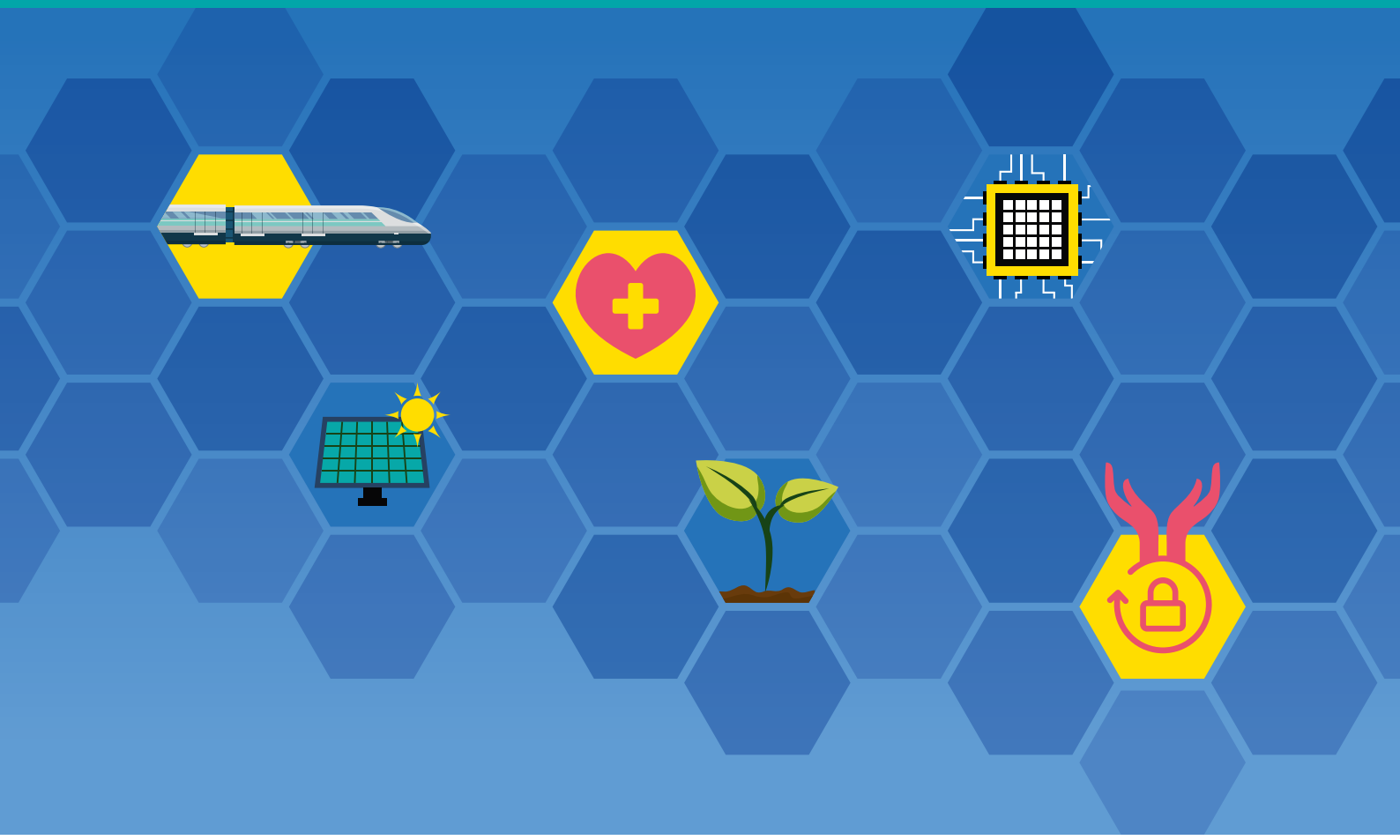
European Commission

Open Innovation Test Beds

Improving access to knowledge to accelerate European innovation



The development of innovative advanced materials is essential to meet Europe's long-term economic, technological and environmental goals. Novel composite materials are stronger, lighter and more sustainable, and have functionalities such as flameproofing, biosafety and embedded electronics. They are in demand across the medical, pharmaceutical, energy and construction industries, and beyond.

With the speed and complexity of innovation increasing, small and medium-sized enterprises (SMEs) and industrial start-ups often cannot afford to invest in their own testing and validation infrastructures to bring these products to the market. That is why the EU has invested more than EUR 319 million in Open Innovation Test Beds, providing access to the facilities and services required.

This updated Results Pack on Open Innovation Test Beds showcases 10 EU-funded projects that are helping to bring innovations to the market faster.

To access the full pack please go to: cordis.europa.eu/article/id/436434

Research and Innovation

SECOND EDITION

FormPlanet

(Sheet metal forming testing hub), coordinated by the Eurecat Technology Centre in Spain

To make aircraft, beer cans or a surgical table, sheet metal is needed. The EU-funded FormPlanet project offers an Open Innovation Test Bed for advanced sheet metal characterisation, helping to cut waste and increase productivity. The project provides solutions to common problems in industrial sheet metal forming, including edge cracking, hydrogen embrittlement, formability-related cracks and non-expected part performance, reducing production losses.

→ formplanet.eu

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i-TRIBOMAT

(Intelligent Open Test Bed for Materials Tribological Characterisation Services), coordinated by AC2T research in Austria

Tribology, the science of how moving surfaces interact, is essential for the design of bearings, gears and clutches. This new test bed offers a range of tribo-analytic services to reduce development time and costs. i-TRIBOMAT is unique in that it is the world's first user-driven Open Innovation Test Bed dedicated solely to validating and upscaling new materials, featuring more than 100 tribometers and characterisation equipment.

→ i-tribomat.eu

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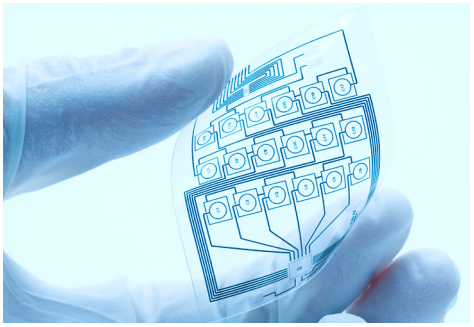
LEE-BED

(Innovation test bed for development and production of nanomaterials for lightweight embedded electronics), coordinated by the Danish Technological Institute in Denmark

The digitalisation of the manufacturing industry, known as Industry 4.0, is held back in Europe by the high cost and limited capacity of technologies such as 3D printing and laser processing. To meet the challenges of this digitalisation, the EU-supported LEE-BED project has developed an Open Innovation Test Bed designed as a one-stop shop catering to the whole supply chain.

→ lee-bed.eu



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LightCoce

(Building an Ecosystem for the upscaling of lightweight multi-functional concrete and ceramic materials and structures), coordinated by the National Technical University of Athens in Greece

The construction industry increasingly relies on novel materials that offer improved functionality in addition to economic and environmental savings. LightCoce created an Open Innovation Test Bed with a single entry point that provides tailor-made services for the development and upscaling of novel lightweight and multifunctional concrete, as well as conventional and advanced ceramics.

→ lightcoce-oitb.eu

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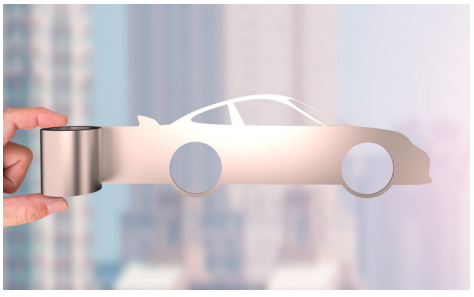
LightMe

(An Open Innovation Ecosystem for upscaling production processes of lightweight metal alloys composites), coordinated by the Polytechnic University of Milan in Italy

Lightweight metal alloy composites are increasingly critical for components in the automotive, aerospace and manufacturing industries. These materials have high strength-to-weight ratios and low density, meaning vehicles are lighter, consume less fuel and therefore produce lower levels of harmful emissions. The EU-funded LightMe project developed an open innovation ecosystem designed to upscale industrial processes for lightweight metals, helping bring them to the market.

→ lightme-ecosystem.eu



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OASIS

(Open Access Single entry point for scale-up of Innovative Smart lightweight composite materials and components), coordinated by the TECNALIA Research and Innovation Foundation in Spain

The EU-funded OASIS project sought to provide SMEs with access to cutting-edge nanotechnology facilities, to encourage innovation and bring nanotechnology-based lightweight composite materials to market. Existing manufacturing facilities were upgraded by increasing production rates and implementing higher quality control. By facilitating access to cutting-edge production lines, the OASIS project has led to the development of a number of promising innovations.

→ project-oasis.eu

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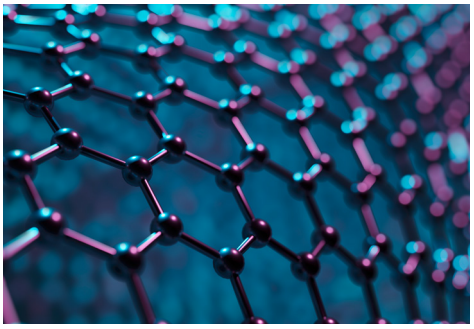
SAFE-N-MEDTECH

(Safety testing in the life cycle of nanotechnology-enabled medical technologies for health), coordinated by the Department of Health of the Basque Government in Spain

The EU-funded SAFE-N-MEDTECH project created an open access platform to foster the development of next-generation nanotechnology-based medical devices. The rapid rise of nanotechnology promises to drive innovation across the medical board, from oncology to cardiology, regenerative medicine to dentistry. SAFE-N-MEDTECH provided a broad array of technical, clinical, legal and support services to those companies, especially SMEs, that will form the backbone of a diverse, cutting-edge European nanomedicine sector.

→ safenmt.com



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TBMED

(A testing bed for the development of high-risk medical devices), coordinated by the CIDETEC Foundation in Spain

SMEs make up 95 % of the European medical device industry, and the EU has a clear interest in ensuring that they are prosperous and successful. By creating and implementing an Open Innovation Test Bed to support SMEs that specialise in the development of high-risk medical devices such as heart valves and hip replacements, the EU-funded TBMED project aims to increase patient access to high-risk medical devices, while improving the devices' quality.

→ tbmed.eu

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TEESMAT

(Open innovation test bed for electrochemical energy storage materials), coordinated by the Alternative Energies and Atomic Energy Commission in France

Accessing cutting-edge technological support will enable Europe's battery sector to meet industry demand for enhanced performance and higher energy efficiencies. The EU-funded TEESMAT project sought to address this by providing easy access to such knowledge and techniques, and by building up expertise through the sharing of best practices and results. This was achieved by bringing together those offering cutting-edge characterisation techniques and expertise with industrial players in the battery field.

→ teesmat.eu

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MDOT

(Medical Device Obligations Taskforce), coordinated by Fraunhofer in Germany

The EU-funded MDOT project is helping SMEs manage the requirements of the new Medical Devices Regulation without restricting their capacity for innovation. Launched in January 2019 to help SMEs navigate these new requirements, MDOT offers a single entry point for MedTech companies aiming to bring new devices to market, especially in the fields of inhalation and implants. Through the MDOT platform, businesses have access to a network of specialised partners and research institutes across Europe.

→ mdot.eu

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The projects featured in this leaflet are an introduction to the use of Open Innovation Test Beds by European industry. For more examples of how these platforms are driving down costs, improving market access and fostering innovation in the European tech and manufacturing sectors, explore the links below.

BIOMAC	European sustainable biobased nanomaterials community	→ biomac-oitb.eu
BIOMAT	An open innovation test bed for nano-enabled bio-based PUR foams and composites	→ biomat-testbed.eu
BIONANOPOLYS	Open innovation test bed for developing safe nano-enabled bio-based materials and polymer bionanocomposites for multifunctional and new advanced applications	→ bionanopolys.eu
Convert2Green	Converting Facilities Network for accelerating uptake of climate neutral materials in innovative products	→ cordis.europa.eu/project/id/101092347
Exploit4InnoMat	An Open Innovation Ecosystem for exploitation of materials for building envelopes towards zero energy buildings	→ cordis.europa.eu/project/id/101092339
FlexFunction2Sustain	Open Innovation Ecosystem for Sustainable Nano-functionalized Flexible Plastic and Paper Surfaces and Membranes	→ flexfunction2sustain.eu
iclimabuilt	Functional and advanced insulating and energy harvesting/storage materials across climate adaptive building envelopes	→ iclimabuilt.eu
INNOMEM	Open innovation test bed for nano-enabled membranes	→ innomem.eu
INN-PRESSME	Open innovation ecosystem for sustainable plant-based nano-enabled biomaterials deployment for packaging, transport and consumer goods	→ inn-pressme.eu
METABUILDING LABS	METAclustered, SME oriented European Open Innovation Test Bed for the BUILDING envelope materials industrial sector using a harmonised and upgraded technical framework and living LABS	→ metabuilding-labs.eu
MEZeroE	Measuring envelope products and systems contributing to next generation of healthy Nearly Zero-Energy Buildings	→ mezeroe.eu
MUSICODE	An experimentally-validated multi-scale materials, process and device modelling and design platform enabling non-expert access to open innovation in the organic and large area electronics industry	→ musicode.eu
NewSkin	Innovation eco-system to accelerate the industrial uptake of advanced surface nano-technologies	→ newskin-oitb.eu
NextGenMicrofluidics	Next generation test bed for upscaling of microfluidic devices based on nano-enabled surfaces and membranes	→ nextgenmicrofluidics.eu
OpenModel	Integrated open access materials modelling innovation platform for Europe	→ open-model.eu
Phoenix	Pharmaceutical Open Innovation Test Bed for Enabling Nano-pharmaceutical Innovative Products	→ phoenix-oitb.eu
VIPCOAT	Virtual open innovation platform for active protective coatings guided by modelling and optimization	→ ms.hereon.de/vipcoat

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Learn more about Open Innovation Test Beds in the Horizon 2020 Programme
bit.ly/OITBs_H2020

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