



VANGUARD INITIATIVE

New growth through smart specialisation

Interregional partnership for Smart Specialisation on New Nano-Enabled Products

INTRODUCTION TO THE PILOT

The Vanguard Initiative New Nano-Enabled Products Pilot project has the aim to connect regions in order to build an industrial ecosystem in the field of nanotechnologies and to create pilot production facilities for products based on nanomaterials.

These products can be based on a synthesis of nanomaterials and nanocomponents which can be integrated in corresponding technical applications in virtually any industry sector, including areas such as clothing, automotive, construction, IT, displays, cosmetics, food, and medicine. Bringing prototypes to production by securing the reproducibility of application remains a critical point for the industry. This is where this pilot project aims to make a difference.

ACTIVITIES

The pilot project aims to connect and further develop an open and business driven facility for pilot production of nano-enabled materials, systems, and products. By pooling the region's resources and efforts, and by connecting regional strengths to create a strong European industrial fabric within nanotechnology, new value chains will emerge within the realms of innovative nanomaterials, connecting European R&D and laboratory infrastructure with different types of industries.

DEMO CASES

Nano Wires for ICT and Energy Applications

This demonstration case aims to identify opportunities to commercialise the nanowire technology in three market segments: photovoltaics, lighting, and power and RF electronics. In addition, an initiative to create a pilot manufacturing facility for nanotech scale-up, ProNano, is being developed in Lund. Although the use of active nanowires for the above applications is novel and in the early development phase, each targets well-established markets and supply chains.

Nano-Enabled Microsystems for Bio-analysis (NeMs4Bio)

This demonstration case addresses the microfluidic integration challenges of sensor chips in cartridges for bio-analytical purposes (medical diagnostics, bioprocess monitoring, environmental monitoring). It aims at developing interoperable technologies, connecting up-scalable manufacturing facilities and design, test, and modelling methods for bio-functionalisation, nano-functionalisation, and heterogeneous cross-KET sensor integration with microfluidics.

Nano-Enabled Printed Electronics

This demonstration case aims to push printed electronics to the market, focusing on applications such as smart tags (nano silver printing technology), printed sensors, smart textiles, printed inorganic transistors, and printed electronics on curved surfaces. The objective of the demo cases is to showcase the potential of companies working with printed nanomaterials, and to facilitate engagement of international partners in joint efforts, creating new inter-regional value chains in the field of printed electronics spanning throughout Europe.

CONTACT DETAILS

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