

Lightme

LightMe Non- Technical Services

February 11th 2021



European Commission

Horizon 2020
European Union funding
for Research & Innovation

LightMe Non-Technical Services



Environmental impact

- LCA
- LCC



H&S

- Safety of Lines
- Nanosafety assessment



Regulation

- Standardization
- Regulation compliance
- REACH



Innovation Management

- Business planning
- IPR
- Marketing



Access to funding

- Technology Transfer
- Innovation Funding
- Pitching events



Training

- Workshops
- Seminars

Core Partners Involved



University of Burgos

- University established in Spain
- LCA/LCC
- Nanosafety
- Sustainability



ISQ

- Private Portuguese organization
- H&S, Nanosafety
- Regulatory inspections
- Training



EWF

- Pan-European Association for welding ,joining & cutting
- Regulatory
- Standardization
- Training activities



AXIA Innovation

- SME established in Germany
- Innovation management
- Business Planning
- Marketing
- Patent search & IPR



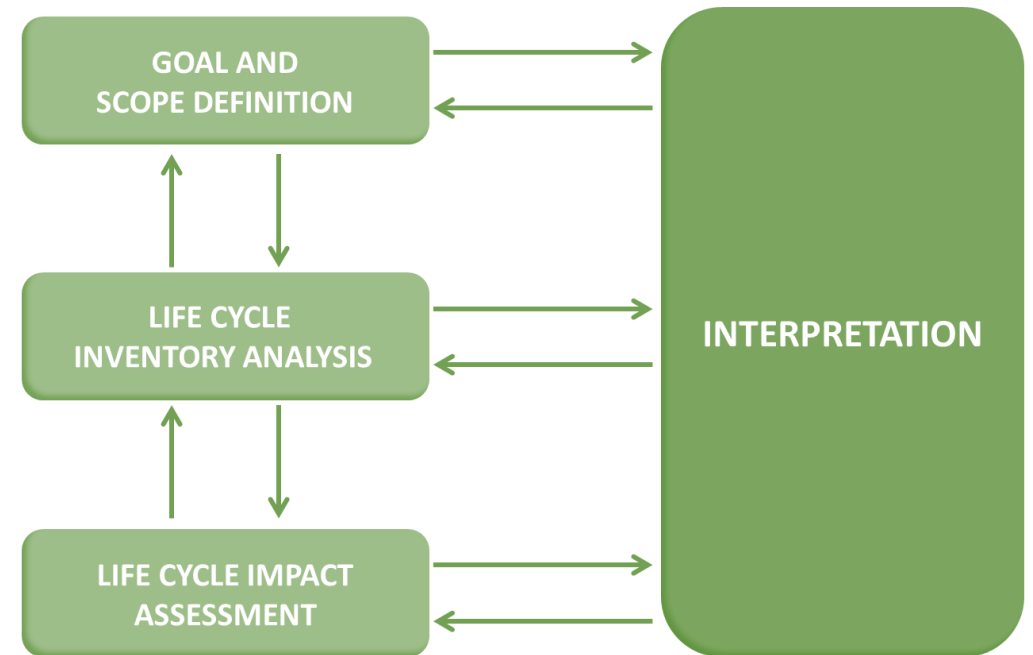
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- SME established in Spain
- Business planning
- Technology transfer
- Access to funding

Environmental Impact

Life Cycle Assessment

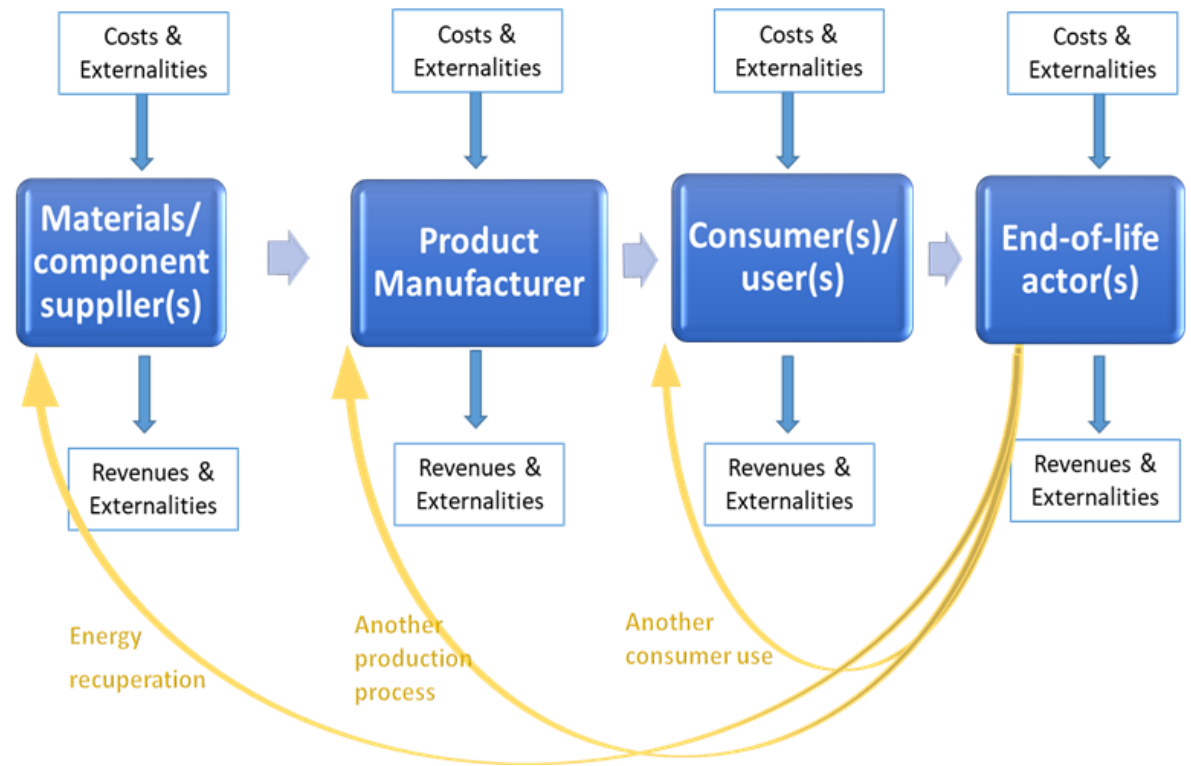
- Characterization of **environmental impacts** through the whole life cycle following the LCA methodology for the systematic evaluation of the environmental aspects of a product, process or service system.
- Evaluation and review.
- Compliance with **ISO 14040/14044**.



Environmental Impact

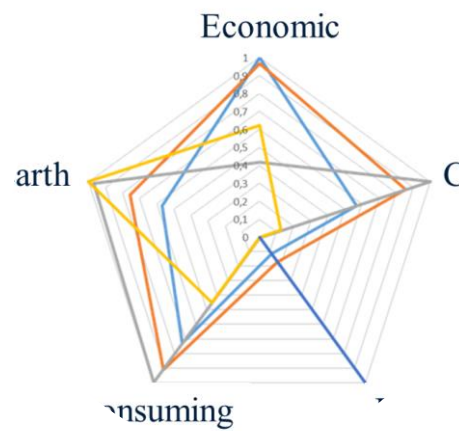
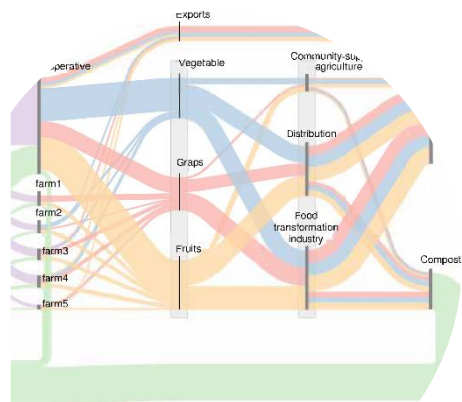
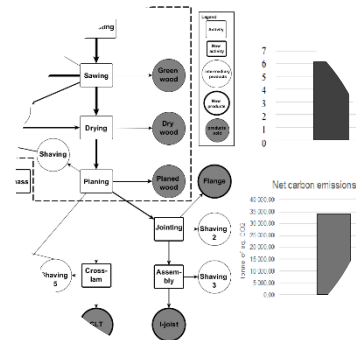
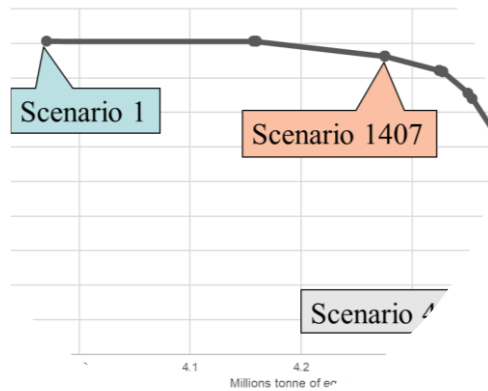
Life Cycle Cost

- **LCC TOOLKIT:**
 - Estimation of all costs: CAPEX, OPEX, Externalities
 - Include possible incomes at every step
- **Financial Analysis and Project valorization:**
 - NPV (Net Present Value)
 - Payback
- Compliance with **standards:** LCC in the EU Public Procurement Directive 2014/24/EU (Art. 68) and Article 83(2) of Directive 2014/25/EU



Environmental Impact

Interpretation and Integration of the results



- Multicriteria Optimization models to understand optimal solutions (from environmental and economic perspective)
- Decision Support Systems leading to optimal decision making.

H&S - Nanosafety

- Support on identification and compliance of regulatory context related to health, safety, and environment (EU regulations, Directives and other acts) of the processes and technologies developed.
- Support on implementation of Health and Safety Risk Assessment and Management providing recommendations and H&S measurements, including aspects related to the handling of NP.
- Perform NPs monitoring activities. The equipment that will be used to do this monitoring is capable of measure particle size range between 10 nm and 420 nm.



H&S - Nanosafety

ISQ will offer a range of services intending to assist decisions with the aim of supporting industry on the identification on gaps and needs, concerning the Health & Safety, including the Nanosafety aspects.

This work will be based on the information provided by the clients and according to their innovation development, taking in consideration current recommendations, guidelines (OECD, WHO, other European and international entities) and standards (CEN/TC 352 and ISO/TC229) to meet regulatory requirements, namely REACH and CLP.

Through the ecosystem when providing services, ISQ will use questionnaires as a primary mean of information and data collection, as well as web-meetings and visits to the pilot lines or the client's facilities whenever required and agreed (depending on the service to be provided).

Regulation & Standardization

- ✓ EWF will provide services provision and consultancy on standards that are currently used in the production processes of Metal Matrix Composites (MMCs).
- ✓ EWF acts as a liaison member of the ISO technical committees dealing with Additive Manufacturing.
- ✓ **Consultancy on standardization and regulatory aspects tailored to upscaling concepts related to lightweight metal matrix nanocomposites.**
- ✓ Support the development of standards through the revision of the standards' documents currently being developed. ISO/TC 261 – AM CEN/TC 438.
- ✓ New standards besides the definition of the future needs in AM industry, to have more standards dealing with Directed Energy Deposition (DED) and processes, standards covering inspection tests in AM and adapt them to be applied on several sectors like aeronautics or automotive.
- ✓ Identify gaps and provide suggestions for amendments on current standards or development of new ones to contribute to the global advancement of the field of lightweight materials
- ✓ The use nanomaterials is intended to fulfil the identified gaps in each technology.

Innovation Management

Innovation Management Phase

01

- 1.1 Identify the KERs
- 1.2 Exploitation pathways
- 1.3 Risk assessment



Conceptual Planning Phase

02

- 2.1 State of the art assessment
- 2.2 PESTLE & SWOT analysis



IPR Management

03

- 3.1 IPR
- 3.2 KERs and IPR



Development Phase

04

- 4.1 Market analysis
- 4.2 Business model Canvas
- 4.3 Financial model



Innovation Management

The LightMe IPR strategy is based on 4 main pillars:

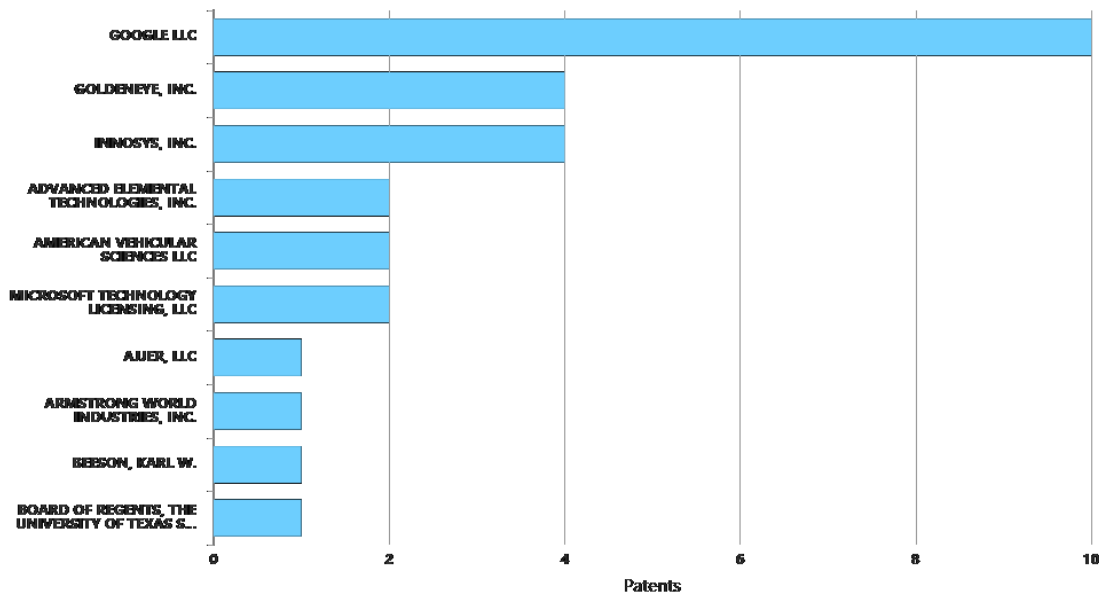
- A) LightMe's principal objective in relation to IPR is to enable the partners.** By default, LightMe supports partners in developing and exploiting IPRs. LightMe does not require a transfer or licensing of IPRs to LightMe itself, or the LightMe partners.
- B) The NPO's initial role is as a single-entry point (SEP) for specialized services** where LightMe can act as an IPR negotiator/intermediator and organizer in individual assignments.
- C) IPR implications and implementation in practice** are regulated by a) an agreement between the NPO and the LightMe parties, allowing the NPO to play a negotiation role in opportunities that it identifies (Dealer Agreement) and b) an agreement with the customers explaining the NPO's role, and notably clarifying that IPRs are owned by LightMe partners or the customer (but not by the NPO).
- D) Prospective considerations – potential future developments.** The IPR strategy is considered to be modular and gradual: if there is a clear need, demand or benefit for a more significant role of the NPO, the LightMe consortium will evaluate future opportunities, and amend the Dealer Agreement and End User Terms of Use as required.

Innovation Management

From a legal services perspective, LightMe can help in multiple ways, depending on demands, requests and expectations from the LightMe partners:

- A) **LightMe already provides templates for assignments**
- B) **LightMe can provide sample contract clauses for specific projects involving multiple LightMe partners**, e.g. for joint IPR allocation, split IPR allocation, and carve-outs of background IPR.
- C) **LightMe can assist in searching for prior art**, which is important in establishing novelty / innovation for the purposes of patenting.
- D) **In the future**, LightMe can provide **IPR exploitation support, such as assistance in patent registration**. Additional services can include IPR pooling with the NPO, an IPR clearinghouse service, or even a joint IPR defense strategy

Innovation Management

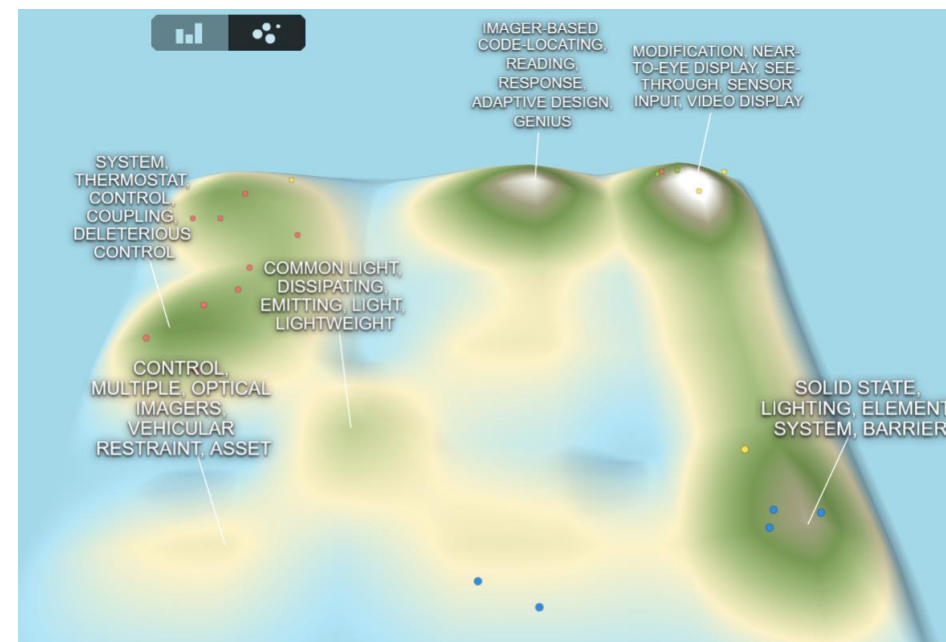


- Innovation profile
- Geographic Territories
- Key Technologies
- Top Inventors
- Possible Licensing deals
- Main companies
- Important partners

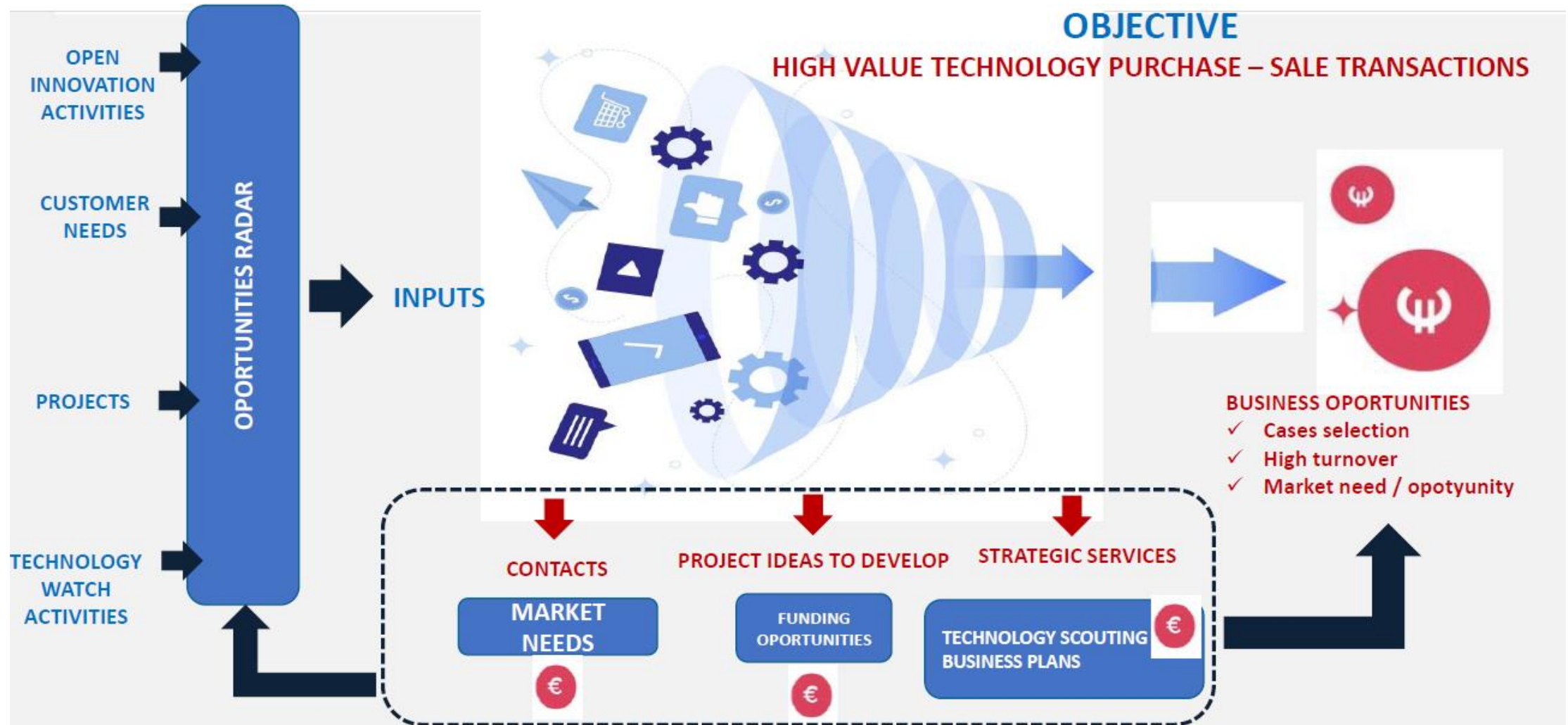
patSnap

discovery
by patSnap

IPR &
patenting
services



Access to funding



Access to funding

TECHNOLOGY TRANSFER, ASSESSMENT & EXPLOITATION

- Technology scouting and brokerage
- Valuation of patents
- Business process transfer
- Business opportunity and profitability analysis
- Value proposition definition
- Technology validation in the market

INNOVATION FUNDING

- Search for public funding (grants and loans)
- Search for private funding (Equity and debt)
- Management of tax credits and fiscal deductions
- Strategic incentive management
- Public procurement of innovation / pre-commercial procurement
- Alternative financing management

Access to funding

PHASE 1. ANALYSIS OF THE IDEA TO EXPLOIT.

Objective. Analysis of the idea to be exploited through the collection of the starting information in a structured way: market need and solution, target market, business model, key partners, etc.
Technology valuation. In cases where maturity is sufficient.

OPPORTUNITY SHEET

- Business development and opportunity characteristics

VALUATION BOOKLET

- Value and Price of the development for a potential license or assignment

PHASE 2. SEARCH FOR FINANCIAL SUPPORT

Objective. Obtaining financing for the implementation of a development project.
Configuration of the consortium (partners), work plan, budget and financing channels.

DEVELOPMENT PROJECT

- Value proposition defined.
- Value chain and key partners identified.
- Financing.

PHASE 3. EXPLOITATION OF RESULTS

Objective. Build a business from the results of the project (Phase 2).

- Validate market interest of the MPV obtained in Phase 2.
- Customer identification and validation interviews.
- Design and configuration of the proof of concept.

PRODUCT VALIDATED IN THE MARKET.

- Customers identified.
- Prototype validated.
- Technical Economic Feasibility Plan (Business Plan).

PHASE 4. BUSINESS SCALE-UP

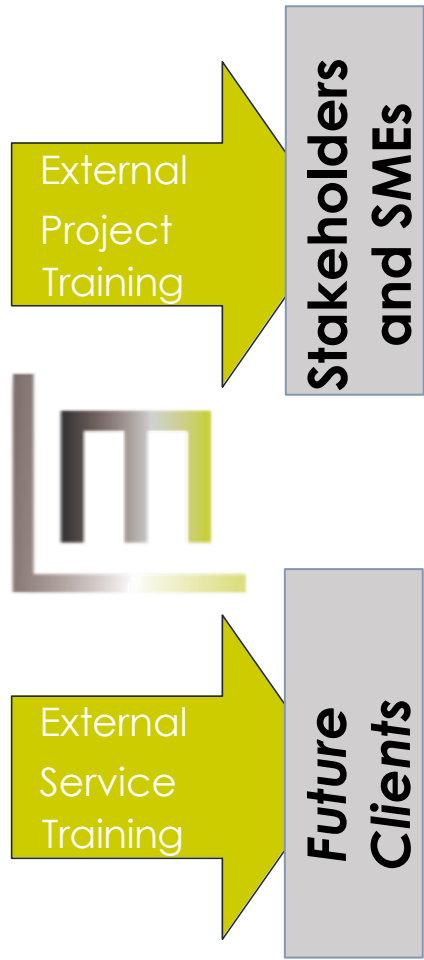
Objective. Definition of the optimal capital structure for sustainable business growth.

- Identification of actual capital needs.
- Searching for and obtaining such capital.

INVESTMENT PARTNER

- Valuation of the company/patent.
- Scaling plan.

Training Activities



Focus: These training events are focused on companies outside of the consortium conducted during the LightMe courses, addressing a cross sectorial audiences MMC and processing.

Target: Effective training courses explaining and showcasing the benefits from entering the LightMe ecosystem.

The training courses include:

- ✓ New technologies on MMCs-Additive Manufacturing Overview
- ✓ Management & IPR - Ecosystem Operational procedures
- ✓ Eco-efficiency

Focus: Training centre organizing events focused on companies within the business of MMCs and desired processing of Nanomaterials based concepts.

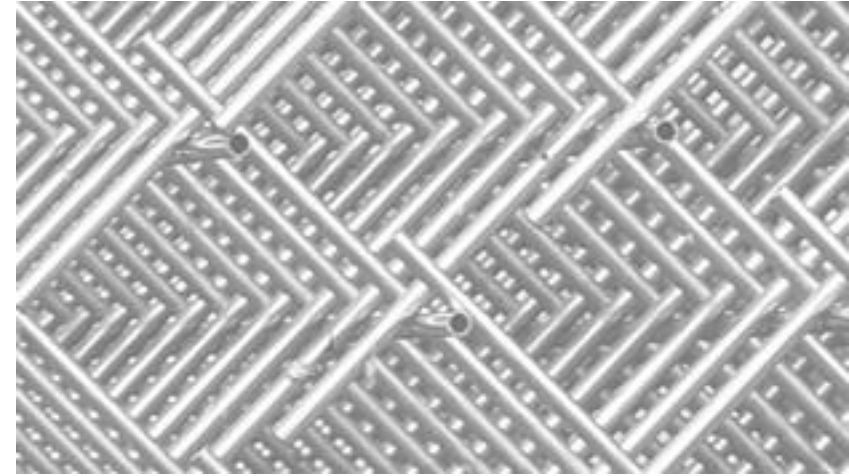
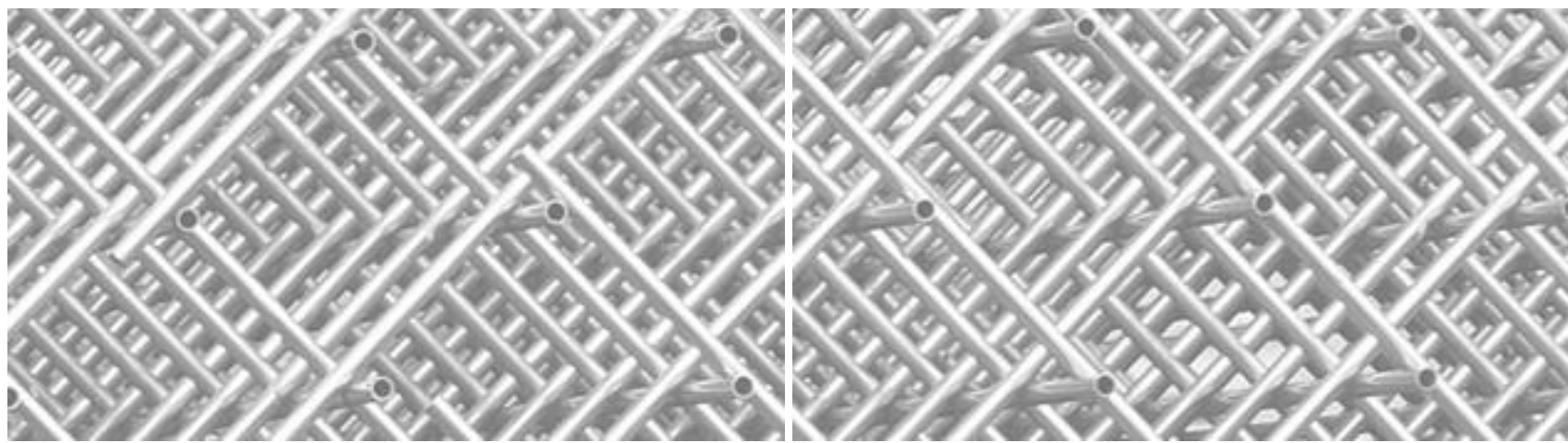
Target: Effective training courses explaining benefits from requesting services from the LightMe ecosystem, train personnel and experts on the implementation.

The training courses include:

- ✓ New MMC materials solution and integration scenarios in existing production facilities.
- ✓ Regulation Compliance and Standardization
- ✓ Mentoring kai innovation



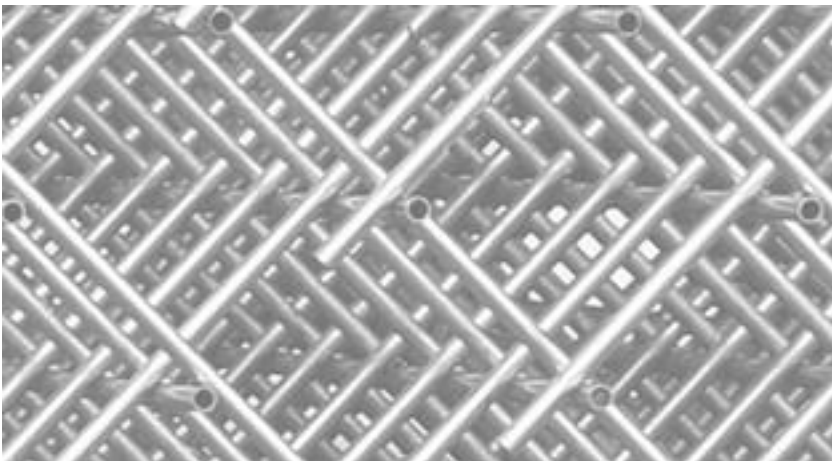
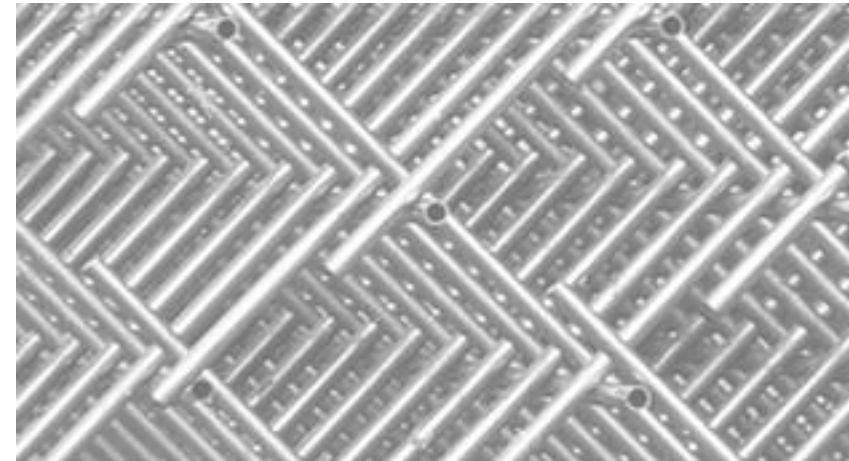
Lightme



Thank you for your attention

Contact: Dr. Alexandros Zoikis Karathanasis

azk@axia-innovation.com



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