-2027-01-MAT-PROD-61
17	Peng Wang	University of Surrey	CL4-2027-01-MAT-PROD-61

Slide number	Name	Organisation	Topic
18	Sanjay Nagarajan	University of Bath	CL4-2027-01-MAT-PROD-61
19	Begoña Casas	EURECAT	CL4-2027-01-MAT-PROD-06
20			CL5-2027-03-D5-08
21	Eoin Simon	NCC	CL4-2027-01-MAT-PROD-06 / 02 / 16 / 22 / 03 / 61; CL5-2027-03-D5-08
22	Gary Menary	Queen's University Belfast	CL4-2027-01-MAT-PROD-06
23	John Oliver	I-Form	CL4-2027-01-MAT-PROD-06 / 02 / 22 / 03; CL5-2027-03-D5-08
24	Patrick Tully	University of Bristol	CL4-2027-01-MAT-PROD-06 / 03 / 22; CL5-2027-03-D5-08; CL5-2027-04-TWO-STAGE-D5-09
25	Ron Turner	CPI	CL4-2027-01-MAT-PROD-06
26	Tim Monroe	Smiley Monroe Group	CL4-2027-01-MAT-PROD-06
27	Billy Donovan	MET Technology Gateway, Atlantic TU	CL4-2027-01-MAT-PROD-22 / 47; CL4-2027-05-DIGITAL-EMERGING-03
28	Jacek Kwasny	FP McCann Ltd	CL4-2027-01-MAT-PROD-22 / 06 / 16 / 02 / 03 / 61
29	Jake Mehew	Quantum Science Ltd	CL4-2027-01-MAT-PROD-22
30	Paul McCormack	Hydrogen Ireland	CL4-2027-01-MAT-PROD-22
31	Tomás Flanagan	EireComposites	CL4-2027-01-MAT-PROD-22 / 02 / 06 / 61; CL5-2027-03-D5-08

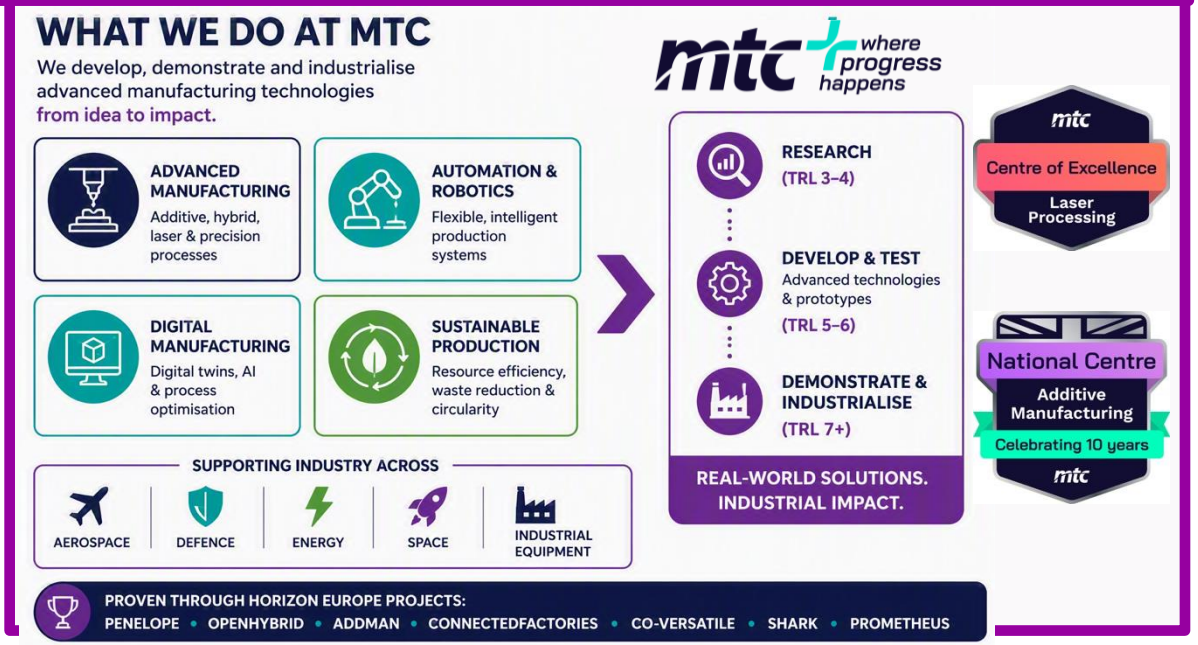
Slide number	Name	Organisation	Topic
32	Dr Dorian Parker	PNO Innovation	CL4-2027-01-MAT-PROD-16 / 22
33	Kerry McLaughlin	LAYRR	CL4-2027-01-MAT-PROD-16
34	Jingchao Jiang	University of Exeter	CL4-2027-01-MAT-PROD-02 / 03 / 22; CL5-2027-03-D5-08
35	Melissa Young-Çelik	RWTH Aachen – IKV & SLA	CL5-2027-03-D5-08
36	Rob Snell	Instruct3D	CL5-2027-03-D5-08
37	Zainab Saleh	Kingston University London	CL5-2027-04-TWO-STAGE-D5-09
38	Hao Lu	Kudan Limited (UK)	CL4-2027-04-DIGITAL-EMERGING-05; CL5-2027-06-D6-11; CL5-2027-05-D4-05
39	VSSL Prasad Talluri	Newcastle University	Cluster 5 – Clean-hydrogen production topic
40	Brian Durnin	Ulster University	Cluster 4: Digital, Industry & Space
41	Caitríona Mordan	ATIM Cluster	Horizon- CL4-DIGITAL – AI and Data for Industry, HORIZON-CL4-INDUSTRY Manufacturing Technologies
42	Federico Colecchia	Brunel University London	CL4 / CL5 (all topics)
43	Jyoti Mishra	University of Leeds	CL4-2027-01-MAT-PROD-03
44	Ruth Kearney	Nightingale HQ (GoSmarter)	CL4-2027-01-MAT-PROD-06 / 61 / 03 / 49; CL4-2027-04-DIGITAL-EMERGING-04; CL4-2027-02-DIGITAL-EMERGING-52
45	Ryan Bissett	Hydroluminum	CL4-2027-01-MAT-PROD-16

The Manufacturing Technology Centre (MTC) | Adam Edwards | adam.edwards@the-mtc.org

Proposed approach to call topic:

MTC will support the development, demonstration and industrialisation of advanced manufacturing technologies for high-value products across strategic sectors including aerospace, defence, energy, space and industrial equipment

- *Advanced manufacturing processes: additive, subtractive and hybrid*
- *Integration of innovative advanced materials into scalable processes*
- *Digital manufacturing, digital twins and in-line process monitoring.*
- *Material waste reduction, increase resource efficiency and circularity.*
- *Demonstration of industrially relevant production solutions at TRL 5-7.*

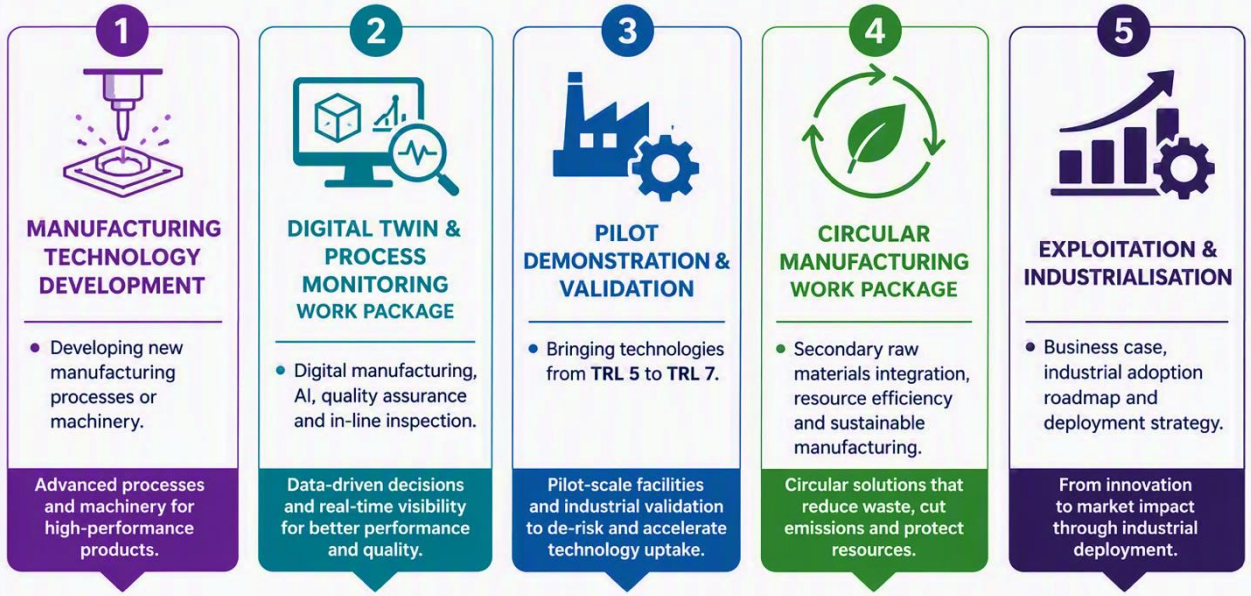


CL4-2027-01-MAT-PROD-02 Advanced manufacturing for key products

Are you planning on being a Coordinator or a Partner?

Partner preferred, would consider coordinating

What we can offer to a consortium:



What we would like to receive from other consortium members:

- *Industrial partners with challenges and deployment pathways*
- *Advanced material developers and supply chain partners.*
- *Technology providers with complementary expertise and offerings*

Organisation : Queen's University Belfast

Your Name: Dr Ali Aravand

Email Address: m.aravand@qub.ac.uk

Proposed approach to call topic:

From automated overmoulding to predictive, first-time-right manufacturing

Develop and demonstrate a **TRL7, digitally enabled and material-flexible manufacturing platform** for thermoplastic composite hybrid structures, integrating:

- flexible **end-to-end** forming and overmoulding;
- process–material–interface **digital twins;**
- **AI-assisted** rapid material/process qualification;
- **virtual process**/tooling optimisation;
- **in-line quality prediction** and process control;

Primary industrial demonstration: high-demand aircraft-interior component families, with transferability to automotive and other lightweight sectors.

Topic number & name:

HORIZON-CL4-2027-01-MAT-PROD-02 Advanced manufacturing for key products (IA – Made in Europe Partnership)

Are you planning on being a Coordinator or a Partner?

Coordinator — consortium currently being developed

What we can offer to a consortium:

- **Coordination and technical leadership** in composite overmoulding;
- Physics-based **process and interface modelling** ;
- Process **optimisation** and material/process **qualification**;
- Mechanical/interface testing and validation;
- Development of **digital-twin / process–performance models;**
- Strong industrial links in **aerospace** and **advanced manufacturing.**

What we do:

Thermoplastic composite injection overmoulding

- **Interface formation**, bonding and process–performance relationships;
- Thermo-mechanical/process **modelling** and optimisation;
- Industrial projects with **aerospace** and **advanced manufacturing** partners;
- Experimental **characterisation**, structural **validation** and digital **engineering.**

What we would like to receive from other consortium members:

We are seeking complementary European partners in:

- **In-line sensing, NDT and quality assurance;**
- Industrial **AI / digital-twin / data-driven manufacturing;**
- **Thermoplastic** materials, tapes and tailored blanks;
- Automated forming, handling and **overmoulding** equipment;
- **RTO-scale** validation and industrialisation;
- Industrial **end-users / cross-sector replication cases**.

Organisation Name: 3D Tact

Your Name: Asif

Email Address: asif@3dtact.com

Proposed approach to call topic:

What is your understanding of the part of the problem you can solve? What part of the Scope do you want to address?

PrintabilityAI : a machine agnostic AI platform linking CAD, materials, printers, process data and inline inspection to improve additive manufacturing quality, efficiency and traceability.

What we do:

What previous, relevant, work or track record can you bring to the team?

Industrial additive manufacturing, AI process optimisation, DfAM, machine connectivity, digital assurance and qualification.

Topic number & name: HORIZON CL4 2027 01 MAT PROD 02 Open to other relevant topics

Are you planning on being a Coordinator or a Partner?

Partner and/or technical work package leader

What we can offer to a consortium:

What skills, capabilities, facilities does your organisation have that will be vital for this project?

PrintabilityAI at TRL 5, process optimisation, manufacturing data pipelines, digital traceability, demonstrator development, standards and commercialisation expertise.

What we would like to receive from other consortium members:

Coordinator, machine manufacturers, AI/Digital Twin Users, industrial end users, materials and sensing experts, research organisations, pilot factories and lifecycle assessment partners.

Organisation Name: Holdson Ltd

Your Name: Kevin Hallas

Email Address: kevin.hallas@holdson.co.uk

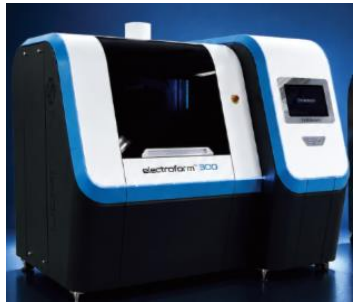
Proposed approach to call topic:

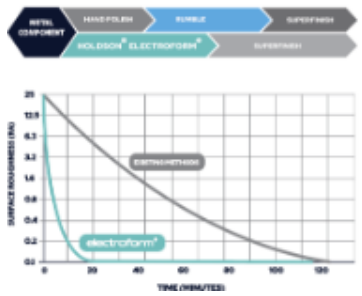
Same gap, both topics: AM metal parts leave the printer rough and unqualified, and machining often can't reach every feature. **MAT-PROD-02** is the prototype-to-production gap; **CL5-D5-08** is aerospace parts with internal, non-line-of-sight channels or fatigue-critical surfaces, where machining is impossible. We want to solve the finishing/post-processing step, plus additive repair and recovering critical metals (Tungsten, Titanium) for circularity.

What we do:

Holdson has developed a proprietary electrochemical finishing process, controlled by our own process software, that delivers a smooth, repeatable, machining-free surface on metal components - including internal or non-line-of-sight geometry that conventional tooling can't reach. The same platform recovers metal from the used electrolyte, and we are extending it into additive repair. Full multi-physics and CFD simulation of process prior to physical treatment. Safe to handle electrolytes and flexible tooling solutions.

Track record: Tech developed as part of a £12m Advanced Propulsion Centre project. Several Innovate UK-funded work projects with industrial, academic and research partners. Our work spans aerospace, energy (inc. fusion), Automotive and precision engineering with OEM, Tier 1 and government customers.







Topic number & name:

MAT-PROD-02 – Advanced Manufacturing for Key Products
CL5-D5-08 – Sustainable Aircraft Circular Design & AM

Are you planning on being a Coordinator or a Partner?

Partner

What we can offer to a consortium:

Specialist SME capability in electrochemical finishing and post-processing of AM metal parts - especially where machining can't reach: internal channels and fatigue-critical surfaces.

We handle hard-to-process metals (Tungsten, Titanium); our process recovers metal from the spent electrolyte for circularity. We can run process trials/demonstrators and bring UK advanced-manufacturing network links.

What we would like to receive from other consortium members:

An experienced Coordinator, plus OEMs, Tier 1 aerospace/energy manufacturers, AM specialists, universities and RTOs already active in this space.

We're especially interested in partners who can supply the challenging components (internal-channel or fatigue-critical geometries), materials/qualification expertise, environmental assessment and routes to end-user validation - our role is finishing, repair and material recovery, not leading the bid.

Add own organisation logo here

Organisation PLASMA BOUND	Xavier MONTIBERT	Xavier.Montibert@plasmabound.com

Proposed approach to call topic:

Production bottlenecks, High certification costs, Traceability challenges, Long-term storage of treated qualification samples, Delays in scaling bonded composite structures

Topic number & name: In-line verification and digital certification of critical manufacturing processes

Are you planning on being a Coordinator or a Partner?

Partner

What we do:

What previous, relevant, work or track record can you bring to the team?

PLASMA BOUND offers a wide range of surface preparation technologies to optimise the multi-material bonding & painting of structural assemblies and integration of sub-systems (composites/metals) in Aerospace.

Fully PART25 Certified by the FAA (USA) - bonding

What we can offer to a consortium:

What skills, capabilities, facilities does your organisation have that will be vital for this project?

Coordinator in an Irish DTIF (Disruptive Technology Innovation Fund)

Testing & qualification, Program Management, Bus Dev of solution

What we would like to receive from other consortium members:

We would expect Technical, Industrial and Commercial Inputs from Consortium Members

Innovation, impact, exploitation, digitalisation, market uptake, sustainability and business model scalability

Add own organisation logo here

Organisation Name: Aston University

Your Name: Alireza Rastegarpanah

Email Address: a.rastegarpanah@aston.ac.uk

Proposed approach to call topic:

Develop adaptive AI-enabled robotic de-manufacturing using multimodal sensing, digital twins and human-in-the-loop control to assess product condition, plan disassembly and recover high-value components for reuse and remanufacturing.

Topic number & name: HORIZON-CL4-2027-01-MAT-PROD-03: Factory processes and automation for de- and re-manufacturing

Are you planning on being a Coordinator or a Partner?

Partner

What we do:

- AI-enabled robotic disassembly and manipulation
- Multimodal condition assessment and computer vision
- Digital twins and adaptive task planning
- Teleoperation, haptics and mixed reality
- Human–robot collaboration and safe autonomy
- Industrial validation in EV batteries and complex products





What we can offer to a consortium:

- Leadership in AI-enabled robotic de-manufacturing
- Advanced robotics, haptics, mixed-reality and AI facilities
- Intelligent end-effectors and adaptive disassembly planning
- Digital-twin-based simulation and validation
- Horizon Europe and industrial project experience
- Strong links across manufacturing, automotive and recycling

What we would like to receive from other consortium members:

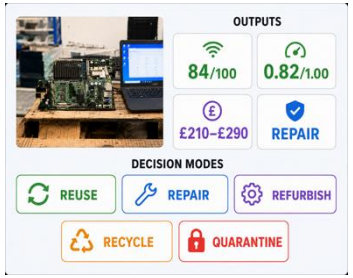
- Manufacturers, remanufacturers, recyclers and industrial end-users
- Representative products, components and industrial pilot sites
- Robotics integrators and end-effector manufacturers
- Expertise in lifecycle assessment, standards, safety and certification
- Partners for business models, exploitation and European-scale deployment

University of Birmingham	Name: Dr Farzaneh Goli	Email Address: f.goli@bham.ac.uk

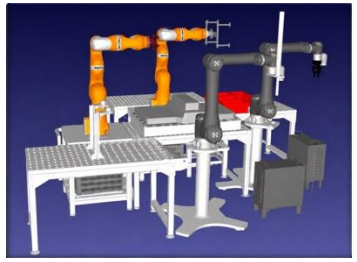
What we do:

Over the past **10 years**, our team have been researching **robotic disassembly** for remanufacturing, repair and recycling, covering

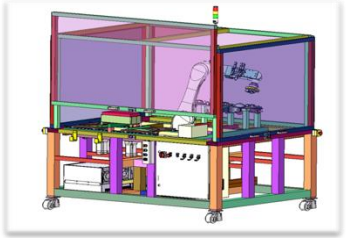
- Automotive components (e.g. water pumps and turbochargers)
- Power and energy components (e.g. battery packs/modules)
- Electrical machines and motors



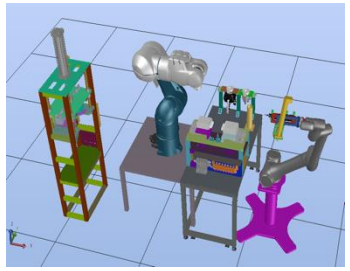
AI triage



EV Battery pack



EV Battery module



Electric motor

Topic numbers & names:

- HORIZON-CL4-2027-01-MAT-PROD-03 (RIA): Factory processes and automation for de- and re-manufacturing (Made in Europe partnership).
- HORIZON-CL4-2027-01-MAT-PROD-22 (IA): Innovative advanced materials and production processes reducing dependencies on Critical and Strategic Raw Materials.
- HORIZON-CL4-2027-04-DIGITAL-EMERGING-05 (IA): Apply AI: AI-driven robotics for industry systems integration and adoption.

What we can offer to a consortium:

- Testing, analysis and prototyping of new automation products and processes, with
  - **Expertise** in robotic disassembly technology, intelligent automation, AI-based product triage and disassembly decision support.
  - UK national hub **facilities:** collaborative and industrial robots, end effectors, and novel sensing and actuation systems

What we would like to receive from other consortium members:

- Industrial cases: End-of-life products and process requirements.
- Data: Product condition data and validation criteria.
- Sites: Access to recycling or remanufacturing environments.

Team info

Organisation: IMR / CIRCULÉIRE

Your Name: Karl Crowley

Email Address: karl.crowley@imr.ie

Proposed approach to call topic:

What is your understanding of the part of the problem you can solve? What part of the Scope do you want to address?

- We are seeking to develop a hyper-flexible approach to de- and remanufacture, with an aim to refurbish, repair, and remanufacture high value components in the aviation, marine and wind energy sectors via advanced digitalisation and robotics.

What we do:

What previous, relevant, work or track record can you bring to the team?

- IMR: a not-for-profit, industry-led Research & Technology Organisation. over 170 researchers focusing on four thematic, interrelated pillars: Digitalisation, Automation & Control, Design for Manufacturing, Sustainable Manufacturing.

- CIRCULÉIRE: Ireland's National Platform for Circular Economy, led by IMR. 60+ cross sectoral industrial members keen to leverage RD&I opportunities in the circular economy.

Topic number & name: HORIZON-CL4-2027-01-MAT-PROD-03 Factory processes and automation for de- and re-manufacturing (Made in Europe partnership).

Are you planning on being a Coordinator or a Partner?

Partner

What we can offer to a consortium:

What skills, capabilities, facilities does your organisation have that will be vital for this project?

- We have considerable expertise across all aspects of circular economy innovation, ranging from new technologies in digitalisation and robotics, regulatory & policy, circular business models, and metrics and assessments.

What we would like to receive from other consortium members:

- We are keen to identify industrial partners interested in engaging in pilots – particularly those in the aviation, marine, and wind sectors.

- RTOs with strong connections to those sectors and those with experience with robotics, digital tools and technologies with a focus on circularity.

Add own organisation logo here

Organisation Name: Advanced Manufacturing Research Centre, UK

Your Name: Senthil Kumar Raman

Email Address: s.k.raman@amrc.co.uk

Proposed approach to call topic:

We propose to develop an integrated digital solution for end-to-end manufacturing process tracking across pre-production, production and post-production, addressing fragmented manufacturing and sustainability data. The solution will combine sustainable design and material selection, AI-enabled production and energy monitoring, and circularity data to support reuse, remanufacturing and recycling. It will also enable Digital Product Passports (DPPs) and Green Product Passports, while integrating with existing digital manufacturing systems to provide traceability, data-driven decision-making and improved resource and energy efficiency. This approach directly supports the transition towards more sustainable, circular and digitally enabled manufacturing, particularly for advanced manufacturing and de-/re-manufacturing processes.

What we do:

The Advanced Manufacturing Research Centre (AMRC) has extensive experience in advanced manufacturing R&D and collaborative European projects, including Horizon 2020 and Horizon Europe. AMRC brings strong expertise in digital manufacturing, AI-enabled process optimisation, automation, advanced materials, sustainability, energy efficiency and the development of smart manufacturing systems. Its experience spans multidisciplinary projects involving industry, academia and technology providers, with a strong focus on translating research into practical industrial applications and demonstrators.

AMRC also has experience in developing and integrating digital technologies across the manufacturing lifecycle, supporting improved process efficiency, traceability, resource utilisation and sustainability. This combination of technical expertise, industrial capability and European project experience positions AMRC to contribute effectively to the development, demonstration and industrial validation of innovative digital solutions for smarter, more sustainable and circular manufacturing.

Topic number & name:

HORIZON-CL4-2027-01-MAT-PROD-03 Factory processes and automation for de- and re-manufacturing (Made in Europe partnership).
HORIZON-CL4-2027-01-MAT-PROD-06 Circular innovative advanced materials: facilitating the transition from design to markets (Innovative Advanced Materials for the EU and Made in Europe partnerships).
HORIZON-CL4-2027-01-MAT-PROD-02 Advanced manufacturing for key products (Made in Europe partnership).

Are you planning on being a Coordinator or a Partner?

Partner

What we can offer to a consortium:

AMRC offers strong expertise in advanced manufacturing, digitalisation and sustainable production, including AI, data analytics, digital twins, process monitoring, automation and energy/resource efficiency. We provide world-class manufacturing facilities, industrial-scale demonstrators, testing and validation capabilities, and access to our network of 100+ UK industry and commercial (I&C) partners including Aerospace, Defence, Automotive, etc. This network can provide valuable industrial insight, use cases and support for technology development, testing and validation, helping translate project outcomes into practical and scalable manufacturing solutions.

What we would like to receive from other consortium members:

We are particularly interested in partners who can strengthen the consortium through **Horizon Europe experience, strong European networks and complementary technical expertise**. We would value organisations with established links to industry and manufacturing ecosystems across the EU.

- **Horizon Europe leadership:** Experience in leading or developing successful Horizon Europe proposals and projects, with an interest in taking an active role in the consortium.
- **Strong EU networks:** Established relationships across European manufacturing and industrial value chains, including access to relevant use cases, pilot sites and industry partners.
- **Complementary expertise:** Capabilities in circular economy, Digital Product Passports, AI/data platforms, sustainable materials, automation and de-/re-manufacturing.

Together, these capabilities will help build a strong, balanced consortium with the expertise, industrial reach and European networks needed to deliver and demonstrate the proposed solution.

NMIS	Aleksandar Nikolov	aleksandar.nikolov@strath.ac.uk

Proposed approach to call topic:

Global energy shocks call for acceleration in the UK energy transition. The energy transition will lower consumer bills as a result of better operational performance in wind projects' supply chain. Performance improvement can only deliver greater impact when scaled through demand profiling. These three key factors set the backdrop for more integrated supply chain, where key offshore wind developers improve their productivity over series of projects. Targeting suitable actors' projects into outcomes is the driver for productivity with supply chain integration the means for performance improvement.

What we do:

The supply chains of large international companies operate in functional fragmentation. This is wasteful, as offshore wind developers construct their own supply chain on project-by-project bases. Instead, developers can integrate their supply chains, based on strategic outcomes. We can ensure organisations are equipped by the right digital tools and skills for improved productivity, focusing on variety, needs and access in building wind project portfolios.

HORIZON-CL4-2027-01-MAT-PROD-61 Fast Track to Research and Innovation for breakthroughs in industrial technologies

Coordinator

What we can offer to a consortium:

Supply Chain Integration Laboratory – a scalable digital platform focused on portfolio engineering, which offers strong network effects in the supply chain. NMIS has a wide range of manufacturing capabilities vital for this project, including digital factory, digital process manufacturing centre, advanced forming research centre, lightweight manufacturing centre as well as manufacturing skills academy

What we would like to receive from other consortium members:

- *A consortium member who focuses supply chain integration goals through qualitative research, particularly on the behaviours of offshore wind developers in integration.*
- *An international consortium member who focuses on scaling supply chain integration, particularly on building the portfolio of projects through data-driven research.*
- *A consortium member who focuses on the strategic outcomes' development with the supply base, particularly on bringing down barriers caused by functional fragmentation.*

Organisation Name: Impact Solutions

Your Name: Fraser Borthwick

Email Address: fraser.Borthwick@impact-solutions.co.uk

Proposed approach to call topic:

What is your understanding of the part of the problem you can solve? What part of the Scope do you want to address?

HORIZON-CL4-2027-01-MAT-PROD-61 is an open, TRL-up-to-4 Fast Track topic for breakthrough industrial technologies aligned with the Processes4Planet strategic agenda. We propose to enter with our reactor technology that decouples mixing intensity from vessel volume. We want to address the process-intensification strand of the topic: showing the technology as a breakthrough alternative to conventional stirred-tank and column equipment for gas-liquid mass transfer, solid-liquid extraction and electrochemical processing — cutting capital footprint, energy use and scale-up risk for the process industries.

What we do:

What previous, relevant work or track record can you bring to the team?

Impact Solutions (Impact Laboratories Ltd) is a Scotland-based R&D and technology commercialisation company, with a track record of spinning out companies that have collectively raised over £34m. Our Impact Process Technologies (IPT) unit exists specifically to take reactor ad process technology into commercial-scale partnerships — spanning biomass valorisation, gas dissolution, electrochemistry and fermentation.

Topic number & name:

HORIZON-CL4-2027-01-MAT-PROD-61 — Fast Track to Research and Innovation for breakthroughs in industrial technologies (Processes4Planet partnership)

Are you planning on being a Coordinator or a Partner?

Partner — as the enabling reactor technology provider, alongside an industrial end-user and an experienced Horizon Europe coordinator. (Open to discussion.)

What we can offer to a consortium:

What skills, capabilities, facilities does your organisation have that will be vital for this project?

Reactor design, modelling and pilot-scale hardware; process engineering expertise in gas-liquid mass transfer, extraction and electrochemical intensification; supporting IP; a proven route to scale-up and licensing.

What we would like to receive from other consortium members:

An industrial use-case partner (chemicals, energy or CCUS) to anchor a demonstrator; a consortium coordinator with Horizon Europe RIA experience; ideally an RTO/university partner for independent characterisation and validation.

Power Electronics, Machines and Control Research Institute, University of Nottingham

Dr Ke Li (Associate Professor in Power Electronics Integration) | ke.li2@nottingham.ac.uk

Proposed approach to call topic:

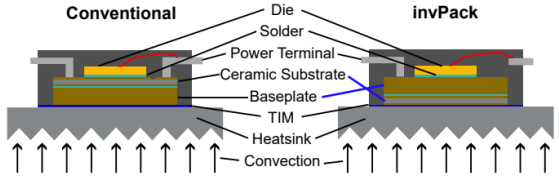
Background: Wide adoption of power electronics converters for our society's transition to Net Zero.

Challenge: Global 82Mt e-waste by 2030 due to difficulty in repairing and in recycling.



Aim and objectives: Enhance the repairability and recyclability by implementing new materials for power electronics packaging and interconnect.

What we do:

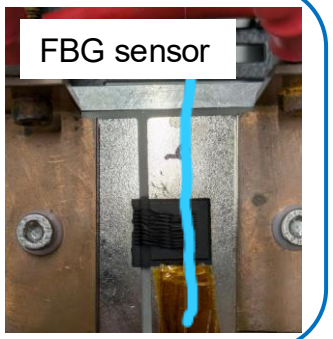


AdvanSiC

A new packaging to consume 30% less raw materials

FLAGCHIP

A new method to accurately monitor the health status of key components



HORIZON EUROPE

Marie Curie Doctor Network (2027-2031)

Circular Power Electronics Converters Design (**Project coordinator**)

Topic number & name:

- HORIZON-CL4-2027-01-MAT-PROD-61: Fast Track to Research and Innovation for breakthroughs in industrial technologies (Research and Innovation Action)
- HORIZON-CL4-2027-01-MAT-PROD-06: Circular innovative advanced materials: facilitating the transition from design to markets (RIA) (Innovative Advanced Materials for the EU and Made in Europe partnerships)
- HORIZON-CL4-2027-01-MAT-PROD-03: Factory processes and automation for de- and re-manufacturing (RIA) (Made in Europe partnership)
- HORIZON-CL4-2027-01-MAT-PROD-02: Advanced manufacturing for key products (IA) (Made in Europe partnership)

Are you planning on being a Coordinator or a Partner?

TRL 3-6, coordinator for RIA calls and partner for IA calls

What we can offer to a consortium:

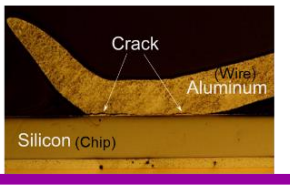
Skills: power electronics components circular design and test

Partners: UK and European academic and industrial partners relates to power electronics manufacturing

Facilities: equipment for reliability test, components and system electro-thermal test to 2MW, benchmark/compliance test with commercial products









What we would like to receive from other consortium members:

Complementary skills in materials research and manufacturing for circular power electronics applications

Organisation Name: **Biozeroc**

Your Name: **Laurence de Lussy-Kubisa**

Email: **Laurence@biozeroc.com**

Proposed approach to call topic:

- Enzymes rarely survive real process streams, so biocatalytic replacement of high-temperature unit operations stalls.
- Each new process envelope changes what is required of both the reactor and the enzyme; that co-dependency is the research.
- SRIA anchor (P4Planet SRIA Update, March 2024): accelerated improvement of energy and material efficiency, specifically bio-inspired transformations replacing high-temperature duties. Secondary: circular economy, reduction of energy input into water treatment.

What we do:

Tech: Continuous-flow enzymatic reactor platform, TRL 3 to 4. PoC unit built and run; PoP rig in validation, with flow performance data for enzymatic hydrolysis of an industrial wastewater stream.

IP: filed application on our reactor architecture.

Projects:

- Coordinated a seven-partner EIC Pathfinder Open proposal (May 2026, UK, Poland, Netherlands, France), outcome pending; Coordination experience is at proposal stage under Pillar 3, not delivery of a Pillar 2 project.
- Delivered three Innovate UK projects, including a two-year collaborative project.

Topic number & name: Fast Track to Research and Innovation for breakthroughs in industrial technologies, HORIZON-CL4-2027-01-MAT-PROD-61

We are looking to be a **Partner**

What we can offer to a consortium:

- Design and build for a biocatalytic step in a stream we have not run before: immobilisation and support integration, then validation of catalyst productivity and lifetime in the real stream.
- Biotechnology: biochemistry, enzyme screening, immobilisation, GMO lab.
- Chemical process and systems engineering.

What we would like to receive from other consortium members:

- High cost, high energy unit operations that could be replaced
- Academic partnerships in the process engineering or biocatalysis
- Enzyme engineering
- Project coordination

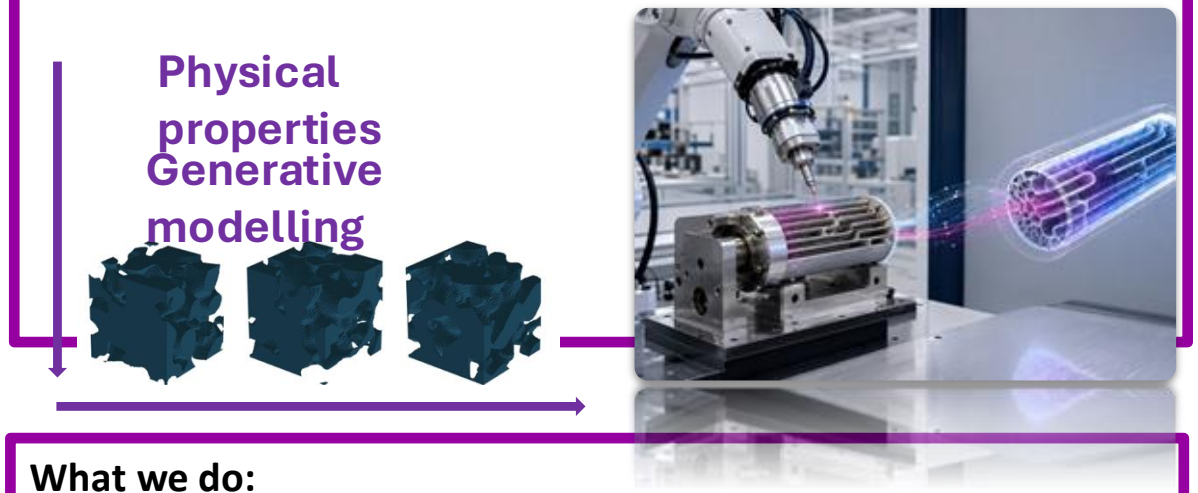
Organisation Name: University of Surrey

Your Name: Peng Wang

Email Address: peng.wang@surrey.ac.uk

Proposed approach to call topic:

1. Develop an integrated pathway from AI-enabled inverse design to robotic manufacturing, linking generative design, digital twins and adaptive production.
2. Use desired material or product performance to generate candidate structures, predict their manufacturability and optimise the corresponding manufacturing process.
3. Create a closed digital thread connecting design, simulation, robotic execution and experimental feedback across different materials and industrial applications.



Topic number & name: HORIZON-CL4-2027-01-MAT-PROD-61: Fast Track to Research and Innovation forbreakthroughs in industrial technologies

Are you planning on being a Coordinator or a Partner?

Partner, with interest in leading a technical work package or task on robotics, AI, inverse design and digital twins.

What we can offer to a consortium:

1. **Generative and inverse design:** AI methods that generate structures, geometries and manufacturing configurations from target properties and performance requirements.
2. **Robot learning and digital twins:** adaptive robotic systems and physics-informed digital models linking geometry, materials, process actions and product performance.
3. **Industrial translation:** uncertainty-aware optimisation, closed-loop manufacturing and established relationships with UK industrial partners in materials science and advanced manufacturing.
4. **PI/Co-PI to EPSRC & Royal Society funded projects** on digital twins, robotics, and material sciences.

What we do:

1. Internationally recognised expertise in **AI, machine learning, computer vision, signal processing and intelligent systems** through CVSSP.
2. Strong capabilities in robotics, sensing, digital experimentation and data-driven modelling, supported by Surrey's wider engineering and materials environment.
3. An interdisciplinary setting for translating computational methods into experimentally validated manufacturing technologies.

What we would like to receive from other consortium members:

1) **Physics and simulation partners:** expertise in computational mechanics, fluid dynamics, thermal processes, multi-physics or differentiable simulation.
2) **Materials and manufacturing partners:** expertise in material formulation, characterisation, processing, manufacturing equipment and process scale-up.
3) **Industrial end users and integrators:** use cases, representative materials or products, production requirements, validation environments and routes to exploitation.

Organisation: University of Bath

Your Name: Sanjay Nagarajan

Email Address: sn908@bath.ac.uk

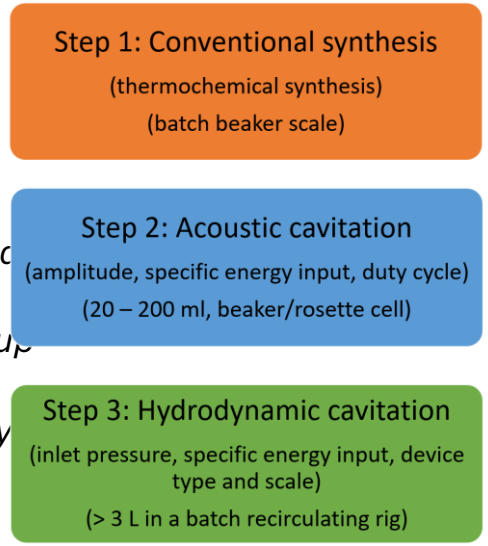
Proposed approach to call topic:

Scope – Breakthrough innovations within IAM4EU

Innovative advanced material in focus Metal Organic Frameworks (MOF) for atmospheric water harvesting (AWH)

Problem – Bulk material synthesis to avoid batch to batch variation, continuous Material synthesis for accelerating scale up

Outcome – Improve product homogeneity and controlled particle size to enable industrial uptake



What we do:

Team expertise – cavitation, water quality and management, process intensification and electrochemistry.

Existing work

- *one step MOF synthesis*
- *acoustic cavitation based MOF synthesis*
- *Improved control on quality and yield*
- *Repeatability of yields (n > 20)*
- *MOF characterisation*

Topic number & name: *HORIZON-CL4-2027-01-MAT-PROD-61. Fast Track to Research and Innovation for breakthroughs in industrial technologies (RIA)*

Are you planning on being a Coordinator or a Partner?

Coordinator and a partner

What we can offer to a consortium:

- *Bath - materials, membranes, water and energy*
- *Consortium - advanced oxidation processes, hydrodynamic cavitation, photocatalysis, electrochemistry, water management and process intensification*
- *MC² and access to software suites*

What we would like to receive from other consortium members:

- *Life cycle and impact assessment*
- *Technoeconomic assessment*
- *Industrial partner for pilot testing material immobilisation*
- *MOF characterisation*

Organisation: EURECAT

Presenter: Begoña Casas

Email: begona.casas@eurecat.org

Proposed approach to the call

Construction reinforcement must last longer—and avoid becoming waste by design.

Eurecat is shaping a circular advanced-composite platform combining durability, in-use condition awareness, repair and end-of-life recovery.

Performance and market readiness will be validated in relevant construction use cases.

What we do

Eurecat connects materials, manufacturing, digital systems and sustainability in one applied R&I platform.

Advanced polymers and composites

Scalable manufacturing and process development

Embedded sensing and structural health monitoring

Testing, digital tools and industrial demonstrators

Coordination of collaborative European R&I

HORIZON-CL4-2027-01-MAT-PROD-06 (CONSTRUCTION)

Circular innovative advanced materials: facilitating the transition from design to markets

Planned role: COORDINATOR

Eurecat is assembling the consortium.

What we offer as coordinator

Circular material and component design

Scale-up, manufacturing and quality control

Embedded sensing, data interpretation and testing

Demonstrator integration and consortium coordination

Who we want to meet

Partners ready to lead a clear workstream:

Recycling & circular economy — recovery and valorisation

Business & exploitation — circular models and market uptake

Standardisation / regulatory — certification and pre-normative route

Printed sensors & electronics — sensor development, electronics integration and SHM data acquisition

Organisation: EURECAT | **Presenter: BEGOÑA CASAS** | **Email: begona.casas@eurecat.org**

Proposed approach to call topic:
Eurecat proposes an integrated circular approach for the design, manufacturing, quality assurance, maintenance and end-of-life recovery of next-generation aircraft components.

What we do:
For this topic, Eurecat brings end-to-end expertise in metal additive manufacturing: material design, powder production, PBF technologies, post-processing, machining/polishing, surface integrity optimisation, mechanical/microstructural/corrosion characterisation and component validation.
European and national projects related to this topic: SAFE-AIR, ALABAMA, FLEXCRASH, SPAR3D and other projects on recycled materials, advanced laser AM and green Al structures. SAFE-AIR focused on sustainable and efficient aero-structures through AM and post-processing for net-zero aviation.

HORIZON-CL5-2027-03-D5-08: Sustainable aircraft circular design and additive manufacturing, towards a climate neutral aviation

Are you planning on being a Coordinator or a Partner? Eurecat is considering coordinating a proposal but can also join as a core RTO partner.

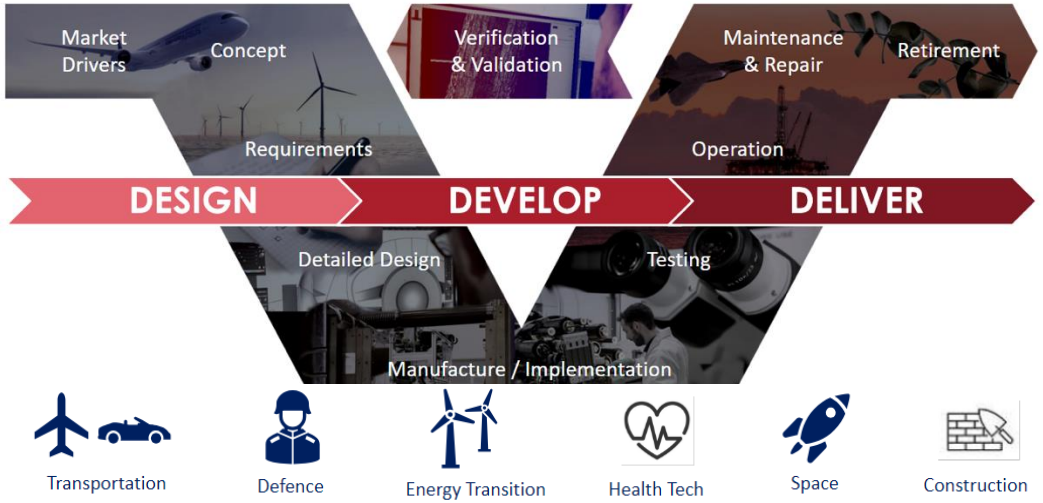
What we can offer to a consortium:
Advanced & Hybrid Manufacturing: Metal AM, large-format FFF, DED, SLA/DLP, ISF, CNC and hybrid manufacturing.
Advanced & Circular Materials: Recycled metals, high-performance/bio-based polymers, composites and vitrimer-based tapes designed for recyclability and repairability.
AI & Digitalisation: AI-assisted manufacturing, Digital Twins, inline quality prediction, adaptive process control and predictive maintenance.
Testing & Validation: Material/component testing, accelerated fatigue, corrosion and degradation, from coupons to industrial components.
Smart MRO & Circularity: Condition monitoring, predictive maintenance, intelligent MRO, repair/remanufacturing, eco-design and life-extension strategies

What we would like to receive from other consortium members:
Aircraft/OEM or Tier-1 use cases; engine or structural component specifications; certification and qualification expertise; digital twins/NDT/condition monitoring; repair/MRO actors; recyclers and circularity/LCA experts; end-users able to validate real industrial demonstrators.

Organisation Name: NCC	Your Name: Eoin Simon	Email Address: Eoin.Simon@nccuk.com

What we can offer to a consortium in CL4 & CL5:

1. Preeminent Research Centre for Composites in UK
2. Supported by 350+ Research Engineers and Technicians
3. **Eco-system growth** by Horizon Europe projects, OEM/Tier/SME Membership, Catapult network (7 HVMCs), University of Bristol
4. **Pilot production line expertise and scale-up** (e.g. carbon fibre line, at rate wing manufacture (UHRDC, …))
5. **Manufacturing process pull-through at TRL 3-7 –** Industry scale
6. Development of **Technology Roadmaps** for industrial transformation
7. Digital Engineering & Manufacturing (including **ML/AI, MBE, MBSE, digital twin, High fidelity process modelling, Surrogate Models**)
8. Conceptual **Design for Manufacture and Circularity**
9. Development of **training and workforce upskilling** programs
10. Access to two world-leading **High-Performance Computing and 5G** facilities (including Isambard-AI)



Topic number & name: *open to partner, unless noted as Coordinator*

- HORIZON-CL4-2027-01-MAT-PROD-06 Circular innovative advanced materials: facilitating the transition from design to markets
- HORIZON-CL4-2027-01-MAT-PROD-02 Advanced manufacturing for key products (Coordinator)
- HORIZON-CL4-2027-01-MAT-PROD-16 Technologies for innovative processing of raw materials
- HORIZON-CL4-2027-01-MAT-PROD-22 Innovative advanced materials and new production processes – reducing dependencies on Critical and Strategic Raw Materials
- HORIZON-CL4-2027-01-MAT-PROD-03 Factory processes and automation for de- and re-manufacturing (Coordinator)
- HORIZON-CL4-2027-01-MAT-PROD-61 Fast Track to Research and Innovation for breakthroughs in industrial technologies
- HORIZON-CL5-2027-03-D5-08 Sustainable aircraft circular design and additive manufacturing, towards a climate neutral aviation

What we would like to receive from other consortium members:

- Strategic materials (fibre and matrix) and manufacturing process development
- Standards and guidelines development and deployment entities
- Domain specific EcoSystems/SingleEntryPoints for digital engineering toolsets (EDIH, TEF, OITB, Dataspaces, Digital Twins etc), training and upskilling
- Technical, sustainability, circularity challenges for digital thread enablement
- Novel AI for product development, mterials, systems

Organisation: Queen's University Belfast

Your Name: Gary Menary

Email Address: g.menary@qub.ac.uk

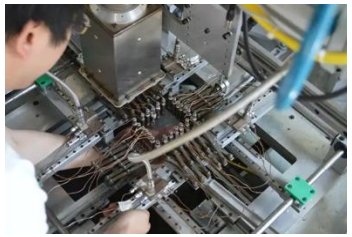
Proposed approach to call topic:

Material formulation → Processing → Microstructure → Performance.

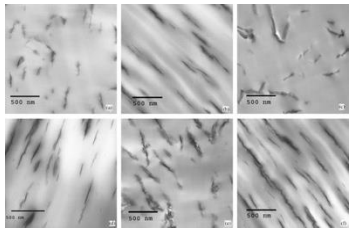
We will combine experimental characterisation, process modelling and in-line sensing to:

1. Quantify the effects of recycled-material variability.
2. Optimise formulations and processing windows.
3. Predict manufacturability and end-use performance.

What we do: 30 years of research translating polymer materials and processing into lightweight, manufacturable products.



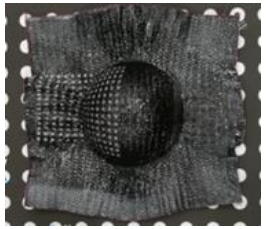
Biaxial stretching



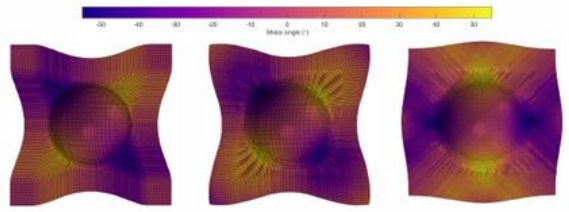
Polymer Nanocomposites



Polymer Processing



Carbon Fibre Reinforced Thermoplastic Composites



Modelling and Simulation

Topic number & name: HORIZON-CL4-2027-01-MAT-PROD-06:

Circular innovative advanced materials—facilitating the transition from design to markets

Are you planning on being a Coordinator or a Partner?

Partner

What we can offer to a consortium:

- Characterisation of material variability, processability and performance.
- Pilot-scale processing capability (new £2.5 million investment):
  - Extrusion, Injection Moulding, Stretch Blow Moulding
- Process–structure–property–performance modelling.
- Optimisation and pilot-scale validation of polymer/composite formulations and manufacturing conditions.

What we would like to receive from other consortium members:

- Developers of recyclable polymers or thermoplastic composites seeking to optimise formulation, processability, circularity and performance.
- Energy or construction end users with a polymer/composite component and an industrial demonstrator requiring material and process optimisation.

Organisation Name: I-Form

Your Name: John Oliver

Email Address: john.oliver@i-form.ie

Proposed approach to call topic:

- Develop digital tools to accelerate product and process development, reducing trial & error from design through to manufacture
- Support optimisation of manufacturing solutions for sustainability, efficiency and productivity
- Provide deep expertise in materials and process modelling, supported by advances in AI

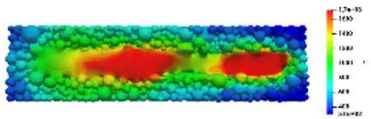
What we do:

I-Form is an Ireland-wide advanced manufacturing research centre, spanning 9 partner RPOs, focused on applying digital technologies to materials processing



Materials Processing

- Process development
- Use of novel and sustainable materials
- Process sensorisation & characterisation



Modelling

- Multi-scale, multi-physics modelling
- Process-structure-property-performance prediction



Applied AI

- AI based real-time feedback and control
- Human-in-the-Loop Recommender Systems
- Product-Process-Performance Digital twin

Topic number & name:

CL4-2027-01-MAT-PROD-06: Circular innovative advanced materials
CL4-2027-01-MAT-PROD-02: Advanced manufacturing for key products
CL4-2027-01-MAT-PROD-22: Innovative advanced matls and new prodn processes
CL4-2027-01-MAT-PROD-03: Factory processes and automation for de- and re-mfg
CL5-2027-03-D5-08: Sustainable aircraft circular design and additive mfg

Are you planning on being a Coordinator or a Partner? Primarily planning to be a Partner

What we can offer to a consortium:

- Equipment: WAAM/DED, PBF-LB Additive Mfg, Characterisation and Test
- Design tools for circularity, remanufacture, repair and reuse
- Research for disassembly, refurbishment and remanufacturing
- Integration of AI, robotics, automation and digital manufacturing
- Predictive modelling, process development and in-process monitoring
- AM of metallic, composite and high-performance polymer components
- Access to network of additional partners

What we would like to receive from other consortium members:

- Industry use-cases and demonstrator sites
- Qualification and certification expertise
- Relevant equipment and test facilities
- Recycling/circularity/remanufacturing partner facilities

Organisation: University of Bristol

Your Name: Patrick Tully

Email Address: patrick.tully@bristol.ac.uk

Proposed approach to call topic:

- We would bring expert technical knowledge to the topics, with a particular focus on:
  - Digital manufacturing and AI integration, using process modelling to optimise existing manufacturing processes, e.g. defect reduction
  - Develop new automated and additive manufacturing processes, e.g. continuous tow shearing, now commercialised as iCOMAT
  - The development of closed loop sustainable material solutions, such as aligned short fibre composites using HiPerDiF technology, now commercialised as LINEAT.
- We would work with partners to take ideas from low TRL through to delivery.

What we do:

- The University of Bristol is the home of the Bristol Composites Institute, a world leading institute for composites research and education, addressing the overarching grand challenges of sustainability and net zero.
- Research priorities include advanced engineering for net zero, disruptive manufacturing, sustainability and circularity, digital innovations and novel material solutions.
- We host world class facilities and labs encompassing mechanical testing, microscopy & full field imaging, and manufacturing with an expert technical support team.
- We also host the three wind tunnels that form part of the National Wind Tunnel Facility, an aeroacoustic wind tunnel, a boundary layer wind tunnel and pressure neutral acoustic wind tunnel.
- We have research expertise in using these facilities for the development of noise reduction in next generation aircraft.

Topic number & name:

HORIZON-CL4-2027-01-MAT-PROD-06: Circular innovative advanced materials: facilitating the transition from design to markets
HORIZON-CL4-2027-01-MAT-PROD-03: Factory processes and automation for de- and re-manufacturing
HORIZON-CL4-2027-01-MAT-PROD-22: Innovative advanced materials and new production processes – reducing dependencies on Critical and Strategic Raw Materials
HORIZON-CL5-2027-03-D5-08: Sustainable aircraft circular design and additive manufacturing, towards a climate neutral aviation
HORIZON-CL5-2027-04-Two-Stage-D5-09: Noise reduction breakthroughs for new ultraefficient aircraft

Are you planning on being a Coordinator or a Partner?

As a Partner we would be able to provide expert input, delivery of technical solutions and access to facilities on the range of projects described above.

What we can offer to a consortium:

We would bring expert technical knowledge in the design, advance manufacturing and recycling of composites. Providing access to our world class researchers in composites modelling, software, AI, prototype manufacture, experimental testing and data collection and analysis.
Additionally, we can provide expert technical knowledge, design, modelling and testing in aeroacoustic noise reduction.

What we would like to receive from other consortium members:

We would like to receive details of complex composite design, manufacturing and recycling problems where we can provide our world leading expertise to develop innovative solutions in these areas.

Organisation Name: CPI

Your Name: Ron Turner

Email Address: Ronald.Turner@uk-cpi.com

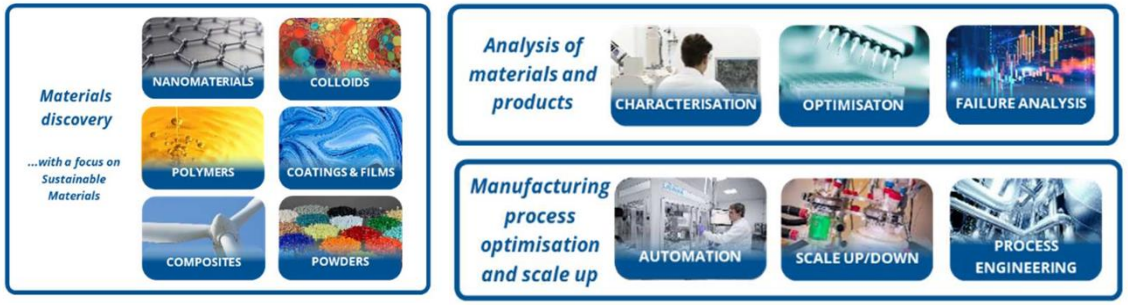
Proposed approach to call topic:

What is your understanding of the part of the problem you can solve? What part of the Scope do you want to address?

- Development of recyclable polymers and composites
- Supporting developments of related processes and technologies to ensure integration in industrial (re)manufacturing, e.g adhesives/processing for recycling
- Process chemistry development/engineering/scale-up – biopolymers, enzymes, enzymatic (recycling?) processes
- Data-driven and mechanistic models for material design and processing

What we do:

What previous, relevant, work or track record can you bring to the team?



- CPI have contributed to 47 European Commission funded projects (2x as coordinator, 45x as partner) across a range of materials/process chemistry related projects.

Topic number & name: HORIZON-CL4-2027-01-MAT-PROD-06: Circular innovative advanced materials: facilitating the transition from design to markets

Are you planning on being a Coordinator or a Partner?

Partner

What we can offer to a consortium:

- Process chemistry expertise – recyclable (bio)polymers/enzymatic processing development
- Scale-up facilities for foundation industry processes
- Digital tools for data-driven approaches to innovation
- FAIR data management across supply networks/value chains

What we would like to receive from other consortium members:

Industry partners/coordinators with concepts for innovative advanced materials which require support in process design, characterisation, and development; and/or support in getting towards manufacturing scale (possibly more relevant for IAs).

Support = access to engineering teams skilled in process development/engineering/safety, data scientists, relevant equipment and software

Organisation Name: Smiley Monroe Group

Your Name: Tim Monroe

Email Address: tim@smileymonroe.com

Proposed approach to call topic:

Smiley Monroe is developing a Circular Conveyor Belt Roadmap to identify opportunities for circular materials, product life extension, end-of-life recovery and improved resource efficiency. We are seeking partners that can help accelerate the transition from circular material innovation to practical industrial implementation.

What we do:

Smiley Monroe is a global manufacturer of conveyor belting solutions serving the quarrying, recycling, construction, agricultural and industrial sectors, with operations in the UK, India and USA.

Relevant expertise includes:

- Industrial manufacturing & product validation
- Waste reduction initiatives
- Responsible sourcing & supply chain engagement
- Sustainability measurement
- Material efficiency & resource productivity

Topic number & name:

HORIZON-CL4-2027-01-MAT-PROD-06

Circular Innovative Advanced Materials: Facilitating the Transition from Design to Markets

Are you planning on being a Coordinator or a Partner?

Partner

What we can offer to a consortium:

Industrial Demonstration, Validation

- Manufacturing & operational test environments
- Product performance validation & supply chain engagement
- Industrial use cases & requirements

Commercialisation

- Access to industrial end users
- Route-to-market & adoption insights
- Dissemination through manufacturing & sustainability network

What we would like to receive from other consortium members:

- Advanced materials and polymers
- Circular material technologies
- Material recovery & recycling
- Life Cycle Assessment (LCA)
- Horizon Europe coordination & project leadership

Organisation Name: MET Technology Gateway | Atlantic Technological University

Your Name: Billy Donovan

Email Address: MET@atu.ie

Proposed approach to call topic:

Medical Cluster 4 focus — join consortia where advanced materials, health/biotech infrastructure or medical diagnostics need applied validation.
MAT-PROD-22 — advanced materials & production processes; medical devices are a named target sector.
MAT-PROD-47 — Technology Infrastructure access; health & biotechnology are named priority areas for SME/start-up access.
DIGITAL-EMERGING-03 — advanced photonics for health, sensing and medical diagnostics applications.
MET approach — new material/device/sensor → prototype → physiological & imaging test environment → demonstration evidence.

What we do / relevant track record:

- Applied R&D Gateway supporting industry-led MedTech, life-science and engineering innovation.
- Medical Imaging Suite: fluoroscopy, ultrasound/imaging workflows and remote clinical/technical collaboration.
- Physiological replication: anatomical models, pulsatile flow/simulated-use environments and device validation.
- Additive manufacturing: anatomical modelling, design iteration, prototypes, test fixtures and demonstrators.
- Device test capability: tensile/mechanical testing, microscopy/SEM, viscometry, HPLC, lyophilisation and lab characterisation.
- Industry access point to Irish MedTech SMEs, multinationals and wider ATU expertise.

Topic number & name:

CL4-2027-01-MAT-PROD-22 — Advanced materials & production processes; medical devices.
CL4-2027-01-MAT-PROD-47 — Technology Infrastructures; health & biotechnology.
CL4-2027-05-DIGITAL-EMERGING-03 — Photonics; health/medical diagnostics.

Are you planning on being a Coordinator or a Partner?

Partner — applied R&D, medical-device prototyping, simulated-use testing, imaging and validation work packages.

What we can offer to a consortium:

- Medical-device demonstrator environment for advanced materials, coatings, sensors and components.
- Prototype → Test → Validate → Demonstrate pathway across imaging, physiology and bench testing.
- Facilities: Medical Imaging Suite, physiological replication, additive manufacturing and device test equipment.
- Test-method development, benchmarking, microscopy/SEM and mechanical/material characterisation.
- Gateway model for SME engagement, industry use-cases and exploitation pathways.

What we would like to receive from other consortium members:

- Coordinators building Cluster 4 consortia around medical-device advanced materials, health/biotech infrastructure access, sensors or diagnostics.
- Technology owners needing independent validation in medical-device or regulated-product applications.
- Partners with materials chemistry, photonics/sensors, LCA, regulatory, clinical/end-user, pilot manufacturing and scale-up expertise.
- Clear industrial use cases where MET can lead or support test, validation and demonstration work packages.

FP McCann Ltd | Dr Jacek Kwasny | JKwasny@fpmccann.co.uk

Proposed approach to call topic:

FP McCann will contribute expertise in sustainable construction materials and precast manufacturing to develop low-carbon, circular construction products that reduce reliance on critical and strategic raw materials. Our focus is on advanced cementitious materials, mineral additives and precast systems using alternative and secondary raw materials, combined with resource-efficient manufacturing processes.

*We are interested in the design-to-market development and industrial deployment of circular materials (**MAT-PROD-22, MAT-PROD-06, MAT-PROD-16**), alongside advanced manufacturing, digitalisation and circular production approaches (**MAT-PROD-02**). We also seek to develop sensor- and model-based factory processes for automation, predictive maintenance, deconstruction and remanufacturing (**MAT-PROD-03** & **MAT-PROD-61**). This includes using sensor data, computer vision, AI and digital process models to improve traceability, automated QC, material recovery, production efficiency and the reuse of construction components.*

What we do:

- *Leading UK precast concrete manufacturer with 13 production facilities*
- *Applied R&D, product development and industrial delivery capability*
- *Innovation in low-carbon materials, digital construction and automation*
- *Strong externally funded R&D track record, both as a partner and lead organisation: UKRI, Invest NI, Carbon Trust and DESNZ*
- *From concept and testing to factory production and site installation*
- *Focus on robust, manufacturable and scalable infrastructure solutions*

Topic number & name (priority rating in brackets)**:**

MAT-PROD-22 (i), MAT-PROD-06 (ii), MAT-PROD-03 (ii), MAT-PROD-02 (iii), MAT-PROD-16 (iv), MAT-PROD-61 (iv)

Are you planning on being a Coordinator or a Partner?

Partner

What we can offer to a consortium:

- *Industrial partner for development of low-carbon, circular construction materials and systems*
- *Manufacturing expertise in precast concrete and production-scale validation*
- *R&D capability in material development, automation, AI-enabled quality control, data-led process optimisation and 3D printing*
- *Technical staff, facilities and live factory environments for material, process and technology trials*
- *Pilot-scale demonstration and industry-led validation*
- *Market insight and routes towards scalable commercial adoption*

What we would like to receive from other consortium members:

- *Complementary partners with expertise in advanced materials, digital technologies, testing, validation and life-cycle assessment.*
- *In particular, we want to work with organisations operating at industrial scale, including major manufacturers, contractors, infrastructure owners and end users, who can provide real-world demonstration opportunities, market insight and routes to European adoption.*

Organisation: Quantum Science Ltd

Name: Jake Mehew

Email: jake.mehew@qscis.com

Proposed approach to call topic:

- **SWIR imaging** is dominated by InGaAs technology, creating dependence on indium, gallium, and arsenic
- QS **quantum dot technology** enables cost effective SWIR detection from 800-2500 nm without reliance on Ga or As
- We propose to validate QD-based SWIR detection as an alternative materials and manufacturing route that **reduces dependence on critical raw materials**

What we do:

- Manufacture commercial grade infrared QDs at scale
- Supply QD materials to infrared sensor manufacturers
- Develop patented materials, inks, and device technology for wafer-scale CMOS integration
- Proven track record in collaborative programmes through grants, JDAs, and customer programmes

Topic number & name: HORIZON-CL4-2027-01-MAT-PROD-22
Innovative advanced materials and new production processes – reducing dependencies on Critical and Strategic Raw Materials

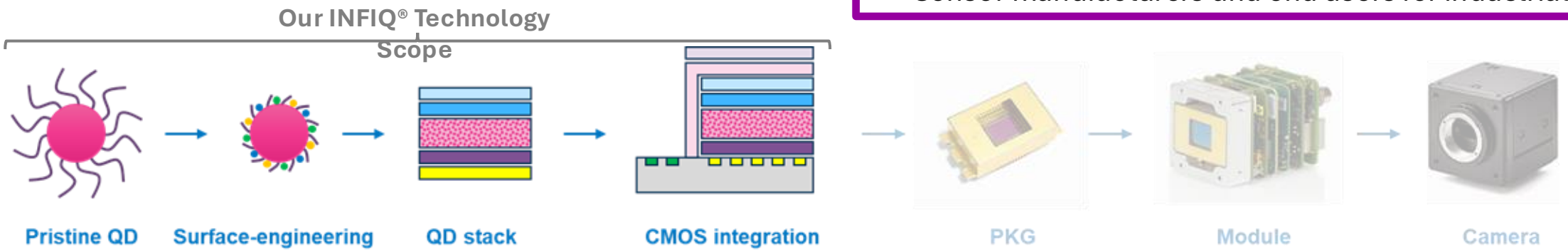
Are you planning on being a Coordinator or a Partner? Technical partner. Open to coordinator role where aligned with our expertise.

What we can offer to a consortium:

- QD synthesis, surface engineering and ink formulation
- Thin-film stack and detector development
- Cleanroom fabrication, sensor integration, and process optimisation
- Optoelectronic characterisation, reliability testing

What we would like to receive from other consortium members:

- ROIC design and semiconductor fabrication
- Detector packaging and scalable assembly
- Camera module integration and testing
- Sensor manufacturers and end users for industrial validation



Hydrogen Ireland | **Paul McCormack** | **Paul.McCormack@HydrogenIreland.org**

Next-Generation Electrolysers: Intelligent Manufacturing and Digital Validation

Proposed approach to call topic:

- Scaling Europe's hydrogen manufacturing capacity by delivering semiconductor-grade, AI-enabled electrolyser production that replaces today's manual, variable processes
- Creating new, high-precision manufacturing processes with improved material efficiency, reduced waste, and lower dependence on critical raw materials.
- Strengthening industrial resilience and accelerate the uptake of reliable, scalable electrolysers essential for Europe's clean-energy transition, through embedded sensing and automated quality control,

What we do:

- Developing next-generation hydrogen technologies combining advanced electrolyser manufacturing, intelligent sensing, digital modelling and system-level optimisation. Our capabilities include AI-enabled robotics, semiconductor-grade sensing, automated quality control, dynamic electrolyser modelling and intelligent operation.
- Developing flexible electrolysis concepts for operation under variable renewable power and alternative water sources, providing a realistic platform to evaluate next-generation electrolyser materials and components beyond steady-state laboratory conditions.

Hydrogen Ireland and its partners bring experience from more than €50M of clean-energy R&D and have established Ireland's Hydrogen Training Academy, supporting over 1,200 specialists in hydrogen operations and safety.

Topic number & name: HORIZON CL4 2027 01 MAT PROD 22

Innovative advanced materials and new production processes – reducing dependencies on Critical and Strategic Raw Materials.

What we can offer to a consortium:

We offer an integrated materials manufacturing operation platform for next-generation electrolyser. Our capabilities include:

- AI-enabled robotic manufacturing and precision component assembly;
- Semiconductor-grade sensing and automated inline quality control;
- Digital-twin modelling linking manufacturing parameters with electrolyser performance and degradation;
- Dynamic electrolyser modelling under renewable power fluctuations;
- System-level optimisation of material utilisation, efficiency, lifetime and hydrogen production.

What we would like to receive from other consortium members:

We are seeking partners with:

- Advanced low-CRM catalyst and electrode materials;
- Membrane, separator, porous transport layer or stack-component expertise;
- Scalable coating, deposition and precision manufacturing technologies;
- Electrolyser OEM and stack integration capability;
- Pilot manufacturing or industrial production facilities;
- Industrial end-users for demonstration and exploitation.

We particularly welcome partners developing **CRM substitution or low-loading technologies** that require manufacturing scale-up and realistic system-level validation.

Organisation Name: EireComposites

Your Name: Tomás Flanagan

Email: t.flanagan@eirecomposites.com

Proposed approach to call topic:

EireComposites can build and test demonstrators and pilot lines relating to novel materials and manufacturing processes.
We can leverage extensive experience in European Projects and Aerospace Heritage to create a competitive proposal.

What we do:

EireComposites:

- *Manufactures parts for Airbus, Bombardier, ESA and various renewable energy companies*
- *Received over €20m in R&D funding from Horizon Europe, the European Space Agency and various other funding bodies*
- *Has a strong track record in delivering R&D projects*
- *Led multiple successful European Projects*
- *Currently has 5 active European Projects*
- *Translates R&D into commercial products*





Topic number & name:

HORIZON-CL4-2027-01-MAT-PROD-22 Innovative advanced materials and new production processes– reducing dependencies on Critical Raw Materials
HORIZON-CL4-2027-01-MAT-PROD-02 Advanced manufacturing for key products
HORIZON-CL4-2027-01-MAT-PROD-06 Circular innovative advanced materials: facilitating the transition from design to markets
HORIZON-CL5-2027-03-D5-08 Sustainable aircraft circular design and additive manufacturing, towards a climate neutral aviation
HORIZON-CL4-2027-01-MAT-PROD-61 Fast Track to Research and Innovation for breakthroughs in industrial technologies

Are you planning on being a Coordinator or a Partner? *Partner*

What we can offer to a consortium:

Manufacturing and Testing of Composites, Development of Patterns and moulds, set-up of pilot lines and demonstrators, 5-axis CNC capability, autoclaves, non-destructive testing, 3D-printing, cleanrooms, Experience in leading and participating in Horizon Europe projects

What we would like to receive

Automation capability,
Novel materials and processes,
Project preparation,
project coordination,
Dissemination and exploitation



Organisation Name: PNO Innovation

Your Name: Dr Dorian Parker

Email : dorian.parker@pnoinnovation.com

Proposed approach to call topic: For ALL HEU topics, PNO can help shape the concept around the call requirements, build the value chain and develop the route from TRL5 demonstration to industrial deployment. Most relevant: MAT-PROD-16: Support development of an industry-led project demonstrating innovative, flexible and resource-efficient processing and refining technologies for recovering critical raw materials from complex/low-grade ores and extractive waste.MAT-PROD-22: Support development of advanced materials and industrial processes that substitute critical/strategic raw materials or substantially reduce their use, while maintaining performance and improving sustainability, scalability and cost-effectiveness.

What we do:

PNO Innovation is one of Europe's leading innovation and funding consultancies, with **650 FTE across 10 countries**, including a **12 FTE UK team**, and extensive European networks.

We work across **advanced materials, raw materials, manufacturing, circular economy, energy and industrial decarbonisation**, supporting projects from consortium formation and proposal development through to project delivery, exploitation and market uptake.

Across the PNO group, we support **hundreds of Horizon Europe proposals each year** and innovation projects representing **more than €1bn in value**. In 2026, I have been involved in **four Horizon Europe proposals and recently supported the successful €9m INTENSE-US project**.

Topic number & name: All, HORIZON-CL4-2027-01-MAT-PROD-16 and HORIZON-CL4-2027-01-MAT-PROD-22

Are you planning on being a Coordinator or a Partner?

DEC Partner and help write the bid

What we can offer to a consortium: Horizon Europe proposal development and project management expertise, including: consortium building and partner identification; proposal strategy and bid development; exploitation, business case and route-to-market planning impact, dissemination and communication; stakeholder and industrial engagement; project management and reporting; support for clustering and replication activities; PNO can also support partner searches through its extensive European network and dedicated innovation and matchmaking platforms.

What we would like to receive from other consortium members:

We are particularly interested in **existing or emerging consortia seeking additional partners and proposal-development support**, as well as organisations with strong technologies or use cases interested in building a new consortium. We are looking to connect with **industrial and research organisations developing project concepts** particularly: **MAT-PROD-16:** mining and minerals-processing companies, technology developers, pilot/demo sites, critical raw material producers and downstream users. **MAT-PROD-22:** advanced-material developers, manufacturers, process-technology providers and industrial end users seeking to substitute or reduce critical and strategic raw materials.

Organisation Name: LAYRR

Your Name: Kerry McLaughlin

Email Address: kerry@layrr.co

Proposed approach to call topic:

High-value industries face severe supply chain vulnerabilities due to critical metal dependencies, alongside material performance bottlenecks (poor thermal transfer, oxidation, unprintable alloys).

LAYRR's atomic-level surface engineering on commodity powders provides a scalable, sustainable solution to deliver upgraded material performance while significantly reducing dependence on critical metals.

What we do:

We use a clean, precise and fast process to add ultra-thin nano-coatings to commodity powders, giving them enhanced functionality and boosted performance.



Track Record: Operational pilot plant (TRL 6). Coated powder batch sizes of 50kg. Delivery of £1M Innovate UK Grants.

HORIZON-CL4-2027-01-MAT-PROD-16 Innovative processing of raw material

Are you planning on being a Coordinator or a Partner?
Partner (Powder Functionalisation & Surface Engineering)

What we can offer to a consortium:

Capabilities: Precision sub-50nm coatings across 60+ elements, complex oxides and nitrides; powder substrate agnostic (metallics, polymers, ceramics); dry PVD process, zero toxic wastewater, no powder clumping.



Metallic coatings on insulating powders



Metallic coatings on metal powders



Insulating coatings on metal powders

What we would like to receive from other consortium members:

Tier-1 Aerospace, Automotive, or Energy OEMs to conduct component benchmarking, and lead end-use validation.

Organisation: University of Exeter

Your Name: Jingchao Jiang

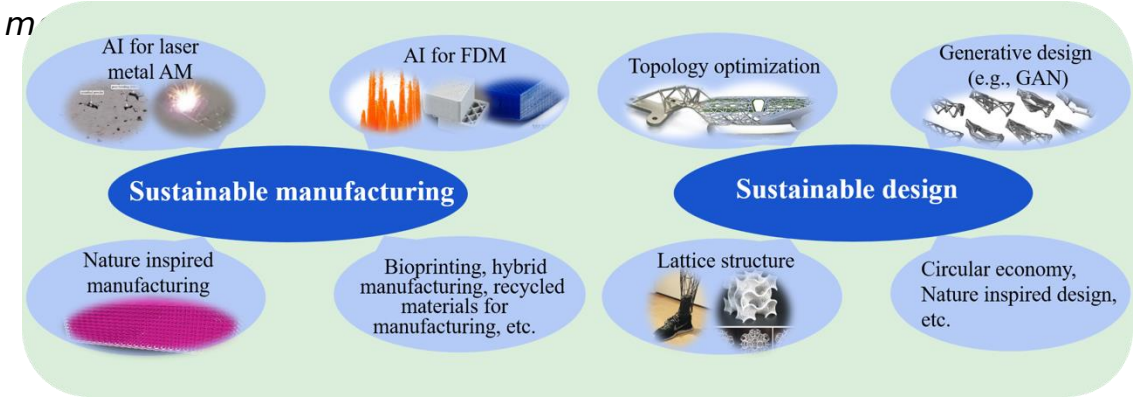
Email Address: J.Jiang2@exeter.ac.uk

Proposed approach to call topic:

My expertise is in AI-enabled and design for additive manufacturing (3D printing). I can contribute to developing intelligent, automated and sustainable manufacturing processes through machine learning, digital twins, real-time monitoring, process optimisation and closed-loop control. I am also interested in addressing advanced manufacturing and factory automation, de-/remanufacturing and circular production, reducing dependence on critical raw materials through alternative/recycled materials, innovative material processing, and sustainable additive manufacturing for applications such as aviation.

What we do:

I have a strong track record in AI-enabled additive manufacturing, with 40+ journal publications and extensive experience in extrusion based 3D printing, recycled materials, machine learning, process optimisation and digital twins. My previous work includes ML-based process and mechanical performance prediction, real-time defect detection, intelligent path planning, waste reduction, closed-loop m



Topic number & name: *HORIZON-CL5-2027-03-D5-08 Sustainable aircraft circular design and additive manufacturing, towards a climate neutral aviation; HORIZON-CL4-2027-01-MAT-PROD-02 Advanced manufacturing for key products (Made in Europe partnership); HORIZON-CL4-2027-01-MAT-PROD-03 Factory processes and automation for de- and re-manufacturing; HORIZON-CL4-2027-01-MAT-PROD-22 Innovative advanced materials and new production processes – reducing dependencies on Critical and Strategic Raw Materials*

Are you planning on being a Coordinator or a Partner?

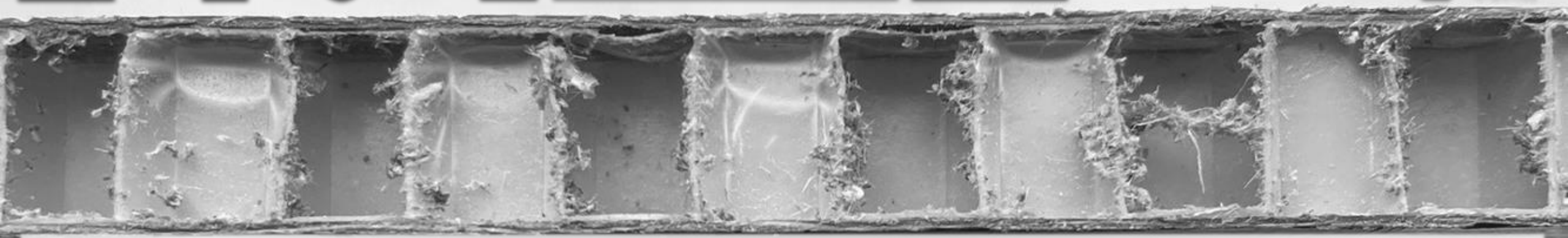
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What we can offer to a consortium:

We offer expertise in AI/ML-enabled additive manufacturing, process optimisation, digital twins, real-time monitoring and design. We have advanced additive manufacturing and materials testing facilities, including SLA, FDM 3D printing, large-scale 3D concrete printing, sensors and characterisation equipment. We can contribute experimental validation, AI-driven process optimisation, digital manufacturing modelling, and design for additive manufacturing.

What we would like to receive from other consortium members:

We seek complementary expertise in industrial-scale manufacturing, automation and robotics, advanced materials, de-/remanufacturing, aerospace applications, and access to industrial production environments. We would particularly welcome partners able to provide industrial use cases, manufacturing data, pilot-scale facilities and validation opportunities, enabling us to integrate and demonstrate AI-enabled, sustainable additive manufacturing solutions in real-world settings.



Towards Lightweight, Repairable & Circular Fuselage Panels

HORIZON-CL5-2027-03-D5-08 I Sustainable aircraft circular design & additive manufacturing

RWTH Aachen

IKV → plastics processing, thermoplastic composites and AM

SLA → lightweight design, optimization of aerospace structures and modelling techniques

Initiative

Circular thermoplastic sandwich fuselage panel using AM for core/functional features

Major weight reduction I Improved joints I Damage visibility/inspectability I Repairability I Material reuse

We offer

Coordination

Research Ecosystem
260 institutes I €160M/year in 3rd party funding

Experience
75 years of industry-oriented Plastics Processing & Material Tech Research

Infrastructure
11,800 m² of modern labs & technical centres

Network
Access to one of the strongest networks in the plastics sector

Partners Sought

Recycling
Produce defined reusable feedstock for designed structures

LCA
Material/process scenarios

Certification/qualification
Aviation roadmap

Fuselage panel stakeholder
Input on real fuselage panel requirements

NDT/monitoring
moisture, damage and repair inspection



Melissa Young-Çelik, J.D.
IKV EU Funding Manager
Melissa.Young-Celik@ikv.rwth-aachen.de

Organisation Name: Instruct3D

Your Name: Dr Rob Snell

Email Address: rob@instruct3d.io

Proposed approach to call topic:

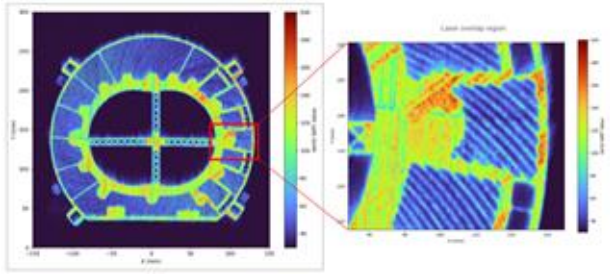
Resolving quality assurance bottlenecks in Laser Powder Bed Fusion (LPBF). We deploy in-situ process monitoring for real-time defect detection, build optimisation, and the generation of a 'digital part passport' to verify build success for aerospace qualification.

What we do:

A deeptech University of Sheffield spin-out specialising in metal additive manufacturing. We have a proven track record of developing robust data analysis tools and hardware integrations for complex manufacturing datasets.



1) A deployed sensor. engine.



2) The data from a drone

Topic number & name:

HORIZON-CL5-2027-03-D5-08 Sustainable aircraft circular design and additive manufacturing, towards a climate neutral aviation

Are you planning on being a Coordinator or a Partner?

Partner

What we can offer to a consortium:

- *Proprietary hardware and software for LPBF in-situ process monitoring.*
- *Advanced extraction and analysis of thermal and optical data streams.*
- *Generation of digital part passports for streamlined part certification.*
- *Deep domain expertise in materials science and metallurgy.*
- *Build optimisation for thermal control.*

What we would like to receive from other consortium members:

- Aerospace or heavy industry end-users for technology pilot integrations.
- Consortium leaders experienced in managing Horizon Europe administrative frameworks.
- Partners providing complementary post-build inspection or regulatory expertise.

Organisation: Kingston University London

Your Name: Dr Zainab Saleh

Email Address: z.saleh@kingston.ac.uk

Approach: Develop and validate aerodynamic and propulsion-integration approaches for low-noise, ultra-efficient aircraft:

- Investigate fan and propulsion flow behaviour, including installation effects and propulsion–airframe interactions, to understand their impact on aerodynamic performance and noise generation
- Assess and optimise open-fan and ultra-high-bypass-ratio architectures using aerodynamic and propulsion analysis, working with aeroacoustics specialists to support low-noise design choices
- Use wind-tunnel testing, flow visualisation and experimental validation to verify numerical predictions and support design decisions
- Build on fan-related, turbomachinery and BLI research to support quieter, more efficient future aircraft

What we do:

HPT aerothermodynamics: lead a research group investigating high-pressure turbine flows using CFD, and developed experimental testing capability at a partner institution for validation

Future propulsion concepts: BLI research, including development of an experimental BLI model for wind-tunnel testing, aimed at reducing fuel burn in future aircraft

Fan-noise research: previous collaborative supervision/involvement in fan-noise reduction studies

Experimental technology development: designed and built a bespoke centrifugal-pump test rig for performance testing and optimisation

Funded collaborations: EPSRC, Rolls-Royce,



Call: HORIZON-CL5-2027-04-Two-Stage-D5-09
Noise reduction breakthroughs for new ultra-efficient aircraft

Are you planning on being a Coordinator or a Partner?

Partner / potential technical work-package lead: Contributing expertise in propulsion aerodynamics, CFD, experimental validation and propulsion–airframe integration.

What we can offer to a consortium:

Aerodynamic & propulsion analysis: CFD-led assessment and optimisation of fan/propulsion flows, installation effects and propulsion–airframe interaction

Experimental validation expertise: test-method development, wind-tunnel experimentation, flow visualisation and numerical–experimental correlation

Facilities & test infrastructure: access to wind-tunnel facilities, bespoke model/rig development, and potential access to complementary facilities through established academic collaborators

Technical leadership: ability to lead/co-lead technical work packages, coordinate research tasks and deliver multi-partner projects

What we would like to receive from other consortium members:

Aeroacoustics & noise specialists: prediction, measurement and mitigation of engine/airframe noise

Specialist acoustic testing facilities, datasets & validation capability for aeroacoustic model validation and benchmarking

Aircraft/cabin noise reduction: acoustic materials, integrated structures, vibration control & mitigation

Industry partners: realistic aircraft/engine use cases, design requirements and pathways to demonstration and exploitation

Organisation Name: Kudan Limited (UK)

Your Name: Hao Lu

Email Address: hao.lu@kudan.eu

Proposed approach to call topic:

We supply autonomous navigation for mobile robots — AMRs, legged platforms, inspection robots — indoors, outdoors and in between, where GNSS is unreliable and the site keeps changing.

- **Navigation as a reusable building block —** localisation, mapping, sensor fusion and path planning as an embeddable SDK with a ROS 2 wrapper, so integrators adopt a validated module instead of rebuilding a SLAM stack.
- **Digital twin closing the loop —** human/robot captured scans become a metrically accurate 3D reconstruction for asset registration and inspection, then a simulation environment for validating navigation.

What we do:

Kudan Limited (UK) is the group's Bristol engineering company and would be the beneficiary — core navigation development sits here. The parent, Kudan Inc., is listed on the Tokyo Stock Exchange (4425). We license navigation and 3D reconstruction as embeddable SDKs and build no robots of our own, so we compete with no partner.

- **Shipping in robots:** Kudan SLAM is the SLAM in Intel's Edge Insight for AMR and is integrated with NVIDIA Isaac Perceptor. With NexAIoT and NVIDIA we deployed AI-powered AMRs in operational factories in Taiwan.
- **Navigation without GNSS:** NASA worked with our LiDAR SLAM on its KNaCK mapping backpack and a lunar rover navigation solution.
- **Inspection and asset twins:** PRISM e-Road was exhibited with NEXCO East Japan Engineering at Highway Techno Fair 2025; PRISM is also applied with MacroInsight (Taiwan) to a shipyard digital-twin command centre.
- **Publicly funded R&D:** Kudan Inc. is a NEDO-funded participant in Japan's Construction RX robotics software platform; Kudan Germany was a partner in EUSPA's ERASMO with Renault, Idneo, GMV, Septentrio, ZN and CNRS-UTC.







Topic number & name:

Primary: HORIZON-CL4-2027-04-DIGITAL-EMERGING-05 — Apply AI: AI-Driven Robotics for Industry (opens 17 Nov 2026)
Also: CL5-2027-06-D6-11 (resilient positioning, navigation and timing); CL5-2027-05-D4-05 (on-site construction robotics)

Are you planning on being a Coordinator or a Partner?

Partner, and happy to lead the navigation and spatial-data work package.

What we can offer to a consortium:

- Navigation SDK in C++ with a ROS 2 wrapper: visual and LiDAR SLAM, fusion with IMU, wheel odometry and GNSS, perception and path planning, compact maps with merge, update and streaming, and relocalisation with/without initial pose hint — real time on embedded compute.
- Integration that is proven, not theoretical: our SLAM ships inside third-party products including the NexMOV-2 AMR, a Vecow turn-key AMR development kit and a Squad Robotics floor-cleaning robot.
- Platform-neutral hardware sourcing: we build no robots, so we can specify and source suitable platforms, sensors and compute through our supplier network — useful for standing up a demonstrator quickly.
- Reliable operation where GNSS is unreliable or absent: indoors, underground, in tunnels, across indoor-outdoor transitions, and outdoors under changing light and seasons.
- PRISM 3D reconstruction from robot or handheld capture, for asset management, inspection and navigation simulation. Benchmarks available under NDA.
- EU-based support presence: our sister company Kudan Germany GmbH (Munich) has field application engineers who can provide on-site integration support at pilot sites, and can join as an EU member-state beneficiary for support and market uptake. Core development stays in Bristol.

What we would like to receive from other consortium members:

- A coordinator or system integrator with robot platforms and industrial or infrastructure end users.
- Robot OEMs — wheeled or legged — that need a navigation stack rather than building one.
- Asset owners and operators with real inspection sites: road, rail, utilities, plant or facilities.
- Partners in AI defect detection, safety and standards for autonomous operation, and human-robot interaction.
- Introductions to consortia forming through ADRA, euRobotics, Made in Europe or Built4People.

UK GREEN ENERGY

Newcastle University	Name: VSSL Prasad Talluri	Email: nvpt1@newcastle.ac.uk

Proposed approach to call topic:

Scale PFAS-free, water-processable AEMs for alkaline electrolysis.

We integrate membranes with earth-abundant catalyst-coated porous nickel electrodes and validate conductivity, gas crossover, cell efficiency and durability from single cells to short stacks—enabling safer, lower-cost green hydrogen.

What we do:

- PFAS-free PVA-based AEM formulation and optimisation
- IEC, swelling, conductivity, chemical stability and gas crossover
- CuO and Ni–Fe–Co catalyst-coated porous nickel electrodes
- AEM electrolysis: polarisation, EIS, efficiency and gas-production testing
- Long-duration chrono, pressure/flow, permeability and short-stack validation

Topic number & name:

Cluster 5 – Clean-hydrogen production topic

Coordinator or Partner?

Partner; open to leading the membrane, electrode and validation work package.

What we can offer to a consortium:

- PFAS-free AEM chemistry and MEA integration
- Single-cell and short-stack electrolysis
- Polarisation, EIS, chrono and gas/pressure testing
- Transport analysis and UK–Singapore scale-up with HYDGEN

What we seek from consortium partners:

- Roll-to-roll membrane and electrode manufacturing
- Stack, sealing and balance-of-plant engineering
- Durability, gas-purity and safety validation
- Demonstration sites and industrial end users
- TEA/LCA, certification and market deployment

Ulster University | **Brian Durnin** | **Brian.Durnin@ulster.ac.uk**

Proposed approach to call topic:

Ulster University will contribute to the development, validation and deployment of AI-enabled manufacturing technologies that accelerate the digital and green transformation of European industry. Our contribution is particularly relevant to activities involving:

- Smart manufacturing and Industry 4.0/5.0 solutions
- AI and machine learning for process optimisation
- Advanced sensing and industrial IoT integration
- Digital twins and data-driven decision-making
- Sustainable and resource-efficient manufacturing
- Pilot demonstration and validation in industrial environments
- Technology adoption by SMEs and manufacturing supply chains

What we do:

We are a research-intensive university with expertise in:

- Advanced Manufacturing
- Industrial AI and Data Analytics
- Smart Sensing and IoT
- Nanotechnology and Advanced Materials
- Digitalisation of Manufacturing Processes
- Industry-led Innovation and Technology Adoption

As a consortium member of the £42.4 million Smart Nano NI programme funded by the UK Research and Innovation (UKRI) Strength in Places Fund the Ulster University has a proven track record of working closely with manufacturing companies to accelerate digital transformation and industrial competitiveness.

Topic number & name: Cluster 4: Digital, Industry & Space

The University is both competent and comfortable in either Coordinator or Partner roles

What we can offer to a consortium:

- Industrial pilot and demonstration environments
- Expertise in AI-enabled manufacturing and process optimisation
- Smart sensor integration and industrial data analytics
- Access to manufacturing SMEs and industrial networks
- Technology validation and adoption pathways
- Proven experience delivering collaborative R&D projects with industry partners

What we would like to receive from other consortium members:

- Industrial end users for demonstration activities
- Technology developers with complementary digital capabilities
- Research partners in AI, robotics, digital twins and cybersecurity
- Organisations experienced in exploitation and commercialisation
- European partners seeking UK expertise in manufacturing innovation

Organisation Name: ATIM Cluster

Your Name: Caitríona Mordan

Email Address: cmordan@atim.ie

Proposed approach to call topic:

What is your understanding of the part of the problem you can solve? What part of the Scope do you want to address?

We address the challenge of helping manufacturing SMEs adopt and scale innovation. While advanced technologies, sustainability solutions and research capabilities exist, many companies lack the skills, resources and networks to implement them effectively. We aim to support industrial uptake of digitalisation, AI, automation and sustainable manufacturing practices through industry collaboration, workforce development, peer learning and innovation networks. Our role is to bridge the gap between research, technology providers and manufacturers to deliver practical, measurable impact.

What we do:

What previous, relevant, work or track record can you bring to the team?

ATIM has a strong track record in delivering EU-funded projects and developing international partnerships that strengthen regional innovation ecosystems. We have led and supported recognised programmes that connect industry, academia, government and communities through a quadruple helix approach, driving collaboration, skills development and technology adoption. Our experience includes ecosystem-building initiatives such as PolymerConnect, ReSHAPE, ManufactureXCEL and Dreambig, alongside active participation in pan- European networks and cross-border projects that support SME competitiveness, sustainability and workforce transformation.

Topic number & name:

Horizon- CL4-DIGITAL – AI and Data for Industry, HORIZON-CL4-INDUSTRY Manufacturing Technologies

Are you planning on being a Coordinator or a Partner?

Partner

What we can offer to a consortium:

What skills, capabilities, facilities does your organisation have that will be vital for this project?

ATIM brings expertise in stakeholder engagement, needs-led investigation, and project communication and dissemination. We connect industry, academia, government and communities to identify challenges, gather insights and support collaboration. We have proven experience in engaging stakeholders, validating industry needs, and maximising project visibility, uptake and impact.

What we would like to receive from other consortium members:

ATIM would like to collaborate with partners that bring specialist knowledge, innovative technologies and access to test-bed and demonstration facilities. We are particularly interested in working with organisations that can support the development, testing and validation of solutions, while connecting us to SME and business networks to facilitate knowledge sharing, peer learning and wider adoption.

Brunel University of London | **Dr Federico Colecchia** | **Federico.Colecchia@brunel.ac.uk**

Proposed approach to call topic:

Building on genuinely-transdisciplinary competencies across engineering, computer science, human-centred and systems design, business and the social sciences, our team is well positioned to lead a range of WPs, from those focussing on the development and deployment of digital technologies to those requiring SSH expertise – e.g., sociology of science and technology, as well as those focussing on regulation, ethics, stakeholder mapping/engagement and impact assessment.

What we do:

Horizon Europe/UKRI projects. Geothermal extraction and upgrade with flexible usage for industrial heat applications (€3M). Measuring and Advancing Circular Business Models for a Fair and Sustainable Transition (€6M). Generative Foundation Model for Multi-Scale Materials (€6M). Eco-Innovative Composite Marine Propellers (€3M). Resilient Investment for Sustainable Environments (€10M). Sustainable High Entropy Alloys from Secondary Metals (€0.7M). Doctoral Network on Embedded AI Systems and Applications (€4M). Electro-thermal energy converter using novel combined thermoacoustic and electrocaloric system (€2M). Multi-sensor condition monitoring for predictive maintenance of rail infrastructure using optical fibre sensors (£0.9M). Artificial intelligence based digital prescriptive maintenance of ships (£1.5M). Smart monitoring and inspection of bridges infrastructure (£1.1M). Modernization of Doctoral Education in Science and Improvement of Teaching Methodologies (€1M). Supply chain network optimization. Internet of Things soil monitoring system. AI Adoption and Governance.

Topic number & name:

All topics under Cluster 4 and Cluster 5

Are you planning on being a Coordinator or a Partner?

Partner; WP Lead

What we can offer to a consortium:

Our capabilities and facilities are dedicated to: ML pipeline testing, human-AI interaction, mobile/aerial/embedded sensor and robotics technologies (AI Living Lab); media production, immersive labs (VR/AR/XR, Mocap, Green Screen), audio post-production, VFX, Wacom Cintiq interactive displays; digital fabrication labs; electronics and makerspace labs (e.g., IoT); hardware prototyping, signal processing, structural integrity testing, advanced computational hardware (ML, Digital Twins, big data), sensor/transducer development, ultrasonics field testing, waveform signal processing (with TWI Ltd, Granta Park, Cambridge).

What we would like to receive from other consortium members:

We are seeking consortia in need of WP leads around: human-centred and systems design; development, validation and deployment of digital technologies within operational settings; stakeholder mapping and engagement; societal and economic readiness evaluation; impact assessment. Our priority is to join a consortium including universities, research organisations, industry partners and other research beneficiaries, thereby achieving a balance across EU regions and cultural contexts as relevant to the call. We can support consortium building and consolidation relying on our broad collaborative network across academia, the private sector (e.g., via Design Factory), clinical and community organisations.

Organisation: University of Leeds

Your Name: Jyoti Mishra

Email Address: j.l.mishra@leeds.ac.uk

Topic number & name: CL4-2027-01-

Proposed approach to call topic:

MAT-PROD-03 — Factory processes and automation for de- and re-manufacturing.

Address the gap between de/re manufacturing technology development and industrial adoption. I can contribute to circular business models, value-chain strategies, digital adoption in organisations. I can facilitate business cases and wider scaling of system adoptions.

Are you planning on being a Coordinator or a Partner?

Partner

What we do:

I bring experience in circular economy, digital transformation and sustainable supply chains, including digital transformation projects with businesses and manufacturing companies. My work on AI, IoT, resource efficiency and circular business models provides relevant expertise for enabling and scaling de- and re-manufacturing systems.

What we can offer to a consortium:

In addition to the business perspective, due to our facilities and expertise in robotics, automated manufacturing, 3D printing, testing and digital modelling, we can support the project from developing and testing technologies to integrating them into supply chains, developing circular business models, and supporting industrial adoption and scaling.

What we would like to receive from other consortium members:

Industrial and research partners - particularly partners who can complement our expertise in CEBM, Supply Chains, and industrial adoption. Research and industrial partners who have expertise in technologies for CE, AI, digital twins etc.

GoSmarter
By NightingaleHQ

Organisation Name:	Your Name:	Email Address:
Nightingale HQ (GoSmarter)	Ruth Kearney	ruth@nightingalehq.ai

Proposed Approach to Call Topic

Nightingale HQ is a digital technology partner bringing GoSmarter.ai — our AI platform for material traceability, certification and production planning in metals manufacturing — to Horizon Europe's digital calls, helping partners cut waste, scrap and CO_2 impact.

Relevant Research Areas

Our capabilities add strong value to clean steel and advanced materials calls, including:

- **Steel production optimisation** – AI-driven techniques to minimise waste, scrap, offcuts and emissions.
- **Compliance and material traceability** – digital traceability, certification and compliance with ISO, BSI and ASTM standards.
- **AI-driven production and quality control** – optimising production, material use and quality control.
- **Supply chain optimisation** – improving visibility, traceability and efficiency from steel mill to fabricator.
- **Industrial deployment** – proven pilot-to-market record in live industrial settings.
- **AI and manufacturing digitalisation expertise** – deep capability in data science, AI and digitalisation, plus multi-partner R&D experience (EIT Manufacturing, VInnovate).
- **Industrial demonstration** – established supply-chain access for real-world testing and validation.

This aligns well with HORIZON-CL4-2027-01-MAT-PROD-06, which seeks data-driven design, digital twins, FAIR data and circularity solutions from lab to market.

Nightingale HQ pairs new digital innovation with proven, field-tested AI technology for demonstration, validation and deployment.

Nightingale HQ & GoSmarter.ai

Nightingale HQ develops GoSmarter.ai, an AI platform for compliance, material traceability and production optimisation in metals manufacturing.

- **Secured a £1.3m EIT Manufacturing grant** for Greener Steel Production, with KUKA Robotics, Midland Steel, OCSC and VTT.
- **AI compliance & traceability:** Automates material certificate extraction, validation and digital audit trails.
- **Production optimisation:** AI-powered cutting plans have cut steel scrap by up to 50%, reducing waste and carbon impact.
- **Inventory management:** Tracks materials from goods-in to despatch with certificate-linked traceability.
- Working with UK and Irish steel manufacturers to develop and validate new industrial AI solutions.
- Winner of the British Stainless Steel Association Sustainability Award and Best GreenTech Application, Wales Technology Awards 2025.

Topic Number & Name

- Apply AI Challenge-Driven Innovation Booster (HORIZON-CL4-2027-04-DIGITAL-EMERGING-04)
- Fast Track to Research and Innovation for industrial technologies (HORIZON-CL4-2027-01-MAT-PROD-61)
- HORIZON-CL4-2027-01-MAT-PROD-06: Circular innovative advanced materials — facilitating the transition from design to markets (RIA)
- Factory processes and automation for de- and re-manufacturing (HORIZON-CL4-2027-01-MAT-PROD-03)
- New approaches for Human/AI collaboration for the workforce of the future (HORIZON-CL4-2027-02-DIGITAL-EMERGING-52)
- HORIZON-CL4-2027-01-MAT-PROD-49: 'Proof of market' to improve valorisation and commercialisation of Horizon results

Coordinator or Partner?

Lead (Coordinator) on the Fast Track topic (MAT-PROD-61) and AI Innovation Booster.

Partner on the remaining topics (MAT-PROD-06, MAT-PROD-03, DIGITAL-EMERGING-52, MAT-PROD-49) – as the AI/digital traceability and business-adoption partner.

What We Can Offer a Consortium

- **Proven, field-tested AI platform** (GoSmarter.ai) for demonstration and validation.
- **Strong funding track record** across Innovate UK, Welsh Government and EIT Manufacturing programmes.
- **Experienced consortium partner,** leading Work Packages with manufacturers, universities and RTOs UK/Europe-wide.
- **Research expertise** in steel optimisation, emissions reduction, traceability, quality control and supply chain.
- **Pilot-to-deployment experience,** taking solutions from R&D to live industrial environments.
- **Strong industry network** across steel and metals manufacturers for real-world testing.

Our capabilities align strongly with Clean Steel and advanced manufacturing priorities.

What We'd Like From Consortium Members

- **Metals industry partners** – steel mills, fabricators and stockholders with production, quality, traceability or supply chain challenges.
- **Research and academic partners** focused on steel decarbonisation, optimisation, materials science, standards and compliance.
- **Industrial pilot sites** to demonstrate and validate new materials alongside our traceability and efficiency tools.
- **Experienced Horizon Europe coordinators or RTOs** leading relevant RIA proposals, with Nightingale HQ as AI/traceability partner.

Organisation Name: Hydroluminum

Your Name: Ryan Bissett

Email Address: rb@hydroluminum.com

Proposed approach to call topic:

Hydroluminum can support raw-material processing projects as an enabling technology and process-integration partner. Our modular system converts secondary aluminium into on-site hydrogen, high-grade heat and aluminium hydroxide, offering a potential low-carbon energy input for energy-intensive mineral processing and refining operations. We are seeking EU pilot projects where our technology could reduce fossil-energy use, improve process efficiency and contribute to circular material recovery. Bauxite residue is one potential application, but we are also interested in other low-grade ores and extractive-waste streams where hydrogen, thermal energy or our continuous alkaline-processing expertise could add value.

What we do:

Hydroluminum develops patented, modular systems that convert secondary aluminium and water into on-demand hydrogen, high-grade heat and aluminium hydroxide. Through an Innovate UK Smart Grant, we have progressed from proof of concept to pilot-scale system development and commissioning. Our experience includes continuous-reactor scale-up, feedstock variability, filtration and separation, hydrogen purification, heat recovery, automation and safety engineering. Prototype hydrogen has been independently tested at approximately 99.9% purity, and we are developing industrial deployment opportunities with ports, energy providers, u[illegible]r







Topic number & name: HORIZON-CL4-2027-01-MAT-PROD-16 — Technologies for innovative processing of raw materials

Are you planning on being a Coordinator or a Partner?

Partner

What we can offer to a consortium:

Hydroluminum can contribute a proprietary modular platform for producing on-site hydrogen, high-grade heat and aluminium hydroxide from secondary aluminium. We offer pilot-scale facilities, process data and practical expertise in continuous alkaline processing, reactor scale-up, filtration, separation, automation, heat integration and hydrogen safety. We can support technical integration and demonstration work packages, while contributing industrial use cases, business-model development, techno-economic assessment and commercial exploitation. Our UK and Spanish networks can also support partner engagement, demonstration opportunities and routes to market.

What we would like to receive from other consortium members:

We are seeking an experienced Horizon Europe coordinator and EU industrial partners developing pilot-scale mineral-processing or refining facilities. In particular, we would like to connect with organisations that require on-site hydrogen or high-grade heat to improve process efficiency and reduce emissions. Complementary partners could provide feedstocks and demonstration sites, mineral-processing and metallurgical expertise, systems integration, environmental and lifecycle assessment, digital process control, recovered-material validation and routes to market.

Organisation Name: NCLA, University of Galway

Your Name: Gerard O'Connor

Email Address: Gerard.OConnor@universityofgalway.ie

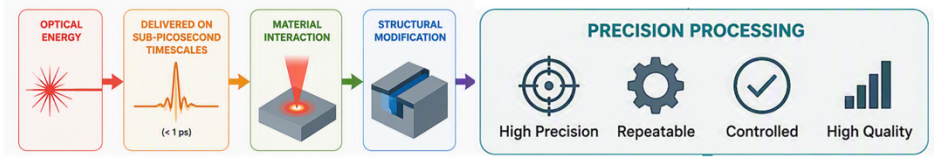
Proposed approach to call topic:

*We propose to develop scalable, laser-enabled, manufacturing processes required to address **the problem** of the replacement of critical / strategic raw materials across medical device, energy, and electronic sectors.*

*Our process expertise **fits** within an integrated innovation cycle focused on the replacement of such materials in future important product families.*

*Regarding **scope**, we are suited to develop processes that will demonstrate novel, sustainable, alternatives to the current use of elements (e.g. Li, In, Pt, …etc) using innovative technology validated for an industrial setting.*

What we do



At a fundamental level, we understand how optical energy, delivered to materials on sub-picosecond timescales, can be applied to modify their structures on micron and nanometre spatial scales. We primarily look for opportunities to use non-thermal interactions in precision processes. E.g.

1. Precision photomechanical scribing or cutting of thin flexible ceramics for use as solid state separators in new batteries with enhanced lifetimes.

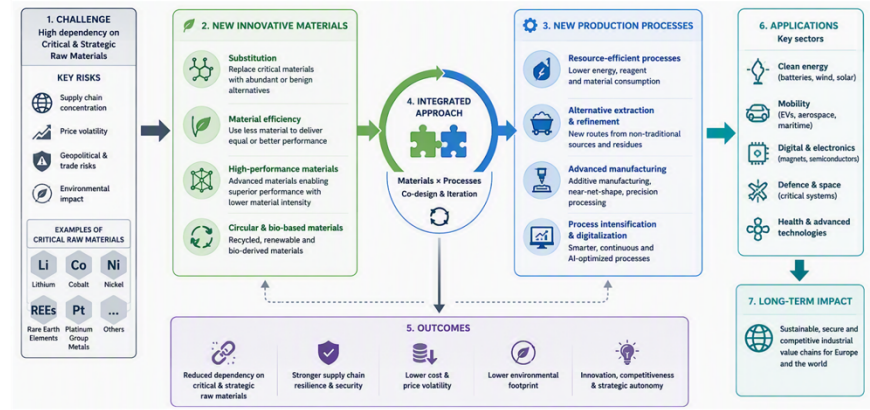
2. Selective enhancement of electrical conductivity, in thin and ultra-thin films deposited at low temperatures on heat sensitive substrates, by solid state pulsed laser annealing. Applications across multiple sectors.

3. Replacement of shape forming processes dependent on critical raw materials with alternatives structured by laser & other processes.

4. High speed, scalable, direct write, multiphoton polymerisation for creation of thin flexible structures with micron scales over large areas.

Topic number & name: HORIZON-CL4-2027-01-MAT-PROD-22

Innovative advanced materials and new production processes – Reducing dependencies on Critical and Strategic Raw Materials



Are you planning on being a Coordinator or a Partner?

Potentially yes, but it depends on the key focus of the project.

What we can offer to a consortium:

*We offer experienced material scientists and manufacturing engineers who are **skilled** in demonstrating advanced laser enabled manufacturing unconstrained by material type. Our **capabilities** benefit from a state-of-the-art laser systems, with advanced beam displacement, precision motion, real time and in-line metrology & characterisation. Our advanced makerspace provides additional material processing technologies preparation & assembly. Preliminary machine learning & AI models are helping us establish intelligent manufacturing processes.*

What we would like to receive from other consortium members:

*We are seeking groundbreaking challenges from industrial leaders dispersed across **value chains** centred on either energy, medical device, and electronic sectors. We are seeking experts in practices of **safe and sustainable by design (SSbD).** We are seeking **concrete use cases** centred on the replacement of specific critical raw materials and lowering the dependence on specific strategic raw materials. We are seeking partners capable of developing a **business case and exploitation strategy** centred on the establishment of new manufacturing technologies.*