

# The Made in Europe Partnership

draft Work Programme 2023-2024





## MIE General objectives

- Ensuring European leadership & manufacturing excellence; generating new products and markets
- Achieving circular and climate-neutral manufacturing
- Mastering the digital transformation of manufacturing industry
- Creating attractive added-value manufacturing jobs

## MIE Specific Objectives

- Excellent, responsive and smart factories & supply chains
- Circular products & Climate-neutral manufacturing
- New integrated business, product-service and production approaches; new use models
- Human-centred and human-driven manufacturing innovation

### MiE Specific Objectives

- **Excellent, responsive and smart factories & supply chains**
- **Circular products & Climate-neutral manufacturing**
- **New integrated business, product-service and production approaches; new use models**
- **Human-centered and human-driven manufacturing innovation**

### Research & Innovation Objectives

1. Data highways and data spaces in support of smart factories in dynamic value networks
  2. Scalable, reconfigurable and flexible first-time right manufacturing
  3. Zero-defect and zero-downtime high precision manufacturing, including predictive quality and non-destructive inspection methods
  4. Artificial intelligence for productive, excellent, robust and agile manufacturing chains - Predictive manufacturing capabilities & logistics of the future
  5. Advanced manufacturing processes for smart and complex products
  6. Manufacturing for miniaturisation and functional integration
- 
1. Ultra-efficient, low energy and carbon-neutral manufacturing
  2. De-manufacturing, re-manufacturing and recycling technologies for circular economy
  3. Manufacturing with new and substitute materials
  4. Virtual end-to-end life-cycle engineering and manufacturing from product to production lines, factories, and networks
  5. Digital platforms and data management for circular product and production-systems life-cycles
- 
1. Collaborative product-service engineering for customer driven manufacturing value networks
  2. Manufacturing processes and approaches near to customers or consumers
  3. Transparency, trust and data & IP integrity, open systems and cyber security along the product and manufacturing life-cycle
- 
1. Digital platforms and engineering tools supporting creativity and productivity of manufacturing development
  2. Improving human device interaction using augmented and virtual reality and digital twins.
  3. Human & technology complementarity and excellence in manufacturing
  4. Manufacturing Innovation and change management
  5. Technology validation and migration paths towards industrial deployment of advanced

# MAIN FIGURES

(Applicable only to draft Made In Europe calls)

2023	2024	2024 Two Stages
4 Call Topics	2 Call Topics	1 Call Topic
Deadline: 20 <sup>th</sup> April 2023	Deadline: 7 <sup>th</sup> February 2024	First deadline: 7 <sup>th</sup> February 2024 Second deadline: 24 <sup>th</sup> September 2024
Total budget: 102 million	Total budget: 71 million	Total budget: 25 million
Total number of projects to be funded: 20	Total number of projects to be funded: 11	Total number of projects to be funded: 5

+ One additional call topic not under Made in Europe, but co-shaped by EFFRA – HORIZON-CL4-2023-HUMAN-01-53: Localised and Urban Manufacturing, supporting creativity and the New European Bauhaus – Budget: 10 Million – Deadline 28<sup>th</sup> March 2023

# HORIZON-CL4-2023-TWIN-TRANSITION-01-02

## High-precision OR complex product manufacturing – potentially including the use of photonics

Type of Action	Innovation Actions
Expected EU contribution per project	Between 5 Million and 6 Million per project
Indicative number of projects to be funded	8
Funding rate	60% of total eligible costs (except for non-profit entities, for which it is 100%)
TRL	Activities expected to start at TRL 5 and achieve TRL 7 by end of project
Proposal (Possible) Approaches	<ul style="list-style-type: none"><li>• Advancement in <b>smart production technologies</b> (e.g., additive manufacturing, multi-process manufacturing, injection manufacturing, functional printing, intelligent and autonomous handling, and shaping, joining, coating, and assembly technologies) for the manufacture of complex products</li></ul> OR <ul style="list-style-type: none"><li>• Advancement in <b>high-precision manufacturing technologies</b> (e.g., mechanical machining, super-polishing, surface texturing, thin film coating, etching and electrochemical machining, handling and assembly processes, etc.) to achieve new product functionalities</li></ul> OR <ul style="list-style-type: none"><li>• <b>Highly-customized laser-based production</b> including new and advanced methods (e.g., schemes of adapting laser beams and processes to provide highly precise distribution of photons)</li></ul> <p><i>Possible to combine more than one approach, but added value must be demonstrated and primary approach must be indicated.</i></p>

# HORIZON-CL4-2023-TWIN-TRANSITION-01-04

## Factory-level and value chain approaches for remanufacturing

Innovation Actions	
Type of Action	Innovation Actions
Expected EU contribution per project	Between 5 Million and 7 Million
Indicative number of projects to be funded	5
TRL	Activities expected to start at TRL 5 and achieve TRL 7 by end of project
Proposal Approach	<ul style="list-style-type: none"><li>• Develop cutting-edge <b>remanufacturing approaches (design, technologies, business cases)</b> and their <b>integration into value chains</b></li><li>• Demonstrate <b>remanufacturing processes that retain functionality of components</b> in at least three user cases</li><li>• Introduce <b>traceability</b> aspects, <b>quality control</b> and a <b>regulatory validation</b></li><li>• <b>Repurposing of components</b> into a variety of industrial sectors</li><li>• Introduce <b>flexible production</b> concepts, <b>advanced machinery, smart mechatronics, interactive and collaborative machines, robots</b> and <b>systems enabling efficient factory operation and reconfiguration</b></li><li>• Consider operational and economic viability while also the environmental impact of the proposed approach.</li></ul>

# HORIZON-CL4-2023-TWIN-TRANSITION-01-07:

## Achieving resiliency in value networks through modelling and Manufacturing as a Service

Type of Action	
Type of Action	Research Innovation Actions
Expected EU contribution per project	Between 4 Million and 6 Million
Indicative number of projects to be funded	6
TRL	Activities expected to start at TRL 3 and achieve TRL 6 by end of project
Proposal Approach	<ul style="list-style-type: none"><li>• Develop reliable <b>models, simulators, digital twins, decision making and planning technologies</b> for specific value networks, providing timely scoreboard views and enabling a better understanding of the impact of unforeseen events on manufacturing and industrial production.</li><li>• Create solutions/technologies <b>to swiftly adapt logistics and production to varying external conditions</b>, improving the resilience of the industrial systems and value chains, by enabling trusted <b>cross-organisation real-time data integration and exchange based on standards</b>, and supporting the <b>partial automation</b> of the processes from the confirmation of the order up to the delivery of the product.</li></ul>



# HORIZON-CL4-2023-TWIN-TRANSITION-01-08: Foresight and technology transfer for Manufacturing As A Service

Type of Action	Coordination and Support Actions
Expected EU contribution per project	1 Million (only 1 project to be selected)
TRL	N/A
Proposal Approach	<ul style="list-style-type: none"><li>• Analysis of the <b>best practices to advance circularity, decarbonisation, and sustainability</b> of industrial production in the context of “<b>Manufacturing as a Service</b>” approach</li><li>• Analysis of foreseeable <b>developments and trends</b>, including the potential <b>advantages and disadvantages</b>, regarding distributed <b>Manufacturing as a Service vs. centralised manufacturing</b></li><li>• Recommendations for an <b>EU manufacturing standardisation strategy</b> focusing specifically on the role of <b>data</b></li><li>• Roadmapping for EU industry to transform and anticipate these changes</li><li>• Support the <b>transfer of information and technologies between Horizon Europe projects and other relevant initiatives</b>, e.g., the Manufacturing Data Spaces and the network of European Digital Innovation Hubs.</li></ul>



# HORIZON-CL4-2024-TWIN-TRANSITION-01-03: Manufacturing as a Service: Technologies for customised, flexible, and decentralised production on demand

Type of Action	Research and Innovation Actions
Expected EU contribution per project	Between 5 million and 7 million
Indicative number of projects to be funded	5
TRL	Activities expected to start at TRL 4 and achieve TRL 6 by end of project
Project Approach	<ul style="list-style-type: none"><li>• Easy <b>access to flexible and decentralised manufacturing and remanufacturing capacities, especially for SMEs</b>, reducing the required investments for manufacturers while enabling them to use more sustainable and circular facilities</li><li>• <b>Availability of automation, emerging and digital technologies for the servitisation of manufacturing assets</b> assuring optimal performance, fast reconfiguration and upgrade with minimal downtime, remote monitoring and predictive maintenance via trusted, secure and interoperable cross-company data exchange.</li><li>• Improved value chain integration through the availability of <b>technologies and models for securely exchanging and leveraging life-cycle data of servitised manufacturing assets</b>, also in view of the reuse or recycle of assets, components, and materials.</li></ul>

# HORIZON-CL4-2024-TWIN-TRANSITION-01-05:

## Technologies/solutions to support circularity for manufacturing

Type of Action	Research and Innovation Actions
Expected EU contribution per project	Between 4 Million and 6 Million
Indicative number of projects to be funded	6
TRL	Activities expected to start at TRL 4 and achieve TRL 6 by end of project
Proposal Approaches	<ul style="list-style-type: none"> <li>• Develop new approaches of <b>Artificial Intelligence to forecast the environmental impact</b>, considering also the quantity and state of products after their use</li> <li>• Develop <b>innovative simulation and modelling software</b> or build on existing solutions fostering new manufacturing capabilities with a view to a <b>more efficient and more sustainable product design</b></li> <li>• Develop <b>digital platforms/ tools</b> built on existing <b>interoperability architectures</b> (such as the Asset Administration Shell), that will enable the manufacturers to implement the <b>Digital Product Passport initiative</b>. The proposals should focus on gathering relevant data, material and product tracking and tracing, certification protocols for secure re-used materials and components among sectors</li> <li>• Enhance the human involvement in the development of the circularity aspects and new technologies</li> </ul> <p><i>Proposals to cover all four aspects.</i></p>

# HORIZON-CL4-2024-TWIN-TRANSITION-01-01 (Two stages): Bio-intelligent manufacturing industries

Type of Action	Research and Innovation Actions
Expected EU contribution per project	Between 4 Million and 5 Million
Indicative number of projects to be funded	5
TRL	Activities expected to start at TRL 4 and achieve TRL 6 by end of project
Proposal Approaches	<ul style="list-style-type: none"><li>• Demonstrate the development of digital and green technologies (either advanced manufacturing techniques like additive manufacturing, extrusion, moulding, etc., or bio-intelligent production technologies, or both) that facilitate the <b>upscaled manufacturing of bio-based or bio-intelligent products</b> in one manufacturing value chain</li><li>• Develop sustainable <b>business models for production and recycling</b> of products</li></ul>

# HORIZON-CL4-2023-HUMAN-01-53:

## Localised and Urban Manufacturing, supporting creativity and the New European Bauhaus

(Not Made in Europe, but co-shaped by EFFRA)

Type of Action	Research and Innovation Actions
Expected EU contribution per project	Between 1.5 Million and 2.5 Million
Indicative number of projects to be funded	4
TRL	Activities expected to start at TRL 5 and achieve TRL 6 by end of project
Proposal Approaches	<ul style="list-style-type: none"><li>• Adaptation (and where relevant development) of green and digital technologies that allow <b>production in local and urban contexts</b> with lower environmental impacts, noise, waste, energy and space consumption, and an increased quality of experience.</li><li>• Consideration of the potential of <b>circular economy</b> approaches, by <b>closing the material and energy cycles in cities</b> and <b>transforming waste streams into productive resources</b>.</li><li>• Activities for developing <b>skills and creativity; participatory design strategies; inclusiveness</b>, possibly including unemployed workforce and marginalised groups; and engaging citizens in the definition of challenges and solutions.</li><li>• <b>Artistic experimentation with novel uses of technologies</b> that help push for green solutions in the spirit of <b>S+T+ARTS (starts.eu)</b> and <b>New European Bauhaus</b>, also taking into consideration the different dimensions of inclusion and aesthetics and quality of experience.</li></ul>

# THANK YOU

Contact:  
[info@effra.eu](mailto:info@effra.eu)

Membership requests:  
[membership@effra.eu](mailto:membership@effra.eu)

 @EFFRA\_Live

 EFFRA.EU

