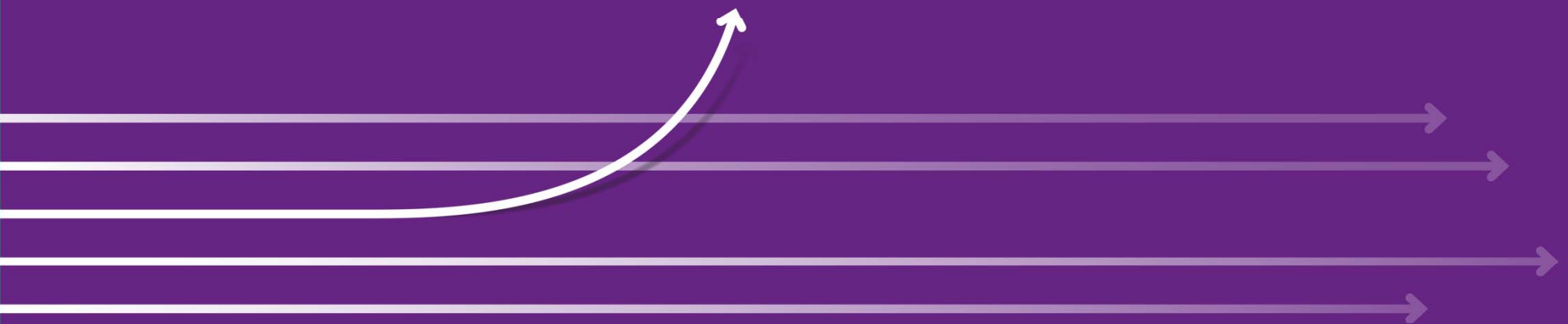


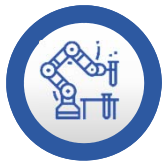
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Examples of Infrastructures for upscaling
innovation



"innovating for business"

Workshop 1.1 Boosting Innovation
Esther Hurtós
EuroNanoForum, Bucharest, 14th June 2019



Industrial area

1. Advanced materials and manufacturing processes
2. Functional printing
3. Interactive and autonomous robotics
4. Sustainability



Digital area

1. Data science & Big Data analytics
2. Artificial Intelligence and IoT
3. Multimedia technologies and user experience
4. Cybersecurity



Biotechnology area

1. Omic sciences
2. Food safety and toxicity
3. Bioactive components



160
Large R&D projects



81
patents



7
spin-offs

51M €

2018

1,500
client
businesses

658
professionals





OITBs for Characterization

FormPlanet: sheet metal forming testing hub



FormPlanet Services Offer

Sheet Metal Forming Testing Hub



- Crash resistance tests
- Crashworthiness modelling
- SMM to characterize post necking behavior and fracture strain
- Smart material data characterization
- Efficient simulation methodologies for light-weight sandwich solutions
- Micromechanical characterization (Microtomography)



- High temperature FLC-characterization
- Quality inspection by 3MA system
- In-process monitoring by HFIM and laser tracking



- Micro-tensile tests
- Crash resistance tests
- Improved FLC with non-linear strain path



- H-embrittlement tests
- FEM H embrittlement behavior
- Industrial on-line diffusible H measurement



- Edge fracture resistance tests
- Micromechanical characterization (nanoindentation)
- Fracture toughness tests in thin and thick plates
- Fatigue tests (durability)
- Implementation of fracture mechanics based properties in FE modelling
- In-process failure detection by thermography
- Prototyping by incremental sheet forming

Testbed Sites





FormPlanet

Sheet Metal Forming Testing Hub

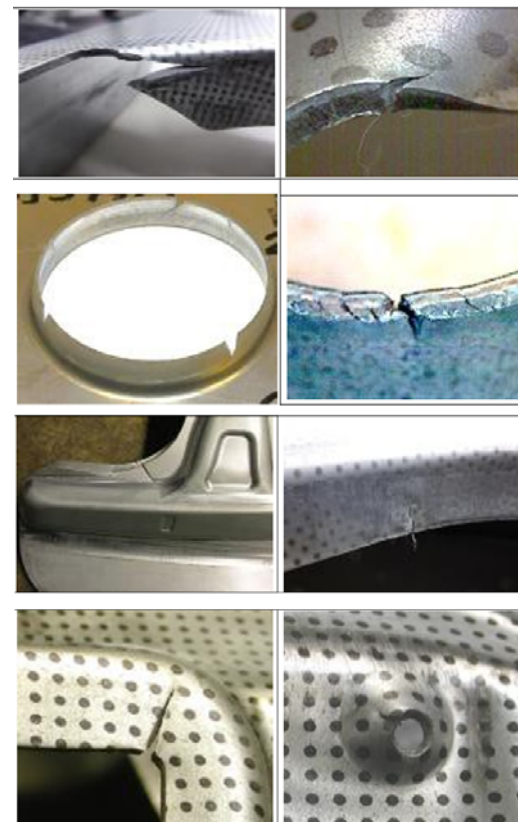


Facts and figures

- **3 years** duration, from January 2019 to December 2021
- **Budget:** 7,7 M€, of which 6,9 M€ funded by the EC
- **17 participants** from **9 different countries**
- **8 industrial companies** in the **sheet metal forming industry** value chain as early users and validators
- **Coordinated by Eurecat, RTO, ES**

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- **Grant agreement ID:** 814517



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Plastic processes Pilot Plants



Plastic Processing Pilot Plant

- Complete range of Plastic Injection Machines. From microinjection to 1500 Tn of clamping force including 3K multi-material injection molding.
- Sustainably providing services to industry for more than 30 years.
- Range of services: Support to innovation in plastic, from idea to manufacturing through design and process.
- Mould testing//Process development// Pre-series manufacturing
- More than 30,000 try outs accumulated over time.
- TRL 9



Nano-pilot plant for nano-enabled functionalisation

- Nano and Smart functionalisation of plastic products in the bulk (nano-additives dispersión) and in the Surface (periodical nanotextures and IME) .
- Clean room facilities ISO8 (E.printing & I.Molding)
- TRL 5 - 7 depending of the processes



NANO-PILOT PLANT FOR NANO-ENABLED FUNCTIONALISATION

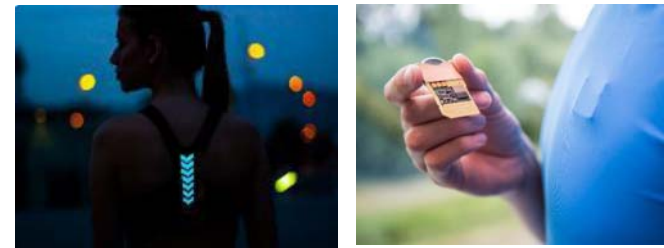
FUNCTIONALISATION TYPE	Process	Nano-what	Current TRL*	Applications	Funding sources
Bulk	US- assisted Nano-dispersion in Extrusion and injection moulding	Nano-additives	TRL 7	Multifunctional nanocomposites	H2020- NMBP-Pilots Optinanopro
Surface	Injection Moulding Nanotexturing	Surface Nano-features	TRL 5	Multifunctional surfaces in thermoplastics and silicone rubber	Regional ERDF Internal funds
Opto-electronics	In Mold Electronics (IME)	Any of the above	TRL 7	Smart multi-functional plastic products	H2020-ICT Optintegral

Active & interactive products & surfaces

Automotive



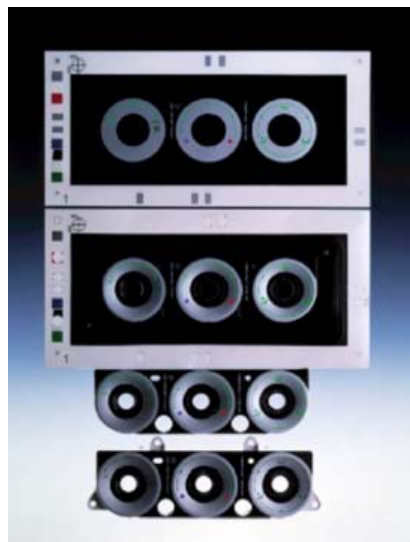
Sports



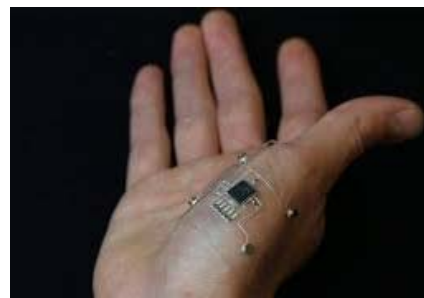
Medical



Household Appliances



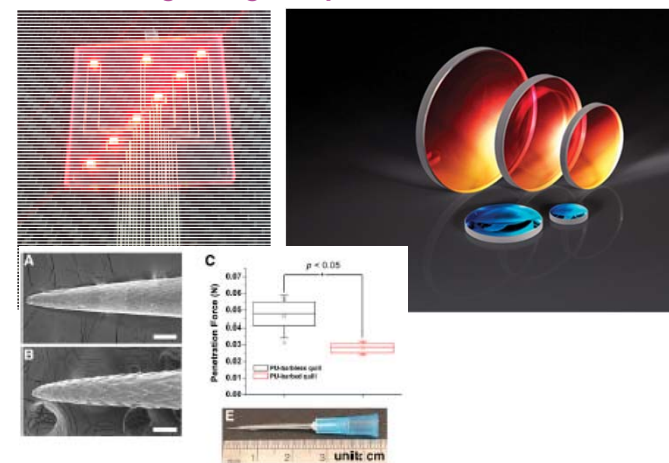
Medical devices



Wearables



Smart Lighting Optics



Thank you!

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"innovating for business"

