



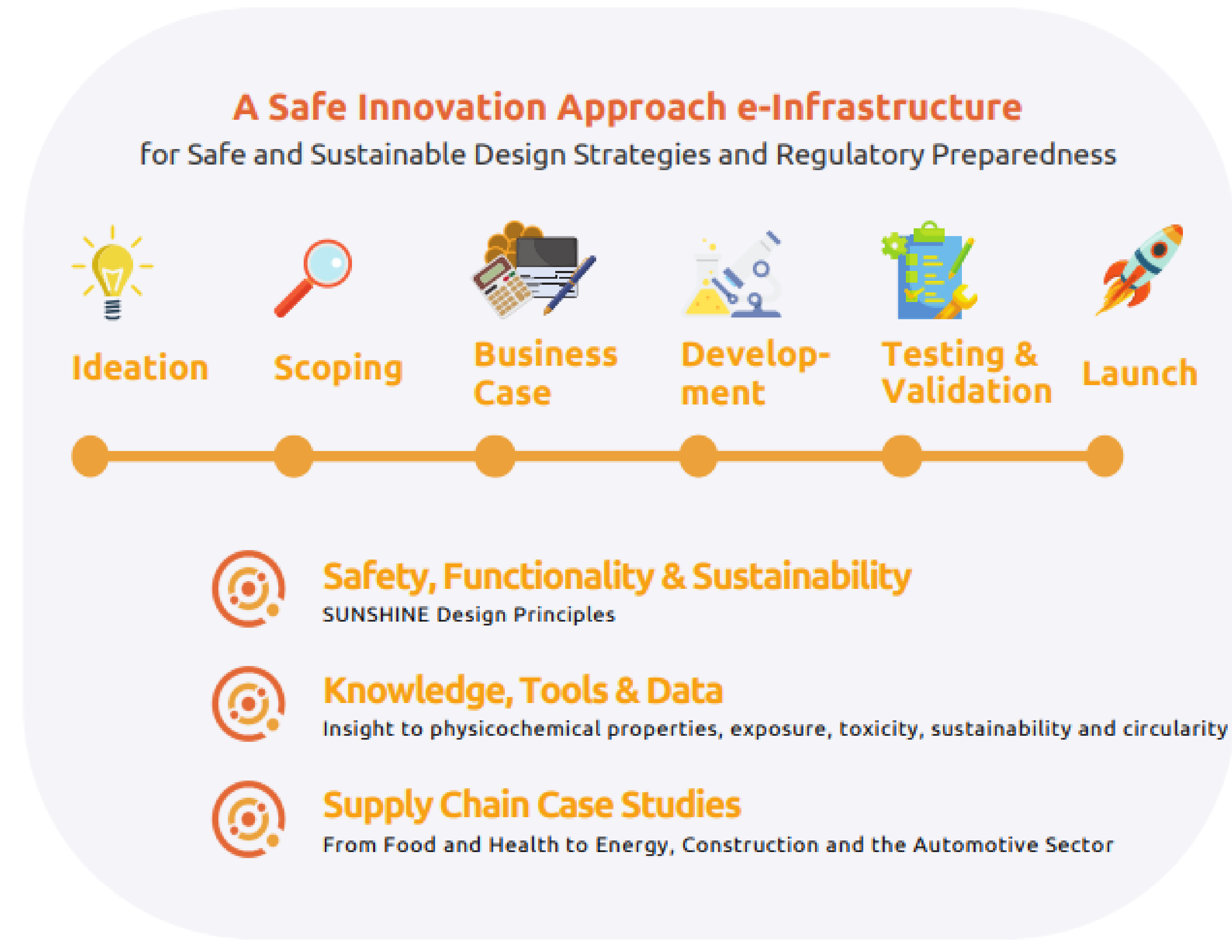
SUNSHINE

Safe and Sustainable Design for Advanced Materials

Safe and Sustainable Design for Advanced Materials

SUNSHINE develops a novel e-infrastructure to foster dialogue, collaboration and information exchange between actors along the nanotechnology supply chain to facilitate the development and implementation of simple, robust, and cost-effective Safe and Sustainable by Design (SSbD) strategies for advanced multi-component nanomaterials (MCNMs).

The goal is to increase the safety and sustainability of materials, products, and processes without compromising their functionality or economic viability.



SPECIFIC OBJECTIVES

To successfully develop and implement the SSbD strategies for MCNMs, SUNSHINE will:

Create the SIA e-Infrastructure

to facilitate collaboration and information exchange along the supply chain.

Employ Grouping and Read Across

to enable use of existing information for safe by design purposes.

Contribute to Regulatory Preparedness

by promoting a two-way dialogue between industry and regulators to address regulatory concerns in the early stages of innovation, and by providing recommendations for adaptation of the current regulatory guidance and standard guidelines for MCNMs.

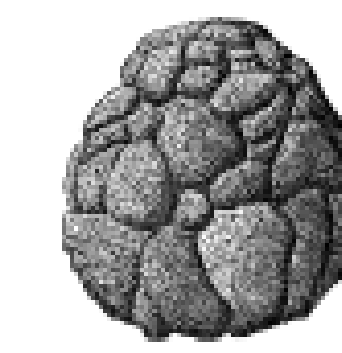
Develop Multi-Scale Modelling Approaches

Identify and develop experimental methods and multi-scale modelling approaches and generate essential new knowledge and data to fill the gaps in our current understanding of the exposure, hazard, and functionality characteristics of the MCNMs, especially those arising from their unique properties and interactions.

Develop Criteria and Guiding Principles

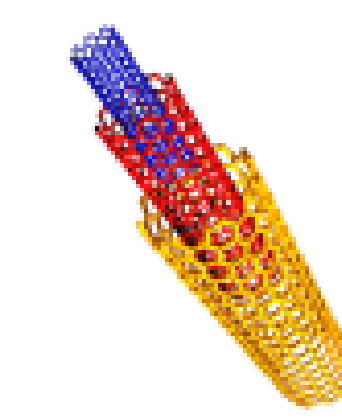
for sustainable design of materials, products and processes involving MCNMs.

SECTOR-SPECIFIC CASE STUDIES



MATERIALS

Structural and functional materials, including metal and non-metal oxides.



ENERGY

E.g. graphene-carbon nanotube hybrids for electrodes and energy storage.



FOOD

Food and feed technology, including MCNMs in biocidal coatings and high aspect ratio functionalised nanoclays for anti-pest packaging.



CONSTRUCTION

E.g. metal oxide complexes used in advanced paints and scratch/abrasion resistant coatings.



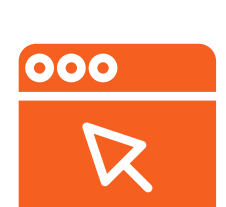
HEALTH

Pharma and health technology, including functionalised and carbon nanotube-coated metals and metal-oxides used in diagnostics and therapy.



We will test the effectiveness of the SSbD strategies on the lab and pilot scales in case studies corresponding to supply chains of real products.

Contact



www.h2020sunshine.eu



info@h2020sunshine.eu



[@h2020sunshine](https://twitter.com/h2020sunshine)



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OUR VIDEO



Partners



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