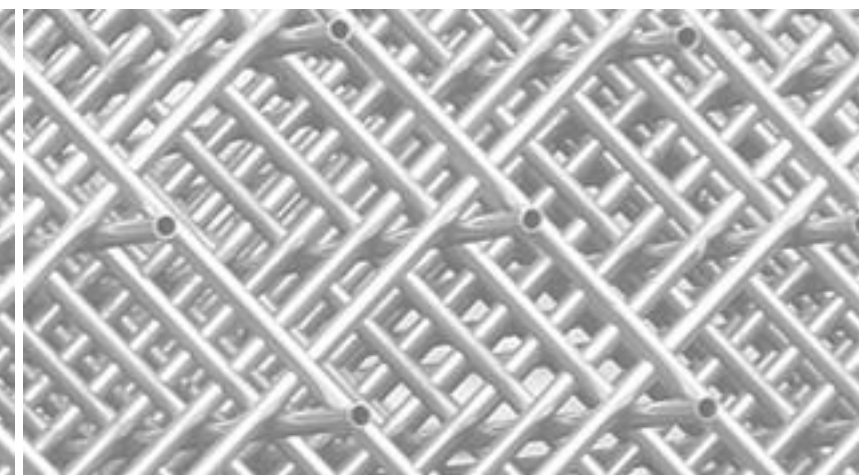
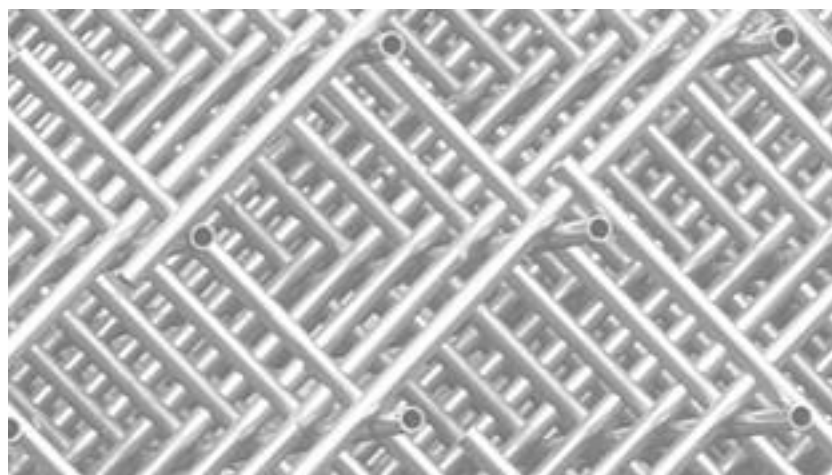
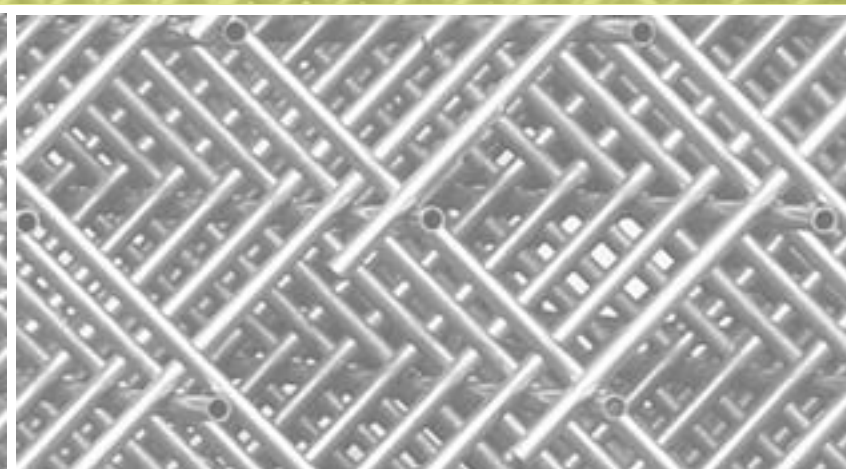
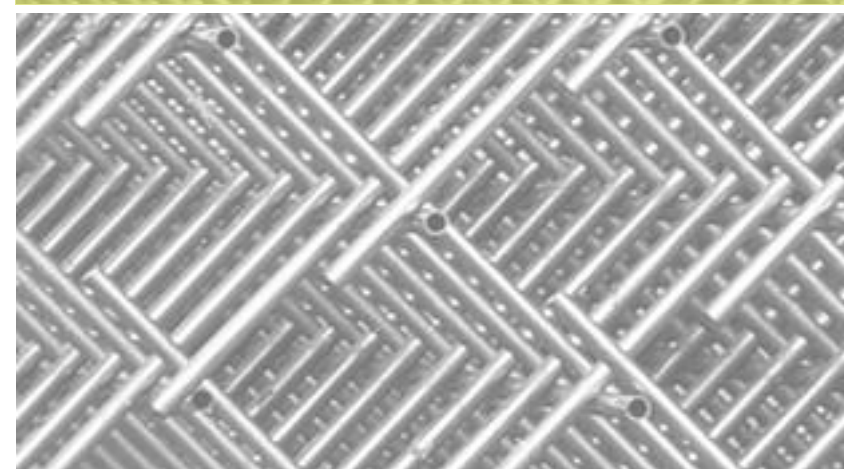
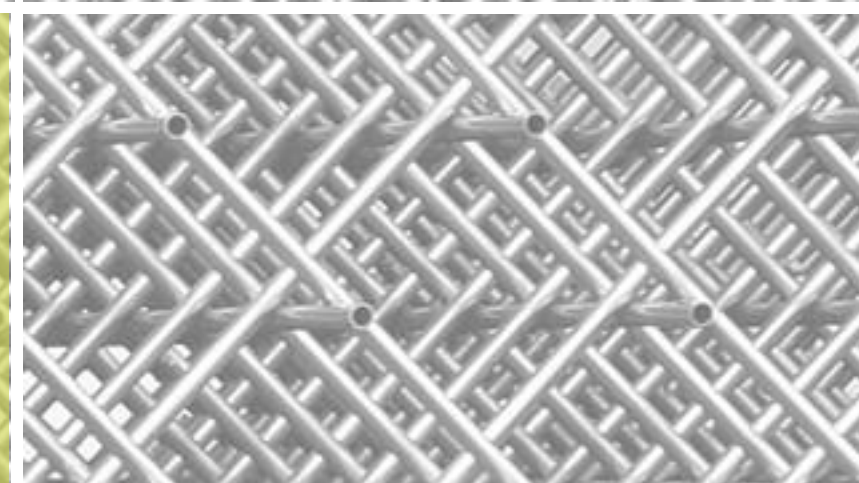


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OITBs concept – LightMe OITB

February 11th 2021

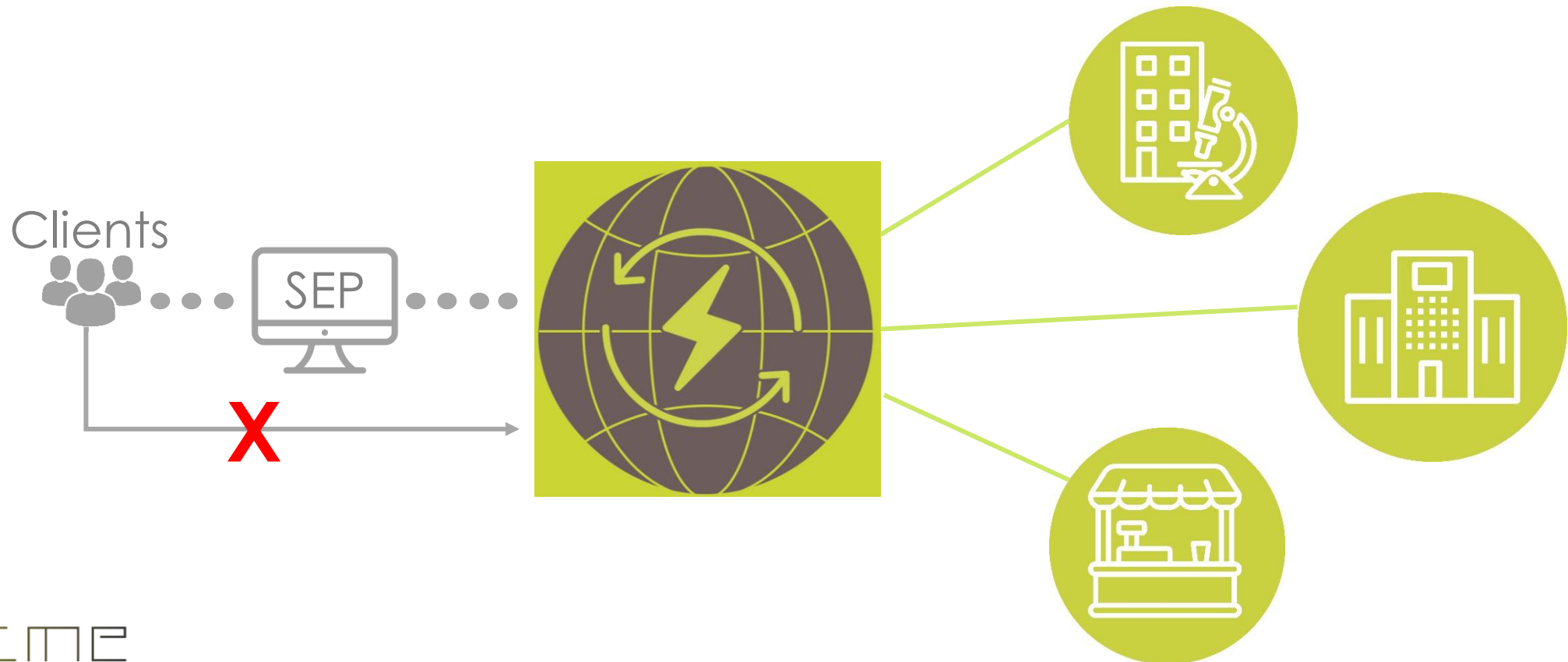


European
Commission

Horizon 2020
European Union funding
for Research & Innovation

OITB Definition

The OITB is group of entities (Universities, Research Institutes, Research Intensive Companies) that operates as **one-stop-shop** through its **Single Entry Point**, providing access to open infrastructure and services across Europe at fair conditions and pricing, targeting in the upscaling of new materials and products, bringing them in a close to market level.



OITBs in Nanomaterials - Impact

- Wide range of applications (manufacturing, medicine, cosmetics, textiles, paints & coatings, waste treatment etc.).
- Wide use based on the unique and advance properties that result in the enhancement of existing properties of materials or acquisition of multi-functionalities.
- Able to improve the everyday life of citizens (materials presenting anti-microbial & anti-viral properties, materials with excellent wear and corrosion resistance even in harsh environment).
- Proper use of nanomaterials is essential in order to ensure also the safety of the workers and final consumers.
- OITBs play crucial role as they consist of groups with high expertise in the field of health and safety as well as on proper use of nanomaterials.



Invest in OITBs – Why?

- Enhancement of competitiveness of European companies and especially of SMEs through provision of open, easier and cost-effective access to infrastructures and research oriented services, leading to new innovative products.
- Creation of a neutral and safe open innovation environment facilitating investments and knowledge transfer between European Industry and Research Community.
- Smoother and safer introduction of nanotechnology and nanomaterials to the market.

OITBs – Success stories so far

- OITBs have contributed to significant high-level jobs creation through creation of spin-off companies or NPOs promoting the OITB concept in the industry and acting as Single Entry Points.
- Also, within the EU-funded projects establishing them, a wide variety of innovative products are expected to enter the market.
- Through the OITBs, technologies have already been developed targeting a wide range of industrial sectors and market segments.
- Dissemination and communication campaigns launched in order to promote the OITBs are already raising public awareness and are of crucial importance for the proliferation of the greater OITB concept in Europe.

LightMe Project Consortium



25 partners



48 months



15 countries



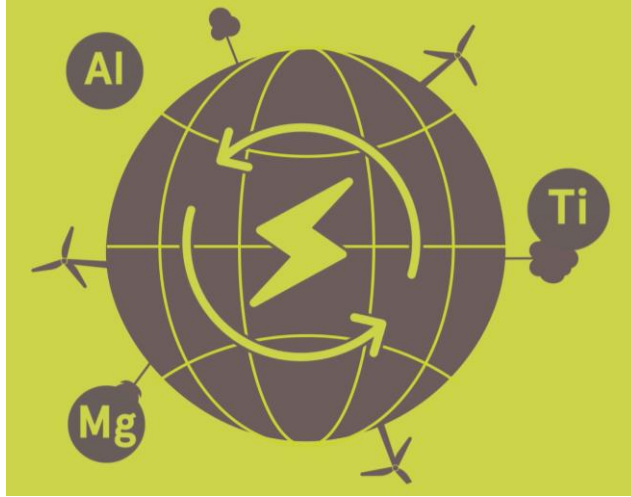
Total budget:
13,073,423.75 €



Project
Coordinator

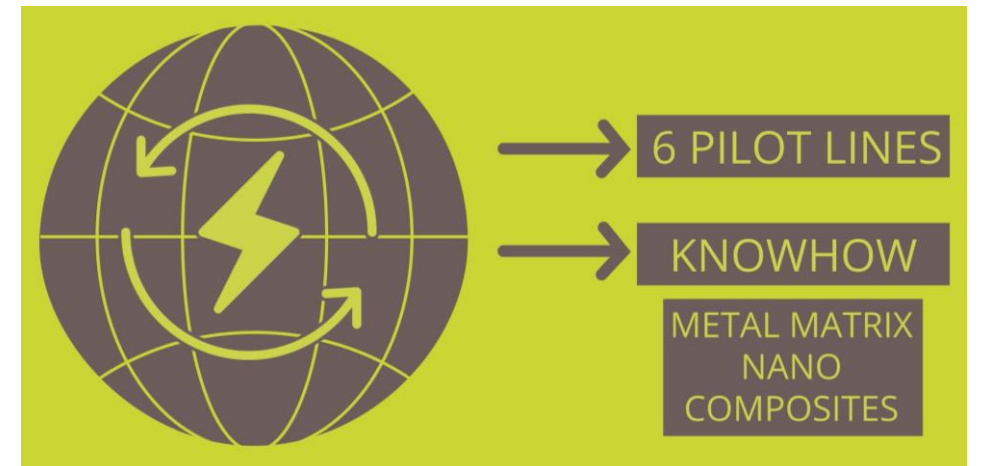


LightMe Aim & Offer



Set up and operate a fully sustainable ecosystem for the upscaling of industrial processes concerning lightweight metal alloys composites (Al, Mg, Ti) from TRL4 or 5 to TRL7.

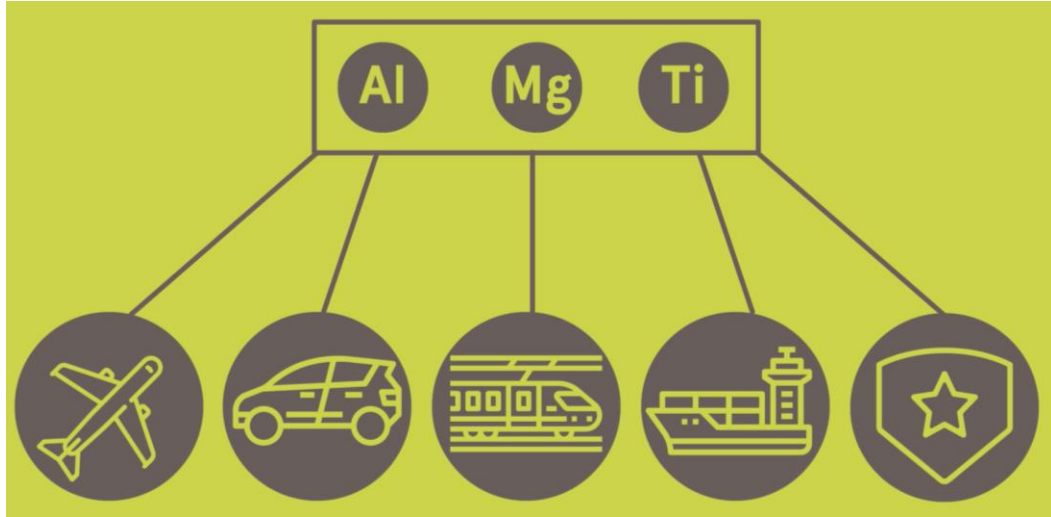
The LightMe Ecosystem will provide the necessary infrastructure and knowhow for upscaling the new materials concepts related to lightweight metal matrix nanocomposites and advanced materials in a cost-effective and sustainable way.



LightMe OITB Specific Goals

- Open facilities (Pilot Lines) at the EU level accessible to users across Europe
- Improved industrial process parameters and faster verification of materials performance for highly promising applications
- Improvement in industrial productivity, reliability, environmental performance, durability, and reduction of life-cycle costs of these materials
- Indirect reduction in energy consumption across sectors using lighter materials in their products and processes
- Access to various funding schemes (for SMEs in particular), for investing in these materials or in applications using them, accompanied with tailor-made business plans

Why LightMe?



Lightweight materials have become increasingly critical for producing components for aircrafts, cars, trains, ships and defense equipment.

Lightweight metals and alloys possess high strength to weight ratios and low density.

Example: lighter vehicles consume less fuel and emit less harmful gasses and provide a better performance



LightMe Services



Upscaling

- 3 Casting Lines
- 2 AM Lines
- 1 Powder Metallurgy/Extrusion Line



Modelling

- Process Optimization
- Simulation
- Predictive modelling



Monitoring

- Process Control
- Process Monitoring



Innovation Management

- Business plan
- Marketing
- Technology transfer
- Training



Testing

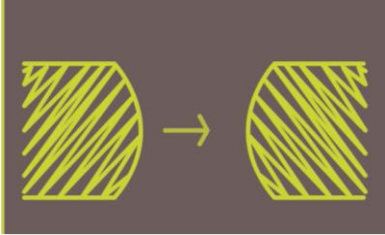
- Structural Characterization
- Functional properties testing
- Field tests



Market Uptake

- Regulation
- Standardization
- H&S
- Nano-Safety
- Environmental Impact (LCA)

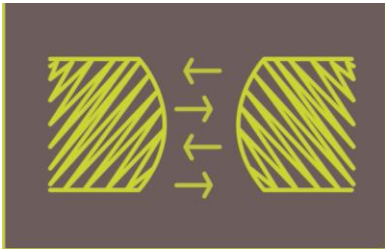
LightMe Services – Pilot Lines



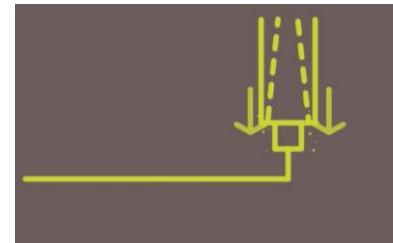
1 Low Pressure Die Casting



1 Metal Wire Additive Manufacturing (MWAM)-DED-LB Process



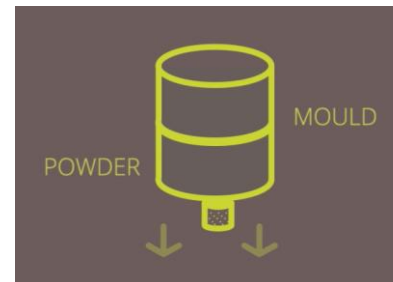
1 High Pressure Die Casting



1 Metal Additive Manufacturing with Powder DED-LB Process



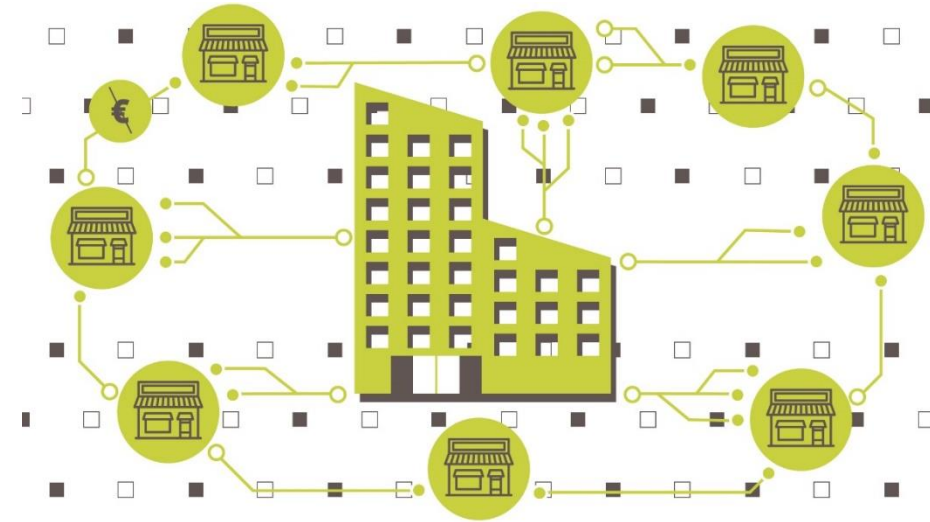
1 Green Sand Casting



1 Sintering Extrusion

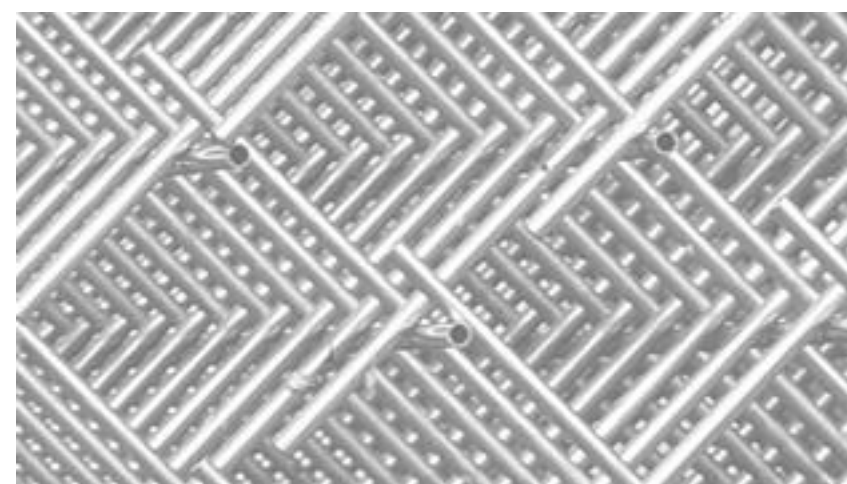
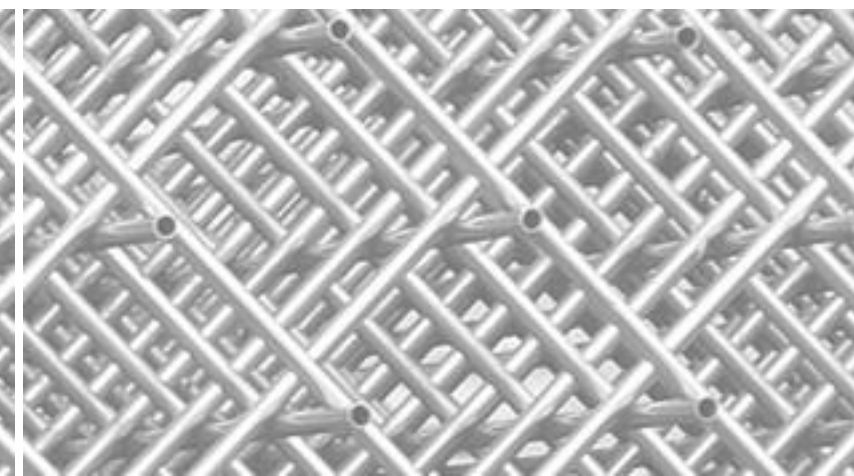
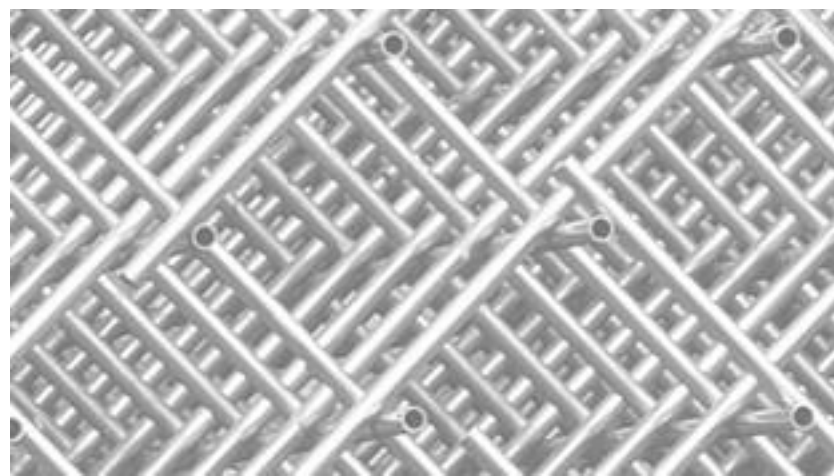
How can LightMe help SMEs?

- Upscaling and development of novel lightweight Metal Matrix nano-Composites (MMnC), with advanced functionalities.
- Foster the adoption of MMnC by the market.
- Provide services that will ensure technology transfer to the market.
- LightMe can function as a bridge between upstream (material developers and knowhow suppliers such as Universities and Research Centers) and downstream (end users) industries.



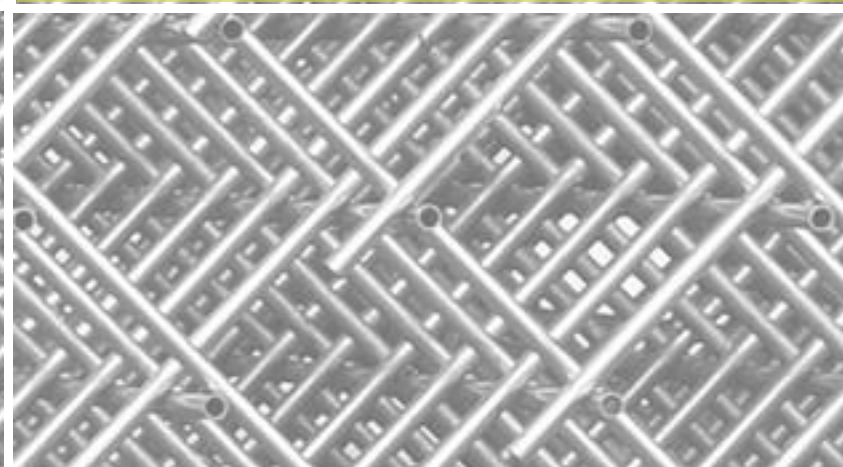
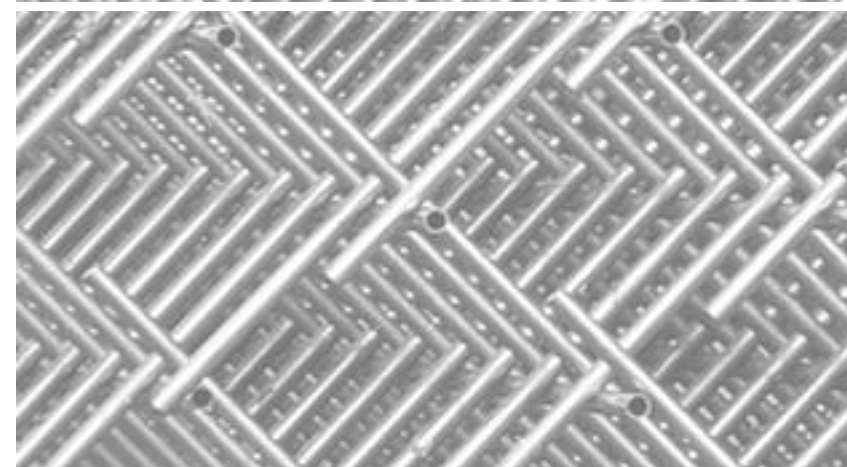


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Thank you for your attention

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luca.magagnin@polimi.it



This project has received funding from the Industrial Technologies **Advanced Materials and Nanotechnologies** under the European Union's Horizon 2020 innovation programme under the grand agreement number **814552**.



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