

# Jornada Connect-EU

Impulsa el teu projecte d' **R+D**  
i **innovació** a Europa



Co-organitzadors:

**ACCIÓ i AGAUR**

Amb el suport de:

**iberCaja** 



# Jornada Connect-EU

NOVES CONVOCATÒRIES HORIZON 2020 PER AL PERÍODE 2018-2020  
*NANOTECNOLOGIA, MATERIALS AVANÇATS, BIOTECNOLOGIA I PRODUCCIÓ*

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# PROGRAMA DE TRABAJO NMBP 2018-2020

## CONVOCATORIAS 2018

BARCELONA, 6 NOVIEMBRE 2017



**Nieves González**

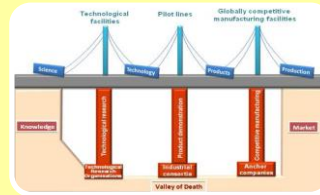
**@NievesGonz\_CDTI**

División Programas la UE, CDTI

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# ¿Qué es Horizonte 2020?

## Programa Marco de Investigación e Innovación (2014-2020)



Excellent Science

Industrial Leadership

Societal Challenges

European Research Council (ERC)

Future and Emerging Technologies (FET)

Marie Skłodowska-Curie actions on skills, training and career development

European research infrastructures

ICT

Nanotechnology

Biotechnology

Advanced Materials

Advanced Manufacturing & Processing

Space

Access to Risk Finance

Innovation in SMEs

LEIT

Health, demographic change and wellbeing

Food security, sustainable agriculture and forestry, marine and maritime and inland water research and the bioeconomy;

Secure, clean and efficient energy;

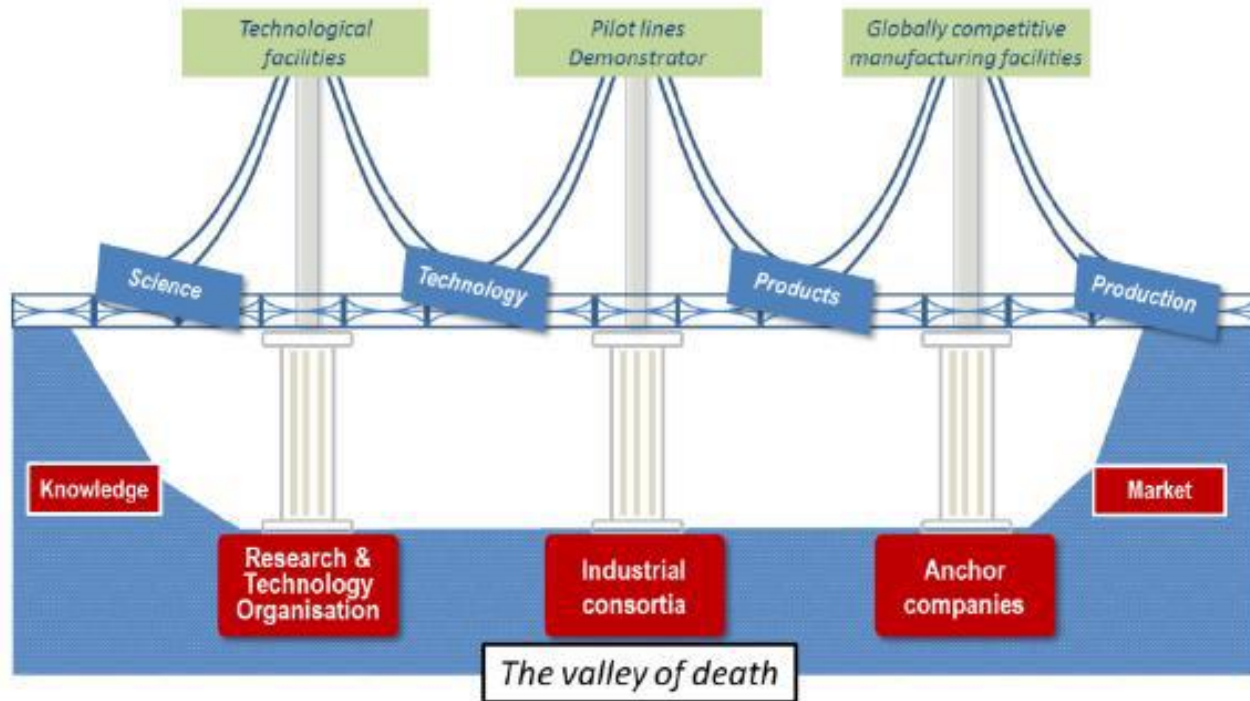
Smart, green and integrated transport;

Climate action, environment, resource efficiency and raw materials

Europe in a changing world-Inclusive, innovative and reflexive societies

Secure Societies: Protecting freedom and security of Europe and its citizens

# Horizon 2020: Crossing the valley of death

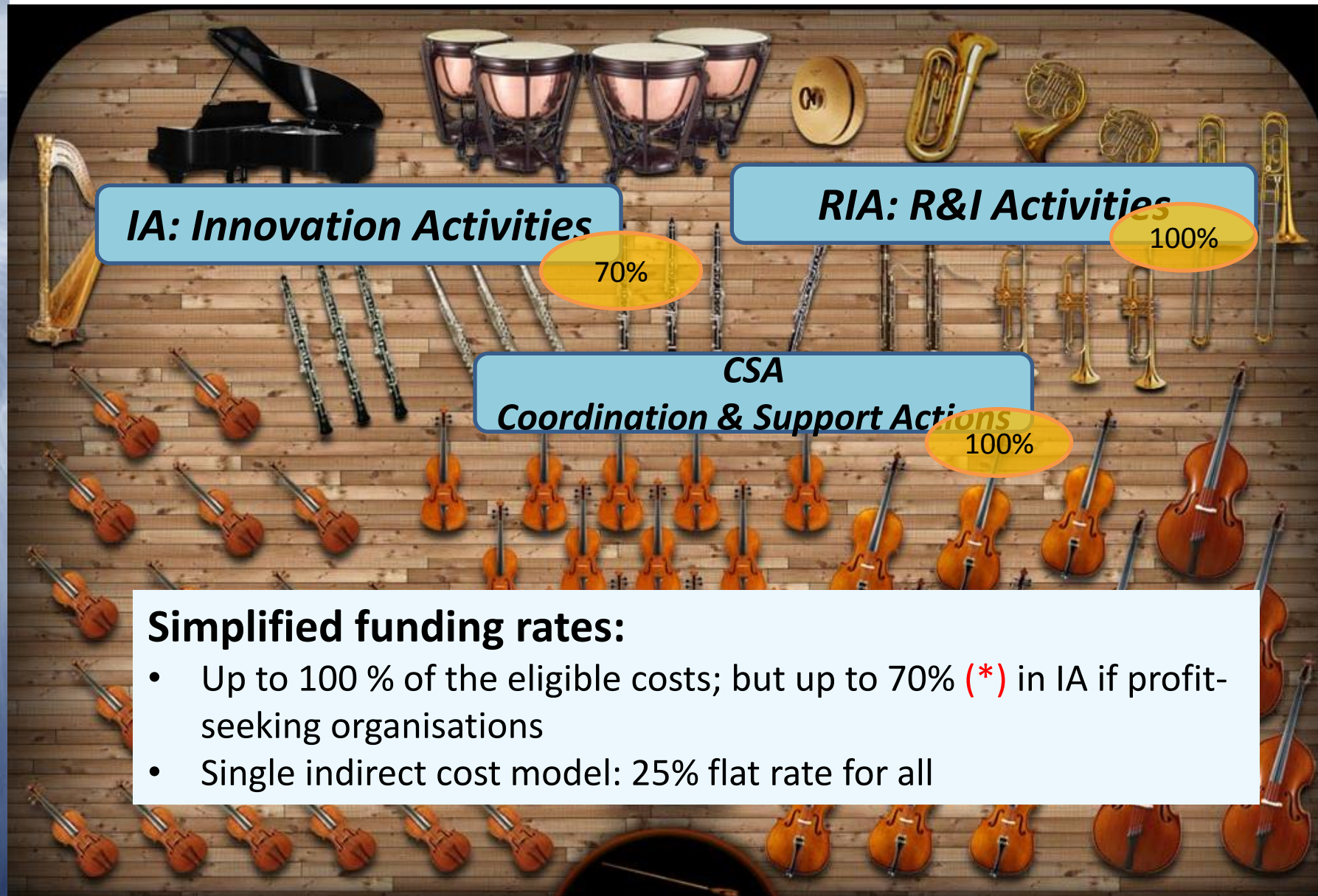


1	2	3	4	5	6	7	8	9
Basic Principles Observed	Technology Concept Formulated	Experimental Proof of Concept	Technology Validation In lab	Tech valid. In relevant environment	Demonstration In relevant environment	Demonstration In operational environment	System complete and qualified	Successful mission operations



**NMBP**

# Instruments



**IA: Innovation Activities**

70%

**RIA: R&I Activities**

100%

**CSA**

**Coordination & Support Actions**

100%

## Simplified funding rates:

- Up to 100 % of the eligible costs; but up to 70% (\*) in IA if profit-seeking organisations
- Single indirect cost model: 25% flat rate for all

# NMBP Evaluation

Ph1

Excellence	(4/5)
Impact	(4/5)
<b>TOTAL</b>	<b>(8/10)</b>

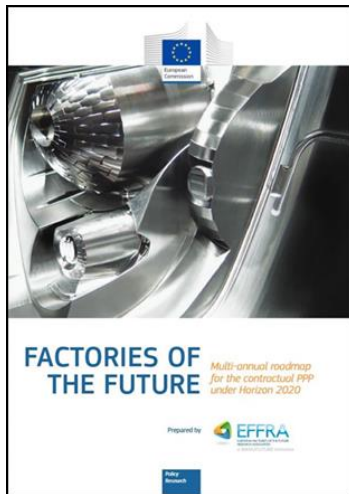
Ph2  
/  
One  
stage

Excellence	(4/5)
Impact	(4/5)
Quality and efficiency of the implementation	(3/5)
<b>TOTAL*</b>	<b>(12/15)</b>

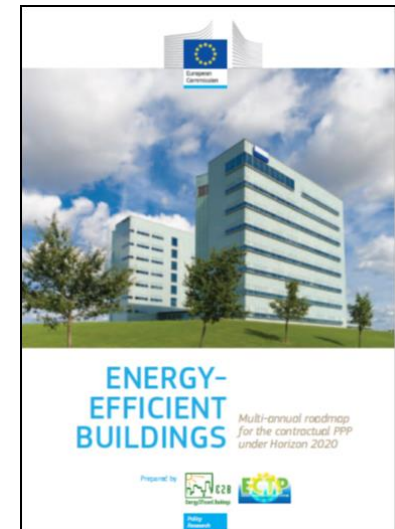
# Contractual Public-Private Partnerships (cPPPs)

- Technological and sector related objectives – commitment from industry.
- **Industry** plays **leading role** in defining research priorities
- Using fully open H2020 calls

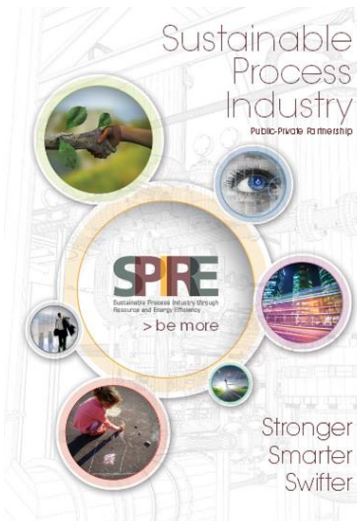
- **Factories of the Future (FoF)**



- **Energy-efficient Buildings (EeB)**



- **Sustainable Process Industry (SPIRE)**





# Análisis RESULTADOS NMBP 2014-2017

**2.578 propuestas, 1.646 con presencia ES  
(64%)**

**485 coordinadas ES (19%)**

**417 proyectos, 285 con presencia ES (68%)  
86 coordinados ES (20%)**

**Tasa de éxito ES: razonable, algo más alta  
que la media (17% vs. 16%)**

**294 M€ para entidades ES  
2º puesto detrás de DE**



**Official WP 2018-20 published!:**

[http://ec.europa.eu/research/participants/data/ref/h2020/wp/2018-2020/main/h2020-wp1820-leit-nmp\\_en.pdf](http://ec.europa.eu/research/participants/data/ref/h2020/wp/2018-2020/main/h2020-wp1820-leit-nmp_en.pdf)



EN

Horizon 2020

Work Programme 2018-2020

5.ii. *Nanotechnologies, Advanced Materials, Biotechnology and Advanced Manufacturing and Processing*

**Important notice on the Horizon 2020 Work Programme**

This Work Programme covers 2018, 2019 and 2020. The parts that relate to 2019 and 2020 are provided at this stage on an indicative basis. Such Work Programme parts will be decided during 2018 and/or 2019.

*(European Commission Decision C(2017)7124 of 27 October 2017)*

# EU Policy Context

**R&I in the context of European policy priorities (Political Guidelines for the Juncker Commission, July 2014)**

- To boost jobs, growth and investment
- To realise a connected digital single market
- To implement a resilient Energy Union with a forward looking climate change policy
- To make Europe a stronger global actor

## **Commissioner Moedas' priorities**

– *Open innovation, Open science, Open to the world*

# Work Programme 2018-2020

- Policy Context
- Technology Roadmaps
- Interim Evaluation H2020 (2014-2016)



- Fewer topics, more funding per topic (Non prescriptive topics)
- Extension of concept of pilot lines: Open Innovation Test Beds
- International cooperation
- Pilot experiences *IAs 50%; lump sum*



# Open to the world



- **EU-China Flagship** initiative on Biotechnology for environment and Human Health

- **New biotechnologies for environmental remediation** *CE-BIOTEC-04-2018*
- Microorganism communities for plastics biodegradation *CE-BIOTEC-05-2019*
- Custom-made biological scaffolds for specific tissue regeneration and repair *NMBP-21-2020*



- Chinese universities and research centers
- 1 phase evaluation
- **Deadline: 25/04/2018**
- Check Participant Portal:

<https://ec.europa.eu/research/participants/less4000/funding-guides/press-outings>

- **EU-USA Flagship** on Nanosafety (NNI program: Communities of Research <https://us-eu.org/>) (Topics NMBP-13 a NMBP-17)



Collaboration in nanosafety is also encouraged with South Korea, Brazil, Canada, Australia, China, Japan and South Africa.

# Open to the world



Other topics where international cooperation is particularly encouraged:

- Catalytic transformation of hydrocarbons, (*European Neighbourhood Policy countries, Iran e Iraq*) **CE-NMBP-24-2018**
- Standardisation in Synthetic Biology **BIOTEC-01-2018**
- Conservation of cultural heritage (*in particular with relevant international organisations*) **NMBP-33-2018**
- Photocatalytic synthesis CE-NMBP-25-2019
- SPIRE, may be particularly appropriate in some areas of Sustainable Process Industry (*in particular with Eastern Partnership Countries*) **CE-SPIRE-1 a 10**

# Open Innovation



## TEST BEDS.

- Open, transparent access at fair cost
- To any SME in all Europe
- Links to other test-beds, clusters:

## INNOVATION ECOSYSTEM

## GREATER OUTREACH

- Active contribution with ongoing activities, clusters, networks.
- «include actions designed to facilitate cooperation with other projects across Europe» - 25 topics



<https://www.nanosafetycluster.eu/>



[www.emmc.info](http://www.emmc.info)



<http://eppn.eu/>



<http://www.characterisation.eu/>

# Pilot experience: Innovation actions 50%

- For profit-making entities (instead 70% IA)
- Innovation actions reaching TRL 7
- High-cost demonstrators integrating different technologies in industrial settings

- DT-FOF-04-2018 Pilot lines for metal Additive Manufacturing
- DT-FOF-08-2019 Pilot lines for modular factories
- DT-FOF-20-2020 Pilot lines for large-part high precision manufacturing

- CE-SPIRE-03-2018 Energy end resource flexibility in highly energy intensive industries.
- CE-SPIRE-05-2019 Adaptation to variable feedstock through retrofiting

- LC-EEB-06-2018-2020 ICT enabled, sustainable and affordable residential building construction, design to end of life.



# Pilot experience: LUMP SUM

- DT-NMBP-20-2018: A digital "plug and produce" online equipment platform for manufacturing.

**Deadline: 08/03/2018**

- **Lump-sum Payments**

- Payment on the basis of deliverables instead of costs.
- Fixed lump-sum defined in work program: 7.5 M€
- Payment when work packages are fully completed; without cost reporting, or financial audits.

- **Cascading Grants**

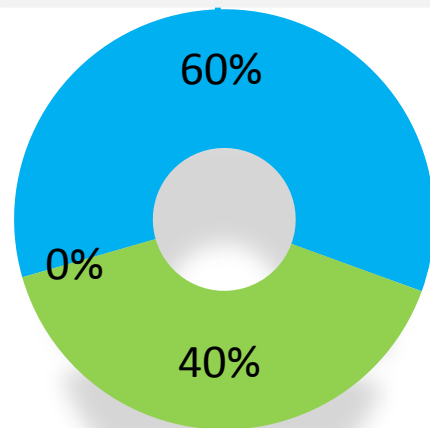
- To connect small manufacturing business to the platform
- Open call to select third parties for which financial support will be granted (50.000-100.000 €).

# MNBP main priorities

## Priorities

Bringing the digital to the physical world

Industry 4.0



Circular Economy (20%)

Climate, Energy (20%)

Climate, Energy and the Circular Economy

## Calls

**FOUNDATIONS** for tomorrow's industry (~395M€)

**TRANSFORMING** European industry (~525M€)

**Industrial SUSTAINABILITY** (~665M€)

## Impacts

Eco-system for design/testing/upscaling

Global industrial leadership for re-industrialisation

Less energy input, more energy/ resource efficiency

# Calls NMBP 2018-20

**FOUNDATIONS** for  
tomorrow's industry  
(~395M€)

Open Innovation  
TestBeds

Characterisation &  
Modelling

Governance, risk-  
assessment &  
regulatory

**TRANSFORMING**  
European industry  
(~525M€)

Factories of the  
Future (FoF)

Biotechnology

Medical Technology

Industrial  
**SUSTAINABILITY**  
(~525M€)

Sustainable  
Process Industry  
(SPIRE)

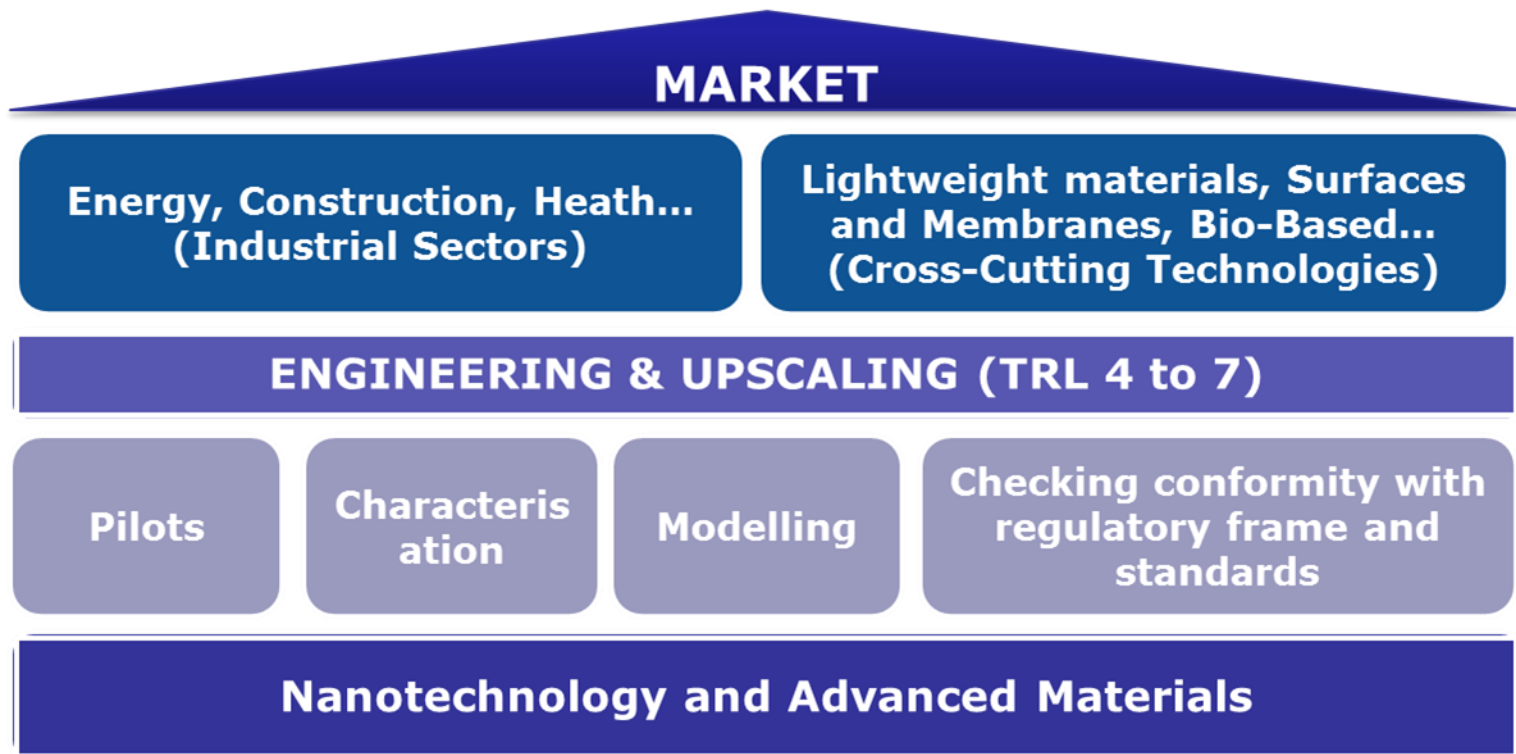
Catalysing Circular  
Economy

Materials Clean  
Energy

Cultural Heritage

Energy-efficient  
Buildings (EEB)

# Foundations for Tomorrow's Industry

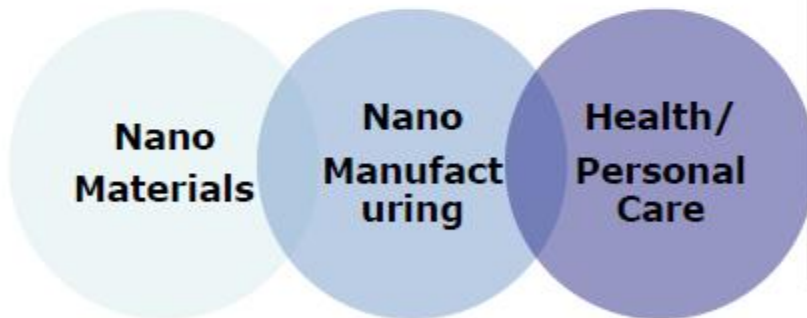


# Pilots (NMBP 2014-2017)

## Enablers for Innovation Ecosystems (1)

### Pilot Line Projects Horizon 2020:

- EU Contribution 150 M€
- 29 Pilot Line Projects
- >80 Pilot Facilities and Demonstrators
- >30 Regions involved



# Open Innovation Test Beds



## 1.1 OPEN INNOVATION TEST BEDS

Open Innovation Test Beds are physical facilities, established in at least three Member States and Associated Countries, offering technology access and services. The objective of Open Innovation Test Beds is to bring nanotechnology and advanced materials within the reach of companies and users in order to advance from validation in a laboratory (TRL 4) to prototypes in industrial environments (TRL 7).

# Open Innovation Test Beds

- Develop new /upgrade existing facilities.
  - Demonstration in relevant industrial environments.
- Complementary services:

-Characterisation	- Regulation	- IPR
-Modelling	- Standardisation	- Market analysis
- ...	- ...	- Mentoring, ...

- Identification and assesment of regulatory, economic and technical barriers.

- Open: accesible at fair cost to any SME in Europe.
- Set up network of test beds and services, sharing knowledge, offering a single entry point to users.



# Example of Test Bed with own Facilities and Services

## SOLUTION

### Open Innovation Test Bed on Lightweight nano-enabled multifunctional composite materials and components

Physical  
Facilities for  
piloting and  
testing

Characterisation

Modelling

Nanosafety

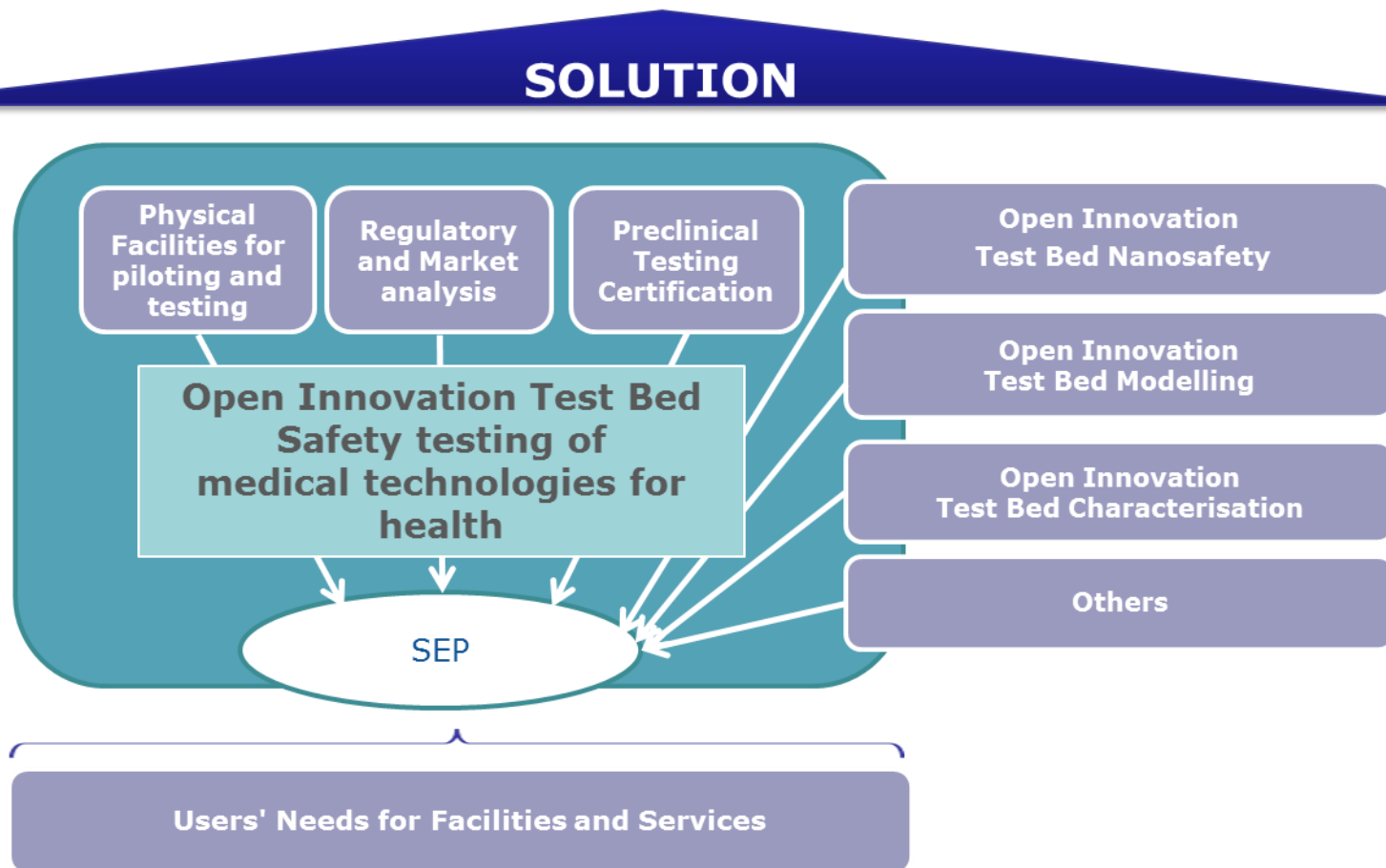
Regulation &  
Standardisation

Business/  
Marketing  
Services

Users' Needs for Facilities and Services



# Example of Test Bed with Facilities & Services in House and Provided by External Entities



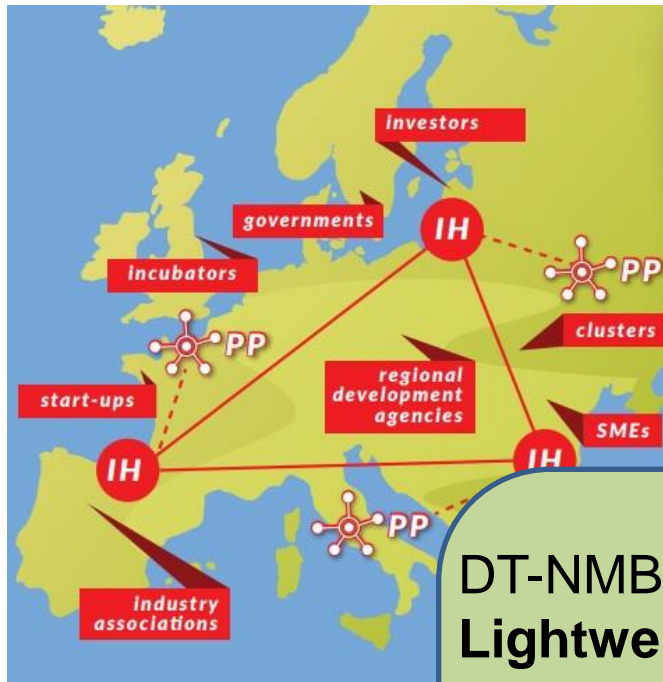
# Open Innovation Test Beds - Impact

- Reduced cost and lower risk for SMEs:
  - Accelerate innovation
  - Improve productivity
- Increased access to finance.
- Test Beds to become **Sustainable** → *Business case*
- Attract users from all Europe → *Dissemination*

➤ *Questions? Check FAQs*



# NMBP 2018-2019: Foundations for Tomorrow's Industry



## OPEN INNOVATION TEST BEDS

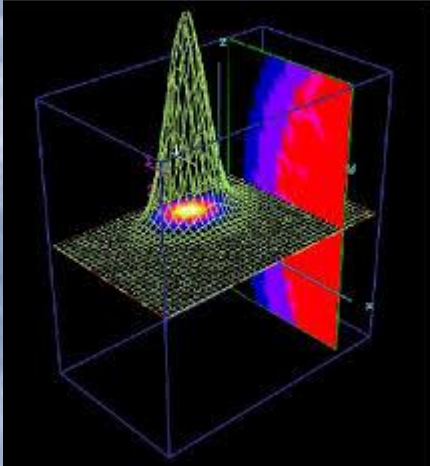
DT-NMBP-01-2018: Open Innovation Test Beds for **Lightweight nano-enabled multifunctional composite materials and components** (IA) **TRL 4-7 7-15M€**

DT-NMBP-02-2018: Open Innovation Test Beds for Safety Testing of **Medical Technologies** for Health (IA) **TRL 4-7 7-15M€**

DT-NMBP-03-2019: Open Innovation Test Beds for nano-enabled **surfaces and membranes**(IA) **TRL 4-7 7-15M€**

# NMBP 2018-2019: Foundations for Tomorrow's Industry

## MATERIALS CHARACTERISATION & COMPUTATIONAL MODELLING



DT-NMBP-07-2018: Open Innovation Test Beds for **Characterisation (IA)** **TRL 4-6 9M€**

DT-NMBP-09-2018: Accelerating the **uptake of materials modelling software (IA)** **TRL 4-7 4M€**

DT-NMBP-08-2019: **Real-time nano-characterisation technologies (RIA)** **TRL 4-6 4-5M€**

DT-NMBP-10-2019: Adopting materials modelling in manufacturing processes (RIA) **TRL 4-6 5M€**

DT-NMBP-12-2019: **Sustainable Nano-Fabrication (CSA)** **2M€**

# NMBP 2018-2019: Foundations for Tomorrow's Industry

## GOVERNANCE, SCIENCE-BASED RISK ASSESSMENT & REGULATORY ASPECTS



NMBP-13-2018: **Risk Governance** of nanotechnology (RIA)



TRL 4-6 5M€

NMBP-14-2018: **Nanoinformatics: from materials models to predictive toxicology and ecotoxicology** (RIA)



TRL 4-6 6M€

NMBP-15-2019: **Safe by design**, from science to regulation: **metrics and main sectors** (RIA)



TRL 4-6 5-6M€

# Calls NMBP 2018-20

**FOUNDATIONS** for  
tomorrow's industry  
(~395M€)

Open Innovation  
TestBeds

Characterisation &  
Modelling

Governance, risk-  
assessment &  
regulatory

**TRANSFORMING**  
European industry  
(~525M€)

Factories of the  
Future (FoF)

Biotechnology

Medical Technology

Industrial  
**SUSTAINABILITY**  
(~525M€)

Sustainable  
Process Industry  
(SPIRE)

Catalysing Circular  
Economy

Materials Clean  
Energy

Cultural Heritage

Energy-efficient  
Buildings (EEB)

## FACTORIES OF THE FUTURE (FOF) - 2018



DT-FoF-01-2018: **Skills** needed for new Manufacturing jobs (CSA) 1-2M€

DT-FoF-02-2018: Effective Industrial **Human-Robot Cooperation** (RIA) TRL 4-6 6-8M€

DT-FoF-03-2018: Innovative manufacturing of **opto-electrical parts** (RIA) TRL 4-6 6-8M€

DT-FoF-04-2018: Pilot lines for **metal Additive Manufacturing (IA 50%)** TRL 5-7 12-15M€

DT-NMBP-20-2018: A digital '**plug and produce**' **online equipment platform** for manufacturing (IA) TRL 5-7 7.5M€

Lump  
Sum +  
Cascade

# NMBP 2018-2019: Transforming European Industry

## FACTORIES OF THE FUTURE (FOF) 2019



DT-FoF-05-2019: Open Innovation for collaborative production engineering (IA) **TRL 4-6**

DT-FoF-06-2019: Refurbishment and re-manufacturing of large industrial equipment (IA) **TRL 5-7**

DT-FoF-08-2019: Pilot lines for modular factories (IA 50%) **TRL 5-7**

DT-FoF-12-2019: Handling systems for flexible materials (RIA) **TRL 4-6**

DT-NMBP-18-2019: Materials, manufacturing processes and devices for organic and large area electronics (IA) **TRL 3-5**

DT-NMBP-19-2019: Advanced materials for additive manufacturing (IA) **TRL 4-6**



# NMBP 2018-2019: Transforming European Industry

## BIOTECHNOLOGY

BIOTEC-01-2018: **Standardisation in Synthetic Biology (CSA)** 2M€

BIOTEC-03-2018: **Synthetic biology** to expand diversity of nature's chemical production (RIA) TRL3-5 6-8M

CE-BIOTEC-04-2018: New **biotechnologies for environmental remediation (RIA)** TRL 3-5 5M€



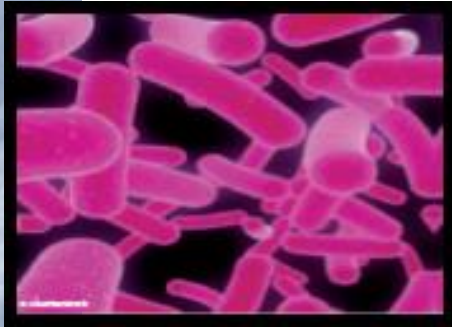
BIOTEC-02-2019: Boosting the efficiency of **photosynthesis (RIA)** TRL 3-5 6-8M

CE-BIOTEC-05-2019: Microorganism communities for **plastics bio-degradation (RIA)** TRL 3-5 5M€



## MEDICAL TECHNOLOGY INNOVATIONS

NMBP-22-2018: **Osteo-articular tissues regeneration (RIA)** TRL 3-5 4-6M€



# Calls NMBP 2018-20

**FOUNDATIONS** for tomorrow's industry (~395M€)

Open Innovation TestBeds

Characterisation & Modelling

Governance, risk-assessment & regulatory

**TRANSFORMING** European industry (~525M€)

Factories of the Future (FoF)

Biotechnology

Medical Technology

Industrial **SUSTAINABILITY** (~525M€)

Sustainable Process Industry (SPIRE)

Catalysing Circular Economy

Materials Clean Energy

Cultural Heritage

Energy-efficient Buildings (EEB)

## SUSTAINABLE PROCESS INDUSTRY (SPIRE)

CE-SPIRE-02-2018: Processing of material feedstock using **non-conventional energy sources** (IA)

TRL 4-6 6-10M€

CE-SPIRE-03-2018: Energy and resource efficiency in **highly energy intensive** industries(**IA 50%**)

TRL 5-7 8-12M€

CE-SPIRE-10-2018: Efficient recycling processes for plastic containing materials (IA)

TRL 5-7 6-8M€

CE-SPIRE-04-2019: Efficient integrated **downstream processes** (IA)

TRL 5-7 10-14 M€

CE-SPIRE-05-2019: Adaptation to **variable feedstock** through retrofitting (**IA 50%**)

TRL 5-7 8-12M€

DT-SPIRE-06-2019: Digital technologies for improved performance in **cognitive production plants**(IA)

TRL 5-7 6-8M€



## CATALYSING THE CIRCULAR ECONOMY



CE-NMBP-24-2018: **Catalytic transformation of hydrocarbons (RIA)** TRL 3-5 5-7M€

CE-NMBP-26-2018: **Smart plastic materials with intelligent recycling properties by design (RIA)** TRL 3-5 4-6M€

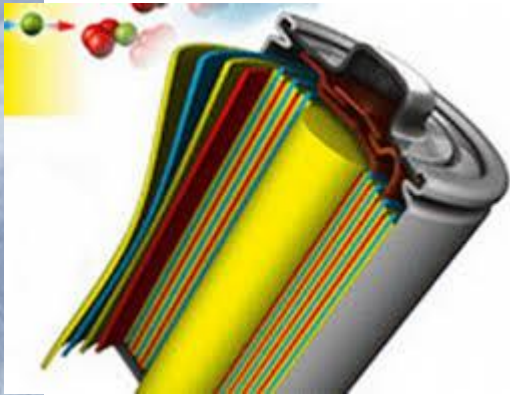
CE-NMBP-25-2019: **Photocatalytic synthesis (RIA)** TRL 3-5 5-7M€



## CULTURAL HERITAGE

NMBP-32-2018: **Innovative and affordable solutions for the preventive conservation of cultural heritage (IA)** TRL 5-7 4-6M€

## CLEAN ENERGY THROUGH INNOVATIVE MATERIALS



LC-NMBP-30-2018: Materials for future highly performant **electrified vehicle batteries** (RIA)

TRL 3-5 6-8M€

LC-NMBP-27-2019: Strengthening EU materials technologies for **non-automotive battery storage** (RIA)

TRL 4-6 6-8M€

LC-NMBP-29-2019: Materials for **non-battery based energy storage** (RIA)

TRL 3-5 4-6M€

LC-NMBP-32-2019: Smart materials, systems and structures for **energy harvesting**(RIA) TRL 3-5 5-7M€

# NMBP 2018-2019: Industrial sustainability

## ENERGY-EFFICIENT BUILDINGS (EEB)



LC-EeB-02-2018: Building information modelling adapted to efficient renovation (RIA) **TRL 4-6 5-7M€**

LC-EeB-06-2018/20: **ICT** enabled, sustainable and affordable residential building, **design to end of life (IA 50%)** **TRL 5-7 6-8M€**

LC-EeB-01-2019: Integration of energy smart materials in non-residential buildings (IA) **TRL 5-7 4-6M€**

LC-EeB-03-2019: New developments in **plus energy houses** (IA) **TRL 5-7 6-8M€**

LC-EeB-05-2019/20: Integrated **storage systems for residential** buildings (IA) **TRL 5-7 6-8M€**

# NMBP Calls 2018-2019

## 2018-19 budgets:

- FOUNDATIONS FOR TOMORROW'S INDUSTRY – **269 M€**
- TRANSFORMING EUROPEAN INDUSTRY – **340 M€**
- INDUSTRIAL SUSTAINABILITY – **447 M€**

## 2018 Deadlines

- Two-stage topics: **23/01/18** and **28/06/18**
- Single-stage topics: **22/02/18**
- Lump sum funding pilot scheme topic: **DT-NMBP-20-2018: 08/03/18**
- EU-China flagship initiative on Biotechnology topic: **CE-BIOTEC-04-2018: 25/04/18**

¿¿Y por dónde empiezo??





# The topic

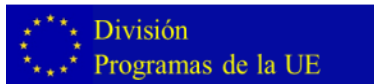
## TITLE

## CHALLENGE & SCOPE

## TRL & BUDGET

## IMPACT

## INSTRUMENT



**CE-NMBP-26-2018: Smart plastic materials with intrinsic recycling properties by design (RIA)**

Specific Challenge: Developing of multifunctional materials based products with smart intrinsic recycling and/or sorting abilities that harmonise with circular economy principles will create a real paradigm shift in the market and a clear benefit for society. It will also help industry to better match the EU environmental targets at the same time as improving their competitiveness.

Scope: Proposals should cover one or more of the following types of materials design:

- Design of polymer material structures with intrinsic sorting/recycling abilities such as: Composite and reinforced composite materials, multilayers, mix of plastics, sequence controlled polymers, reinforced polymers, but also the design of polymer formulations with smart additives, which allow adequate sorting, separation and recycling;
- Design of smart polymer materials for recycling/re-processing: The development of resins of thermoplastic nature, but also the development of new smart polymers (e.g. sequence controlled polymers, vitrimers, nano-structured block co-polymers, self-sorting polymers, click chemistry based materials) and others;
- Further developments of separation and recycling technologies: New separation technologies like the removal of organics, contaminants, but also further developments or novel chemical recycling and/or controlled bio-degradation technologies, which are today not cost effective enough or still need to be validated.

Proposals should demonstrate the actual circular use of such materials through re-processing of recycled products and the evaluation of properties of such re-processed products in an industrial environment.

Proposals should include the full Life Cycle Assessment (LCA) of the material production and life-cycle.

Activities should start at TRL 3 and achieve TRL 5 at the end of the project.

The Commission considers that proposals requesting a contribution from the EU between EUR 4 and 6 million would allow this specific challenge to be addressed appropriately.

Nonetheless, this does not preclude submission and selection of proposals requesting other amounts.

Expected Impact: The development of novel plastic materials would aid in:

- Meeting the EU's circular economy and environmental targets while demonstrating a clear benefit, i.e. more efficient or economic than the state of the art in order to enable market uptake in the short to medium term;
- Create new technologies and business opportunities for the recycling industry across Europe, especially in the area of composites and plastics where the challenge is high;
- Demonstrate a potential reduction in landfill waste volume by > 50%;
- Reduction of the carbon footprint of the corresponding products by > 30% (based on a full Life Cycle Assessment).

Relevant indicators and metrics, with baseline values, should be clearly stated in the proposal.

Type of Action: Research and Innovation action



# Make an IMPACT!



- Importancia en la evaluación
- Cubrir TODOS los impactos del topic...e identificar otros posibles.
- Cuantificar los impactos de manera justificada.

«Relevant indicators and metrics, with baseline values, should be clearly stated in the proposal.»

- Ser ambiciosos, definir una estrategia y plan de futuro claro.
- Prestar atención al Plan de Comunicación

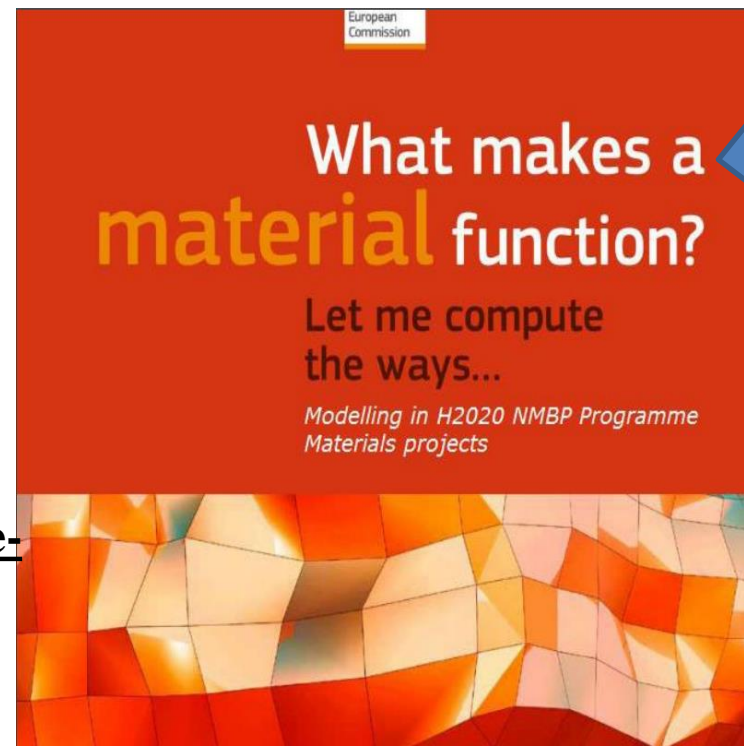
# Business case & Exploitation strategy

- Market opportunities for European enterprises, innovators.
- Manufacturing capacities : growth and jobs in Europe.
  - **BUSINESS CASE**: Targeted markets; user, consumer needs, competitive advantage, etc.
- Realistic **exploitation strategy**:
  - Identify obstacles & needed actions to reach high TRLs :
    - Industrial integrator, availability of testing facilities, reliability.
    - Matching European value chains.
    - Standardisation, IPR, Regulatory issues.
    - User acceptance; sustainability of financing



# Computational Modelling

- Highlighted in a number of topics .
- Should be described similar to Review of Material Modelling (RoMM)
- Contribution to the European Materials Modelling Council (EMMC)
- Use of existing models from previous project is encouraged.



<https://emmc.info/version-6-of-the-romm-is-now-available/>

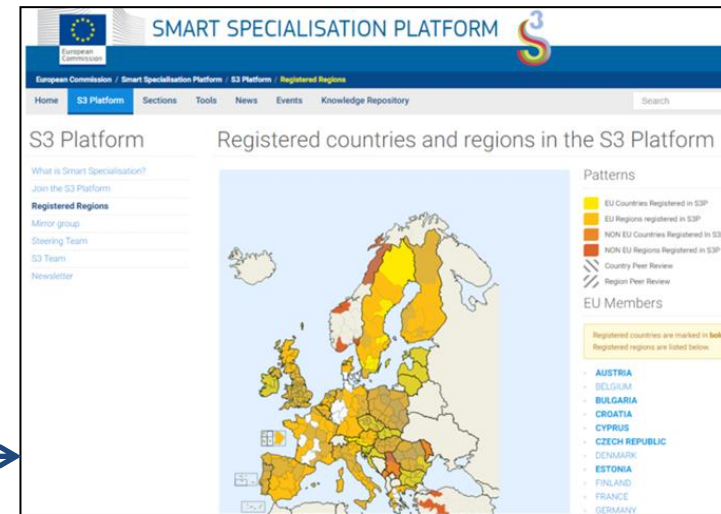
# Other cross-cutting issues

- **Synergies of funds:** possibilities for further funding from other relevant EU, national or regional R&I funds.

Identify the Smart Specialisation fields of your EU Member State or region (RIS3).

**RIS3 Guide & map:**

<http://s3platform.jrc.ec.europa.eu/map>



- **Gender aspects:** explore, analyse and respond to possible sex and gender differences.
- **Open research data:** Engage in research data sharing by default (may opt out)
- Integration of social sciences and humanities (**SSH**).
- Contribution to **Standardization** activities.
- Life cycle Analysis as a tool (SPIRE topics).

# The Work Programme (DRAFT)

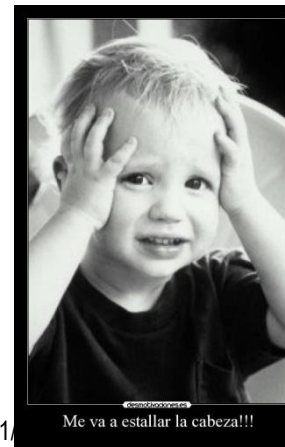
- Excellent Science
  - Future and Emerging Technologies, DRAFT work programme published
  - Marie Skłodowska-Curie actions, DRAFT work programme published
  - Research Infrastructures, including e-Infrastructures, DRAFT work programme published
  - Leadership in Enabling and Industrial Technologies, DRAFT Introduction published
  - Nanotechnologies, Advanced Materials, Biotechnology, and Advanced Manufacturing and Processing (NMBP), DRAFT work programme published
  - Information and Communication Technologies, DRAFT work programme published
  - Space, DRAFT work programme published
- Innovation in SMEs, DRAFT work programme published
- Access to Risk Finance, DRAFT work programme published
- Societal Challenges
  - Societal Challenge 1, DRAFT work programme published (Health, demographic change and wellbeing)
  - Societal Challenge 2, DRAFT work programme published (Food Security, Sustainable Agriculture and Forestry, Marine, Maritime and Inland Water Research and the Bioeconomy)
  - Secure, Clean and Efficient Energy , DRAFT work programme published
  - Societal Challenge 4, DRAFT work programme published (Smart, Green and Integrated Transport)
  - Societal Challenge 5, DRAFT work programme published (Climate Action, Environment, Resource Efficiency and Raw Materials)
  - Societal Challenge 6, DRAFT work programme published (Europe in a changing world – Inclusive, innovative and reflective societies)
- Spreading Excellence and Widening Participation
- Science with and for Society, DRAFT work programme published
- European Innovation Council (EIC) pilot, DRAFT work programme published
- Euratom, DRAFT work programme published

- Fast Track to Innovation  
- SME Instrument  
- Prizes

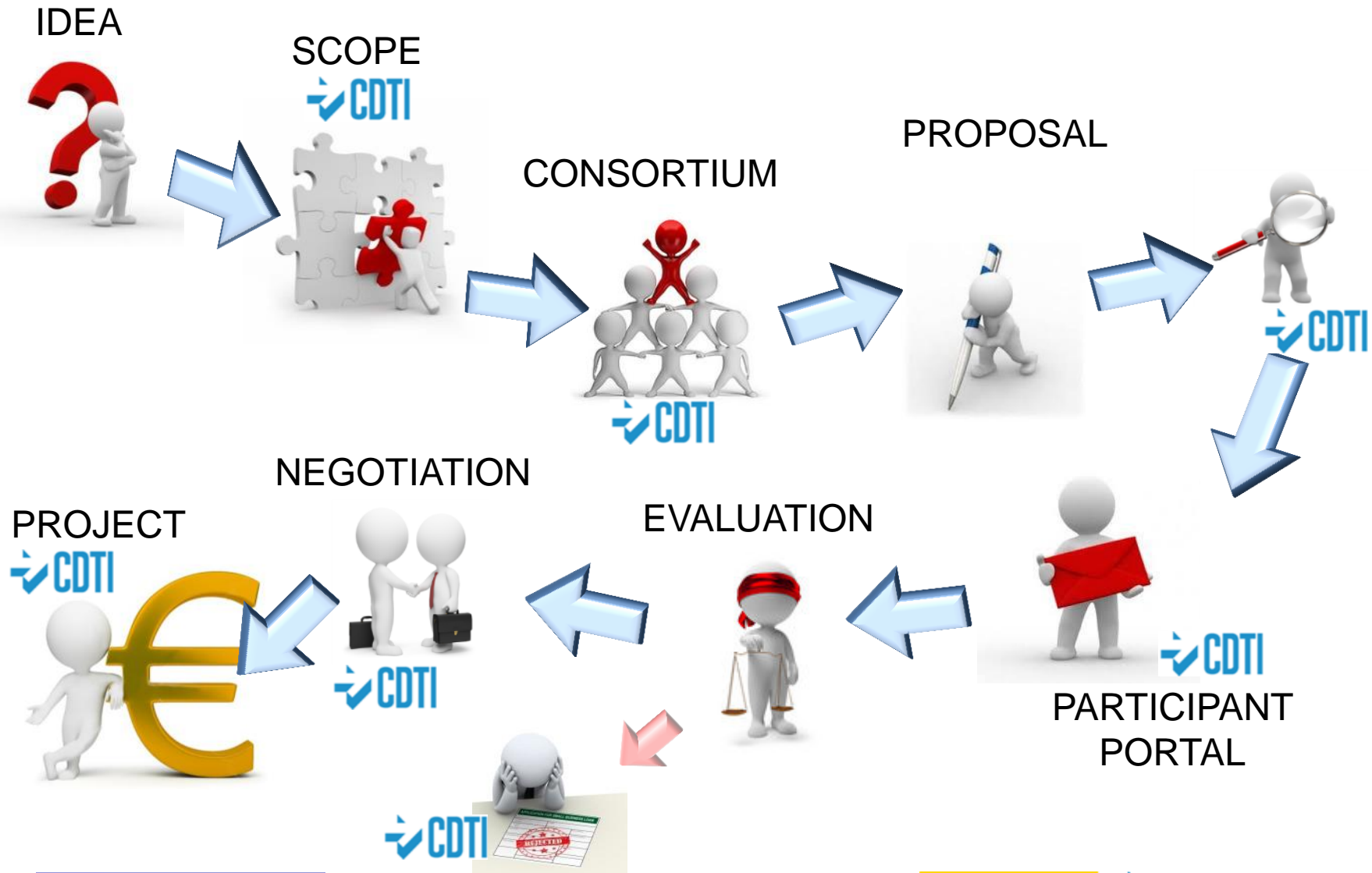
# Algunas recomendaciones finales:



- No olvidar contexto político, directivas y roadmaps
- Leer muy bien el topic y las introducciones.
- Cumplir los TRLs de inicio y fin del proyecto y justificarlos.
- Cumplir TODOS los impactos; cuantificar de forma razonada.
- Pensar en el evaluador
- Buscar ayuda!



# CDTI's support





# CDTI's support

Red de puntos de información sobre I+D+i (Red PI+D+i)

“NINGÚN PROYECTO INNOVADOR SIN AYUDA”

150 nodos de información en diferentes niveles

Amplia cobertura territorial

Medios de acceso al servicio

Canal Web: <http://www.redpidi.es>

Teléfono: 902.34.74.34

Presencial: Punto pidi más cercano <http://www.redpidi.es>





# ESHORIZONTE2020

Portal español del Programa Marco de Investigación e Innovación de la Unión Europea



<http://www.eshorizonte2020.es/>

## H2020 Guía rápida:

<http://www.eshorizonte2020.es/como-participar/guia-del-participante>

La generación de nuevo conocimiento, base del crecimiento europeo

**erc**  
European Research Council  
Established by the European Commission

**EVENTOS**  
7ª Conferencia del Programa Marco para Investigación e Innovación de la UE en España, Horizonte 2020  
Ya están disponibles la mayoría de las presentaciones de la 7ª Conferencia del Programa

**EVENTOS**  
Infoday ERC: Programa de Trabajo 2014  
El día 11 de diciembre de 2013, tendrá lugar en el Instituto de Salud Carlos III una jornada informativa sobre el Programa de Trabajo 2014 del ERC. La intervención principal

**ACTUALIDAD**  
Publicación de los borradores de programas de trabajo de Horizonte 2020  
La Comisión Europea ya está publicando los borradores finales de los programas de trabajo de Horizonte 2020.

**NOTICIAS**  
Abierta la inscripción en la base de datos de expertos de Horizonte 2020 de la Comisión Europea  
Todos aquellos expertos del mundo académico y empresarial, de diferentes áreas de conocimiento.

**CALENDARIO DE ACTIVIDADES**  
Noviembre 2013

L	M	X	J	V	S	D
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	

**Qué es HORIZONTE 2020**

# Listas distribución NMPB – H2020

## Servicios de Difusión Selectiva (Listas de distribución)



El CDTI ofrece un servicio de difusión de determinadas informaciones de interés, tanto en lo que se refiere a novedades relativas a sus programas como a actualizaciones de la información disponible. Este servicio se articula a través de una serie de "Listas de distribución" que recogen los datos de las personas interesadas en recibir la información.

A continuación se enumeran las diferentes listas de distribución que figuran a lo largo del portal. Para mantenerse informado de todas las novedades relativas a los temas a que se refieren estas listas, regístrese en aquellas que sean de su interés seleccionando las mismas y pinchando en "inscribirse" al pie de la página.

**Si ya está inscrito a alguna lista** y desea modificar sus datos (cambiar datos personales, inscribirse a más listas o borrar la inscripción a alguna de ellas), por favor, introduzca su dirección de correo electrónico en el cuadro que encontrará a la derecha de la pantalla y pulse "Aceptar". Inmediatamente recibirá un mensaje con un enlace a la página en la que podrá realizar la modificación oportuna.

### Financiación y Cooperación Internacional

#### ♦ HORIZONTE 2020

#### HORIZONTE 2020

- ♦ Horizonte 2020 - Acción por el clima, medio ambiente, eficiencia de los recursos y materias primas
- ♦ Horizonte 2020 - Energía Segura, Limpia y Eficiente
- ♦ Horizonte 2020 - Espacio
- ♦ **Horizonte 2020 - Nanotecnologías, Materiales Avanzados y Fabricación y Transformación Avanzadas**
- ♦ Horizonte 2020 - PYME y Acceso Financiación de Riesgo
- ♦ Horizonte 2020 - Salud, cambio demográfico y bienestar
- ♦ Horizonte 2020 - Seguridad alimentaria, agricultura y silvicultura sostenibles.

### Modificación



Si ya es usuario y desea modificar su inscripción a las listas introduzca su dirección de e-mail:

(Dirección de e-mail)

Aceptar

Texto a buscar

acionalización de la

de distribución

más de 55 millones  
125 proyectos de  
ial

# Búsqueda de socios:

- CORDIS
- Portal del Participante :

-Red de NCPs : [www.nmpteam.eu](http://www.nmpteam.eu)

The screenshot shows the 'Participant Portal' interface. At the top, there's a navigation bar with 'HOME', 'FUNDING OPPORTUNITIES', 'HOW TO PARTICIPATE' (circled in red), 'EXPERTS', and 'SUPPORT'. Below this, there are sections for 'Reference Documents' and 'Beneficiary Register'. The main content area features a 'More keywords...' search bar and two donut charts. The first chart shows 'FP7 (717)' and 'H2020 (324)'. The second chart shows 'THIRD PARTY (19)', 'BENEFICIARY (636)', and 'COORDINATOR (400)'. Below the charts is a 'Main collaboration partners' network diagram with 'CSIC' at the center, connected to various partners like CNRS, CNR, INRA, Fraunhofer, DTU, CEA, MPG, NERC, and UOXF. At the bottom, there's a 'Projects' section with a table of results.

ACRONYM	PROGRAM	TITLE	PROJECT ID	ACTIONS
3D - PRINTGRAPH	H2020	GRAPHENE REINFORCE COMPOSITES FOR 3D PRINTING TECHNOLOGY	705875	

The screenshot shows the 'NMP TeAm' website. The main header reads 'THE PARTNER SEARCH' with the subtitle 'partnering offers and searches' and a 'READ MORE' button. Below this, there are sections for 'HEADLINES' and 'SELECTED PARTNER SEARCH'. The 'SELECTED PARTNER SEARCH' section is circled in red and contains a table of search results. A red arrow points to the table.

SEARCH ID	SEARCH TITLE	SEARCH DESCRIPTION
PS-17-FR-1907	France: LABORATORY OF PHYSICAL-CHEMISTRY CHEMISTRY (LCPM) ...	→
PS-17-FR-1901	France: Genes Ink - PhD Rita FADDOUL	→

At the bottom of the page, there are logos for the 'MINISTERIO DE ECONOMÍA, INDUSTRIA Y COMPETITIVIDAD' and 'CDTI Centro para el Desarrollo Tecnológico Industrial'.

# Algunas fechas a recordar

- Brokerage Events:
  - Munich, 16 de noviembre
  - Bruselas, 7 de noviembre (EMIRI)
- Información y revisión de ideas de proyecto:

Fecha	Ciudad
24 Octubre	Santiago
30 Octubre	Valencia
6 Noviembre	Barcelona
14 Noviembre	Bilbao
28 Noviembre	Sevilla



# Contact information NMBP:

***Leadership in Enabling and Industrial Technologies  
(LEIT): NMBP***

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**Lucía Íñigo:** Spanish Delegate **NMBP**- [lucia.inigo@cdti.es](mailto:lucia.inigo@cdti.es)

**Marta Conde:** National Contact Point **BioTech**- [marta.conde@cdti.es](mailto:marta.conde@cdti.es)

**Carlos León:** National Contact Point **NMP** - [carlos.leon@fis.ucm.es](mailto:carlos.leon@fis.ucm.es)

<http://eshorizonte2020.es/>



@eshorizonte2020  
@CDTloficial



**Consultas generales sobre  
I+D+i y el Programa Marco:**  
<http://www.cdti.es/pidi>

**Tel. 902 34 74 34**

# Muchas Gracias por su atención

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División Programas de la UE-Dpto. Liderazgo Industrial  
Dirección de Programas Internacionales



@NievesGonz\_CDTI

LinkedIn profile

<https://www.linkedin.com/in/nievesgonzalez/>



#InvestEUresearch



# Horizon 2020 Work Programme for Research & Innovation 2018-2020

**Infoday**  
Madrid 19 October 2017

**NMBP Programme**  
**OPEN INNOVATION TEST BEDS –**  
**Calls 2018/2019**

Helene CHRAYE, HoU Unit D3  
DG Research & Innovation

Research and  
Innovation





# WP NMBP 2018/2020

## FAQ on Open Innovation Test Beds

Living document: updated as of 29 September 2017



# INDEX

1. What are the OITBs for material upscaling, characterisation, modelling, and safety?
2. How many OITBs will be funded and in which domains?
3. Which activities of OITBs will be eligible for funding?
4. Which costs are not eligible?
5. What is the European added value of OITBs?
6. How will OITBs become sustainable once EU funding ends?
7. Who are the potential applicants?
8. What does open access mean?
9. What "single entry point" mean for the users

# INDEX

- 10.** Will SMEs outside the project consortium have access to these OITBs?
- 11.** How do the OITBs interact with other test beds funded under the same topic and with other similar initiatives?
- 12.** Will the interaction between test beds be an evaluation criteria?
- 13.** What is the link / synergy with regional funding?
- 14.** What is the link/difference with the Digital Innovation Hubs (DIH)?
- 15.** Why we are not using cascading grants for OITBs?
- 16.** How does the INNO SUP actions relate to the OITBs?
- 17.** What is the link with the Knowledge and Innovation Communities (KICs)?
- 18.** Is there a link between the Horizon 2020 programme on research infrastructures and the OITBs?

# 1- What are OITBs for material upscaling, characterisation, modelling, and safety?

- **Entities**, established in at least three Member States and Associated Countries, **offering access to physical facilities, capabilities and services** required for the development, testing and upscaling of nanotechnology and advanced materials in industrial environments.
- Bring nanotechnology and advanced materials within the reach of companies and users in order to **advance from validation in a laboratory (TRL 4) to prototypes in industrial environments (TRL 7)**.
- **Upgrade existing or support the setting of new public and private** test beds, pilot lines, and demonstrators to develop, test and upscale nanotechnologies and advanced materials for new innovative products and services in some specific domains.
- Typically run by for **profit organisations**.
- Users could be **industry**, including **SMEs**, as well as **innovators** and **start-ups**.



## 2- How many OITBs will be funded and in which domains?

- The call is expected to create about 20 Open Innovation Test Beds for **materials development and upscaling in six technology domains**:
  - Lightweight nano-enabled multifunctional materials and components
  - Safety Testing of Medical Technologies for Health
  - Nano-enabled surfaces and membranes
  - Bio-based nano-materials and solutions
  - Functional materials for building envelopes
  - Nano-pharmaceuticals production
- Four Open Innovation Test Beds for **materials characterisation** and four Open Innovation Test Beds for **modelling** will be also funded, in addition to the already existing NanoSafety Platform.



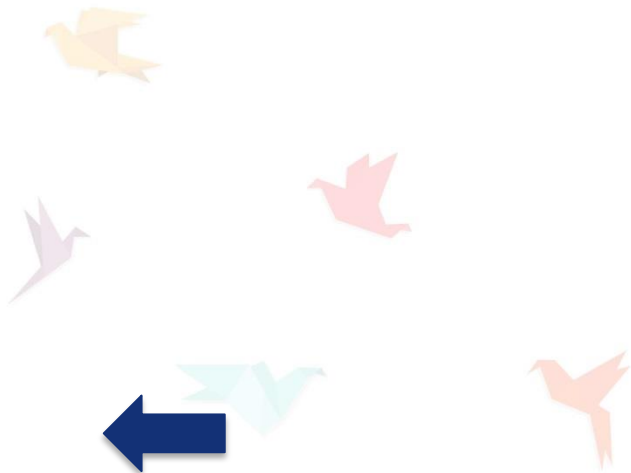
### 3- Which activities eligible for funding?

- All **activities from the prototyping to the industrial production**, and especially the testing in industrial environment, the validation of the characteristics of the materials and the control of the respect of legal and regulatory constraints.
- The **EU funding will support the upscaling and engineering process, a number of demonstration cases and dissemination/links with other eco-systems.**
- **Eligible costs** could notably include:
  - Acquisition, adaptation, installation and calibration of upscaling and testing equipment
  - Demonstration cases
  - Definition of access conditions to facilities and services
  - Networking activities between Open Innovation Test Beds and similar initiatives
  - Communication and dissemination activities
  - Services: Technology expertise; Legal / regulatory expertise; Modelling tasks; Characterisation tasks; Facilitation of access to funding for test beds' customers



## 4- Which costs are not eligible?

- Building costs
- Research costs, including acquisition of equipment, if not used for upscaling materials as described in the Open Innovation Test Beds topics
- Costs already repaid by a national, regional or European subsidy



## 5- What is the European added value of OITBs?

- **Single entry point** for any users to materials facilities and services across Europe
- **Broad access** to materials development facilities and services across Europe
- **Accelerated maturity of products for a faster market entry**
- **Reduced costs** for accelerating materials production for both industry and users
- **Harmonised conditions** for testing and procedures for materials upscaling, characterisation and modelling to improve internal market accessibility
- **Increased return on investment** in materials research
- **Early stage access to intelligence on EU regulations** making the materials development process more efficient
- **Easier marketability of products in Europe** (e.g. non-European products to be tested in accordance to EU regulations to enter the market)





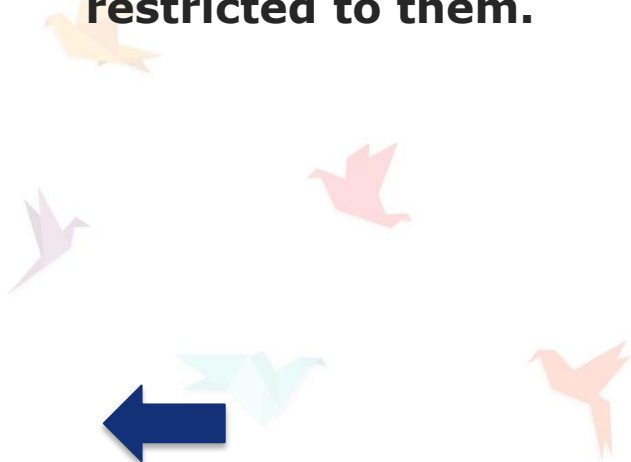
## 6- How will OITBs become sustainable once EU funding ends?

- Proposals should demonstrate that the test beds will reach out and deliver services to users, including SMEs, in a sustainable way and based on **market analysis, a business plan and how to attract further investments, e.g. venture capital.**
- The consortium will have to provide their **own resources** from the beginning, they should pay attention to adjust their services to reach a sufficient number of potential users.
- Proposals should include an **exploitation strategy**, together with dissemination actions, to ensure that potential customers will know about test beds existence, services, and access conditions.
- **After the end of EU funding, the Test Beds will have to operate autonomously on the revenues of the services they provide.**



## 7- Who are the potential applicants?

- Proposals can be submitted by a consortium, which is free to involve any relevant partner from **Members States and Associated Countries**, provided that it respects Horizon 2020 rules and the conditions specified in the Work Programme.
- This means that **private entities** can apply, as well as **Research and Technology Organisations, Research Centres, or Higher Education Establishments**.
- **While current pilot lines can apply, test beds' funding is not restricted to them.**



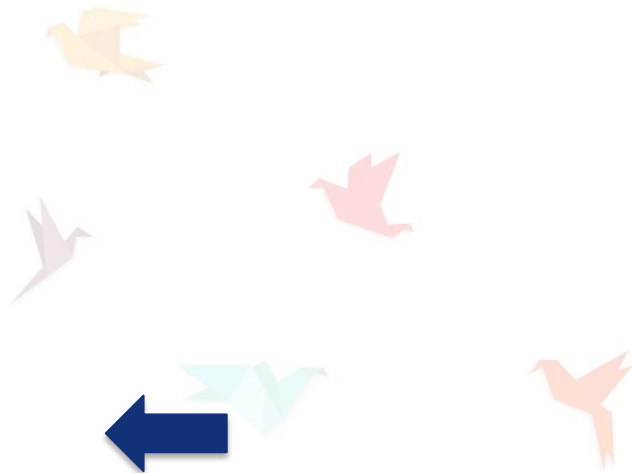
## 8- What does open access mean?

- Open access in this context means that any interested party, from Europe and globally, **can access test beds' facilities and services independently** whether they are part of the consortium or not.
- It is critical that any interested party from the EU or Associated Countries can access the test beds at **fair conditions and pricing and with transparent and mutual obligations in regard to for instance on security, safety and intellectual property rights.**
- Open Innovation Test Beds should set a **framework for the definition of the access conditions to their facilities and services respecting transparency and fair access conditions.**



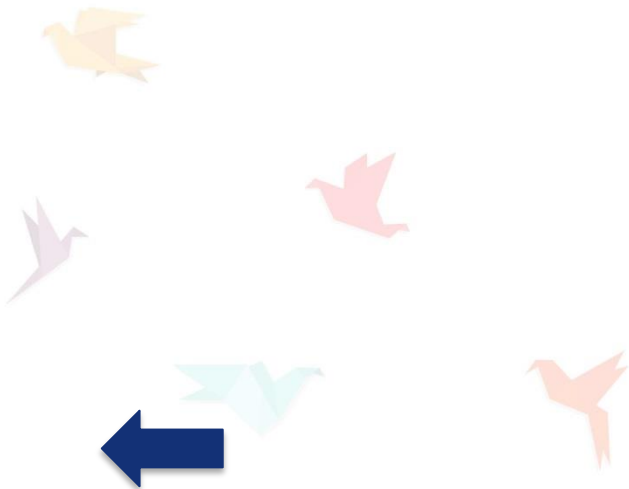
## 9- What will "single entry point" mean for the users?

- As test beds aim at **providing a full service along all steps of the technological development** of a physical innovation, all needed expertise have to be provided to users through a **single entry point**.
- If necessary, each test bed have **to acquire complementary services** from other entities, for instance on characterisation and or modelling, in order to offer a full package to users.



## 10- Will SMEs outside the project consortium have access to these test beds?

- Yes, SMEs will access the test beds at the **same conditions** than any other entity from the EU or Associated Countries.
- For **SMEs as core targeted user group**, the test beds will **offer a range of services** which are of specific interest to them, e.g. regulatory support and development of innovative materials SMEs frequently cannot afford on their own.
- Proposals should demonstrate a solid and measurable outreach strategy towards SMEs and innovators outside the consortium.



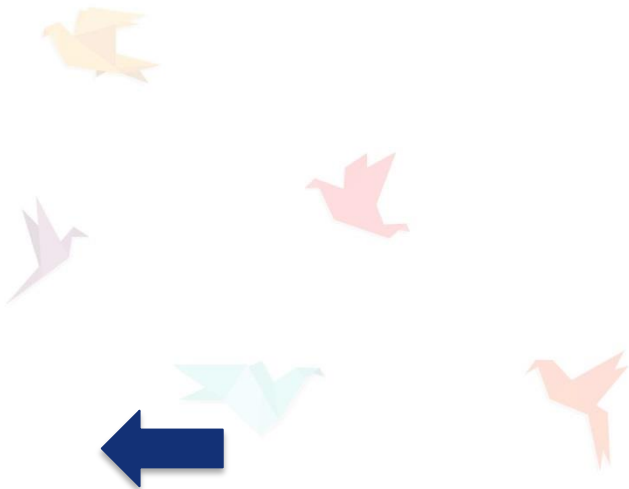
# 11- How do the test beds interact with other test beds funded under the same topic and with other similar initiatives?

- Part of the EU funding is for **launching cooperation** among themselves and with the other existing ones to make this cooperation systematic and sustainable at the end of the project. Moreover, it will be in the test beds' interest to **cooperate in a regular way with others entities to exchange services**, as well as the outcomes of their experience in providing services.
- Each proposal should include an amount for **coordination and networking**, with other similar test beds as well as with other innovation eco-systems in the EU, whether European, national or regional.
- A 2017 NMBP call Coordination and Support Action (CSA) project EPPN has stated to map existing services on upscaling of materials across the EU and Associated Countries. This mapping exercise is involving Member States, Candidate Countries and Associated Countries, e.g. through the support of the High Level Group on Nanotechnologies and Advanced Materials (HLG).



## 12- Will the interaction between test beds be an evaluation criteria?

- The proposers will have to detail the way they plan their cooperation with other existing or under establishment test beds, therefore this element will be part of the overall evaluation.
- It is considered an element of the sustainability analysis.



## 13- What is the link / synergy with regional funding?

- Open Innovation Test Beds should become an element of an overall ecosystem on materials upscaling, which already contains some regional facilities, and therefore **should cooperate together**. The sustainability analysis and the business study which are part of the proposals will ensure **there won't be duplication of facilities and activities at the regional level**.
- When funding facilities and services through Open Innovation Test Beds, **the principle of no double funding will apply** - <https://ec.europa.eu/research/regions/index.cfm?pg=synergies>
- If a Member State or a region wishes to support some entities in its costs for acceding to the Open Innovation Test Beds, this is possible within the remit of the EU and national rules on state aid.





## 14- What is the link/difference with the Digital Innovation Hubs (DIH)?

- Digital Innovation Hubs focus primarily on helping SMEs to master their digital transformation and advice on the choice among technologies for digitisation.
- Open Innovation Test Beds **are complementary** to Digital Innovation Hubs as they concentrate on the upscaling, demonstration, characterisation and modelling of advanced materials, including nanomaterials.
- Open Innovation Test Beds could in some cases the need to acquire digital services on a specific technology development. **Synergies based on complementarities are possible.**



## 15- Why we are not using cascading grants for OITBs?

- Digital Innovation Hubs operate with cascading grants but their scope is larger than the Open Innovation Test Beds. The cascading grant system ensures to the Digital Innovation Hubs a stable range of users. Digital Innovation Hubs are technology neutral and provide their users with a neutral opinion on which technology to use. Moreover, cascading grants have to be managed by an entity having a large financial capacity to bear the subsequent financial risk.
- **Open Innovation Test Beds work on a different scope and more downward segment of the value chain, where users of Test Beds will find an immediate benefit, without needing a system of cascading grants.**
- It is expected, as it is currently the case for the existing Pilot Lines, to have mainly private entities managing the Open Innovation Test Beds.



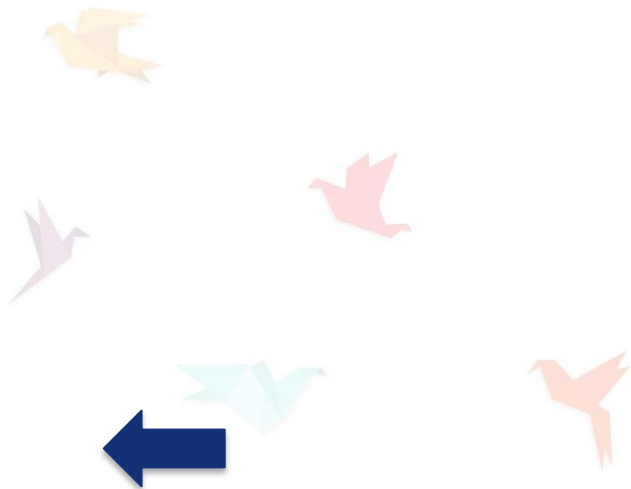
## 16- How does the INNO SUP actions relate to the OITBs?

- The INNO-SUP topics (under Horizon 2020) will fund mainly brokerage actions, matchmaking initiatives between innovative SMEs and large entities, but it doesn't fund the development process of the innovation in materials. The new INNO-SUP from 2017 calls foresees a similar approach than DIH, however focusing on manufacturing technics, therefore a different scope than the Open Innovation Test Beds.
- Nevertheless, Open Innovation Test Beds, DIH, INNO SUP funded entities, have links and need to **ensure coordination** as well as cooperation in some domains, as well as a coordination with national and regional structures.



## 17- What is the link with the Knowledge and Innovation Communities (KICs)?

- KICs are partnerships that bring together business, research centres and universities to develop innovative products and services, start new companies and train the next generation of entrepreneurs.
- Start-ups set up following a KIC partnership can well use then the Open Innovation Test Beds to upscale their innovation in materials towards reaching the market.



## 18- Is there a link between the Horizon 2020 programme on research infrastructures and the OITBs?

- The Horizon 2020 Research infrastructures programme deals with research facilities and funds especially the preparatory phase of new and the implementation of priority ESFRI infrastructures. It also aims at integrating national research facilities in the ESFRI network and these facilities will be serving for incubators too.
- The Open Innovation Test Beds focus on testing and upscaling equipment as well as modelling, characterisation, regulatory and technology advice for innovative technology products which have already gone through the research process and are at the further step of upscaling.
- In some specific cases, an Open Innovation Test Beds may acquire a service from an ESFRI infrastructure for a specific product, however the ESFRI infrastructures cannot be seen as Open Innovation Test Beds.



value 2 innovate + speed  
+ disruptive - cost BETT  
BETTER + added value  
speed + disruptive 2 inno  
- cost 2 innovate + spe  
nnovate - cost BETTER

# eurecat.

*"innovating for business"*



# / Connect-EU Working day



## **Nanotechnologies, Advanced Materials, Advanced Manufacturing and Processing, and Biotechnology**

*Why to participate in Horizon 2020 - NMBP?*

Dra. Esther Hurtós, Responsible of NMBP in Eurecat

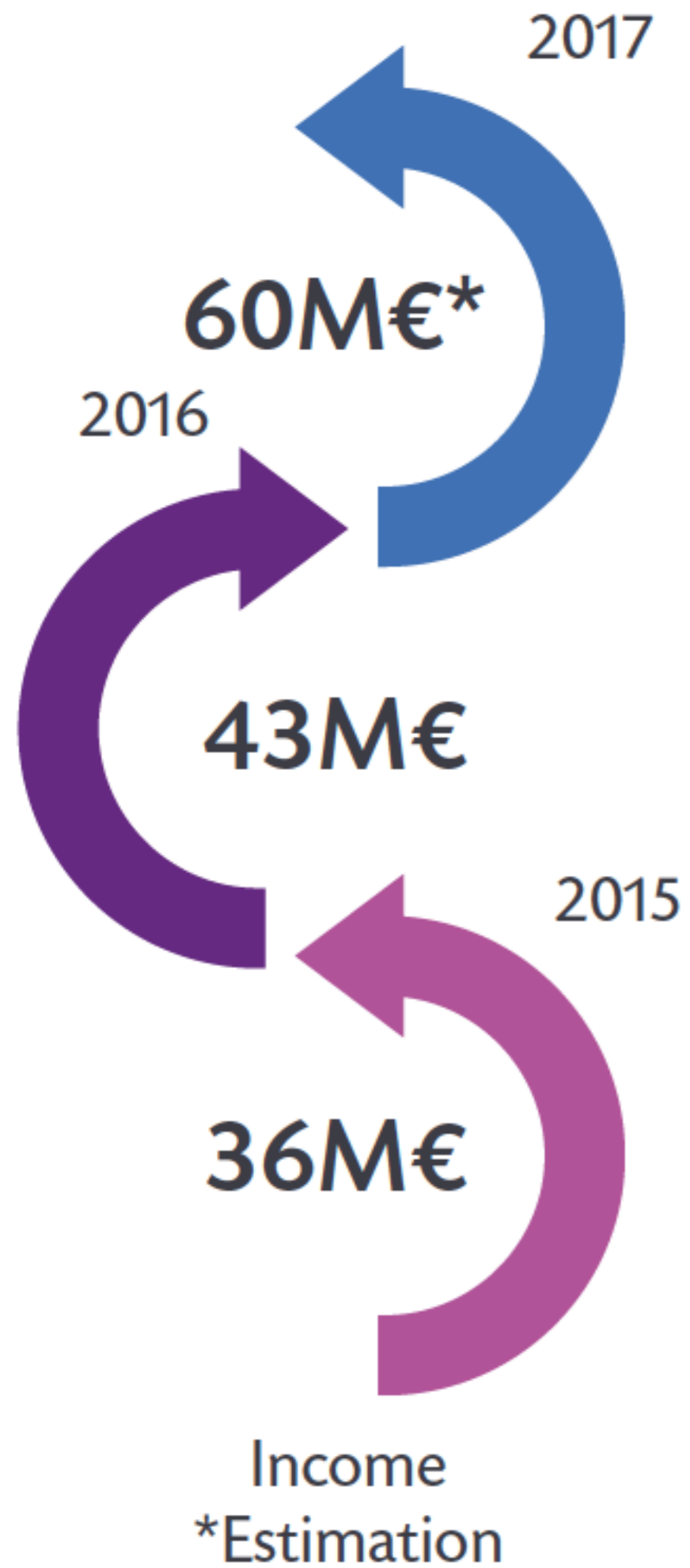


# Eurecat at the service of companies and the society





## / EURECAT IN NUMBERS.



+ 1.000  
Client companies



+ 73  
Patents



+ 160  
Large R&D projects

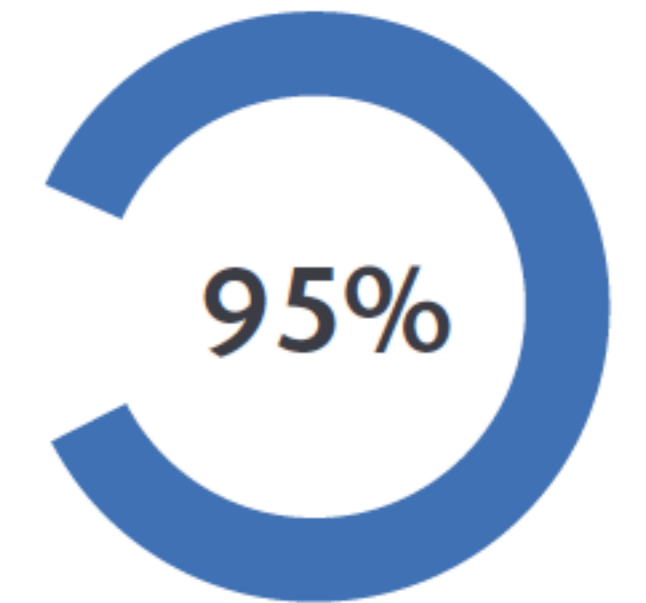


+ 8  
Spin-off

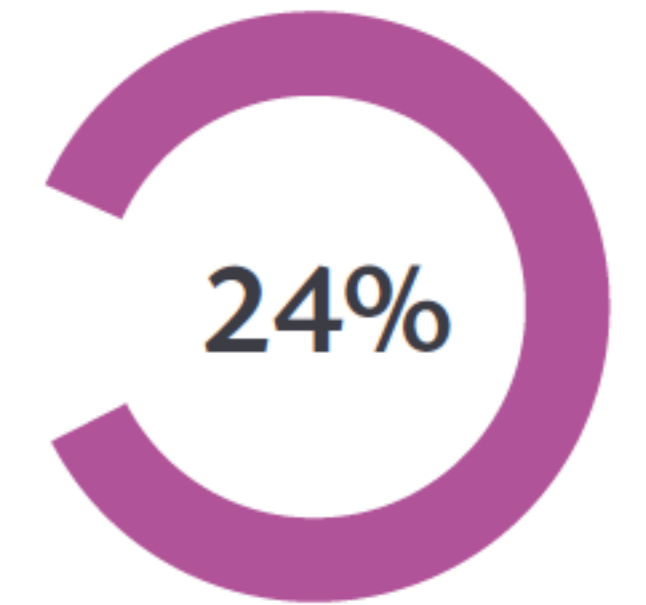
600 professionals

♂ 60%

♀ 40%



R&D projects



International projects

*"innovating for business"*



## / FOR WHOM? SECTORS.

Eurecat is promoted by the industry and for the industry.



FOOD AND NUTRITION



PUBLIC SECTOR



ENERGY AND RESOURCES



AUTOMOTIVE



AERONAUTICS



RAILWAY



INDUSTRIAL SYSTEMS AND PROCESSES



CULTURAL AND CREATIVE COMPANIES



TEXTILE



HEALTH



CONSTRUCTION



COMMERCE



FINANCES AND INSURANCES



INFORMATION AND COMMUNICATIONS TECHNOLOGY (ICT)



BIOTECHNOLOGY



TRAINING



SPORTS



TOURISM



CONSULTANCY



PROMOTION AND DISSEMINATION

Eurecat's activity supports the implementation of  
l'Estratègia d'Especialització Intel·ligent de Catalunya (RIS3CAT)

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## / WHAT DO WE HAVE?

### INDUSTRIAL TECHNOLOGY AREA



Autonomous  
& Industrial  
Robotics



Composites



Functional Printing  
& Embedded  
Devices



Functional  
Textile



Metallic and  
Ceramic  
Materials



New  
Manufacturing  
Processes



Plastic  
Materials



Process  
Modelling &  
Simulation



Product Innovation  
and Development



Sustainability

### DIGITAL TECHNOLOGY AREA



Audiovisual  
Technologies



Big Data



Data Mining



Digital  
Humanities



E-Health



IT- Security



Smart Management  
Systems

### BIOTECHNOLOGY AREA



Nutrition and  
Health



Omic  
Sciences



## / DIGITAL.

### **Creation and data retrieval**

Advances in interfaces (Wearable, mobile, M2M, Social Media, IoT).

### **Data Science**

New algorithms, methods and platforms to approach new challenges.

### **Data storage and Infrastructures**

Big Data architectures and Cloud Computing.

### **Visualization and User Experience**

Simulation environments, Visual environments. Audiovisual technologies.

## SUSTAINABLE, DIGITAL & SMART: INDUSTRY 4.0

Today's science is tomorrow's technology.

## / ADVANCED MANUFACTURING.

### **New efficient technologies**

Sustainable processes.

### **Functional materials**

Adding properties to products of the future.

### **Intelligent systems**

Boosting the concept of intelligent factories.

### **Industrial Laboratories of the Future**

From the concept to the industry.



# / EURECAT, FROM INDUSTRY TO INDUSTRY



In Barcelona, Eurecat has the largest pilot plant for new plastic transformation technologies in Southern Europe.

## Our existing pilot plants

**Plastic Processing Pilot Plant**

**Composites**

**Textiles**



# / INDUSTRY 4.0

**10 TRENDS THAT WILL CHANGE THE FUTURE OF THE INDUSTRY**

The combination of advanced manufacturing technologies and information, data and analytics technologies has resulted in new terms that are already applied in the industrial environment and represent the trends that will change the future of companies.

<p><b>1 AUTONOMOUS &amp; INDUSTRIAL ROBOTICS</b></p> <p>Air and land vehicles, navigation and control, sensors and actuators, robotised cells and collaborative robotics, among others, to provide advanced solutions for automating different tasks in different environments.</p>	<p><b>2 ADDITIVE MANUFACTURING / 3D PRINTING</b></p> <p>Additive manufacturing provides enormous advantages as compared to traditional methods. It includes opportunities for placing manufacturing points close to the consumer, competitive manufacturing of short product series or reproducing any geometry humans may think of to provide an immediate response to changing market needs.</p>	<p><b>3 PHOTONICS</b></p> <p>Photonic biosensors for healthcare diagnostics, a laser for processing materials applied to macro and micro-processes, devices based on special optical fibres or sensors based on fibre optics... consumer, competitive manufacturing of short product series or reproducing any geometry humans may think of to provide an immediate response to changing market needs.</p>	<p><b>4 SIMULATION, MODELLING &amp; VIRTUALISATION</b></p> <p>Simulation, 3D modelling of industrial machinery and animations to understand its functioning, creating virtual pictures of manufacturing plants, virtualisation in industrial environments to reduce software costs and computing resource consumption, augmented reality to facilitate learning by the operator,...</p>	<p><b>5 FUNCTIONAL PRINTING &amp; EMBEDDED ELECTRONICS</b></p> <p>This will allow industries such as packaging, textile, pharma or biomedicine to provide surfaces and objects with more functions of communication and usability interface with users as well as sensorisation and interaction with the environment as a whole.</p>	<p><b>6 ADVANCED &amp; FUNCTIONALISED MATERIALS</b></p> <p>Progress in nanotechnology opens up a wider span of advanced materials featuring awesome properties at lab scale. The next challenge is taking these properties to an industrial scale in order to provide pieces with unprecedented performances and be in a position of conceiving products with functionalities unheard of.</p>	<p><b>7 HORIZONTAL &amp; VERTICAL INTEGRATION SYSTEMS</b></p> <p>To take real profit from such data superintegration, the use of powerful digital tools ranging from data science to knowledge engineering will be needed.</p>	<p><b>8 CIRCULAR ECONOMY: VERTICAL INTEGRATION &amp; REVERSE LOGISTICS</b></p> <p>This economic concept takes the industry to a new pattern of using and optimising stocks and material, energy and resource flows based on the use of the best technologies such as intelligent management systems, thus creating new products or services.</p>	<p><b>9 INDUSTRIAL BIOTECHNOLOGY</b></p> <p>It is widely used in the medical, food, pharma and textile industries to create new products and materials as well as to produce biofuels.</p>	<p><b>10 CYBERSECURITY</b></p> <p>Security by Design<sup>®</sup>, i.e. including cybersecurity as a requirement for an organisation's IT systems from the onset, or "Security in Depth", i.e. thinking of all doors that may allow attacks on cybersecurity if opened fraudulently, are concepts the companies will adopt to ensure that their assets are safe. Without any guaranteed cybersecurity, no true migration to the Industry 4.0 paradigm can be envisaged.</p>
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**eurecat**

Eurecat innovates together with companies and takes them to the new Industry 4.0 paradigm.

## Industry 4.0

R&D projects

Consultancy

Roadmap 4.0

Specialised training

Dissemination events:  
Future Industry Congress

# / NON-CONVENTIONAL ENERGY SOURCES FOR ADVANCED MANUFACTURING



Ultrasonic process



Resultant bendings



Gauge tests

We are leaders in Catalonia in additive and advanced manufacturing, with more than 30 years serving the industry

## Advanced Manufacturing

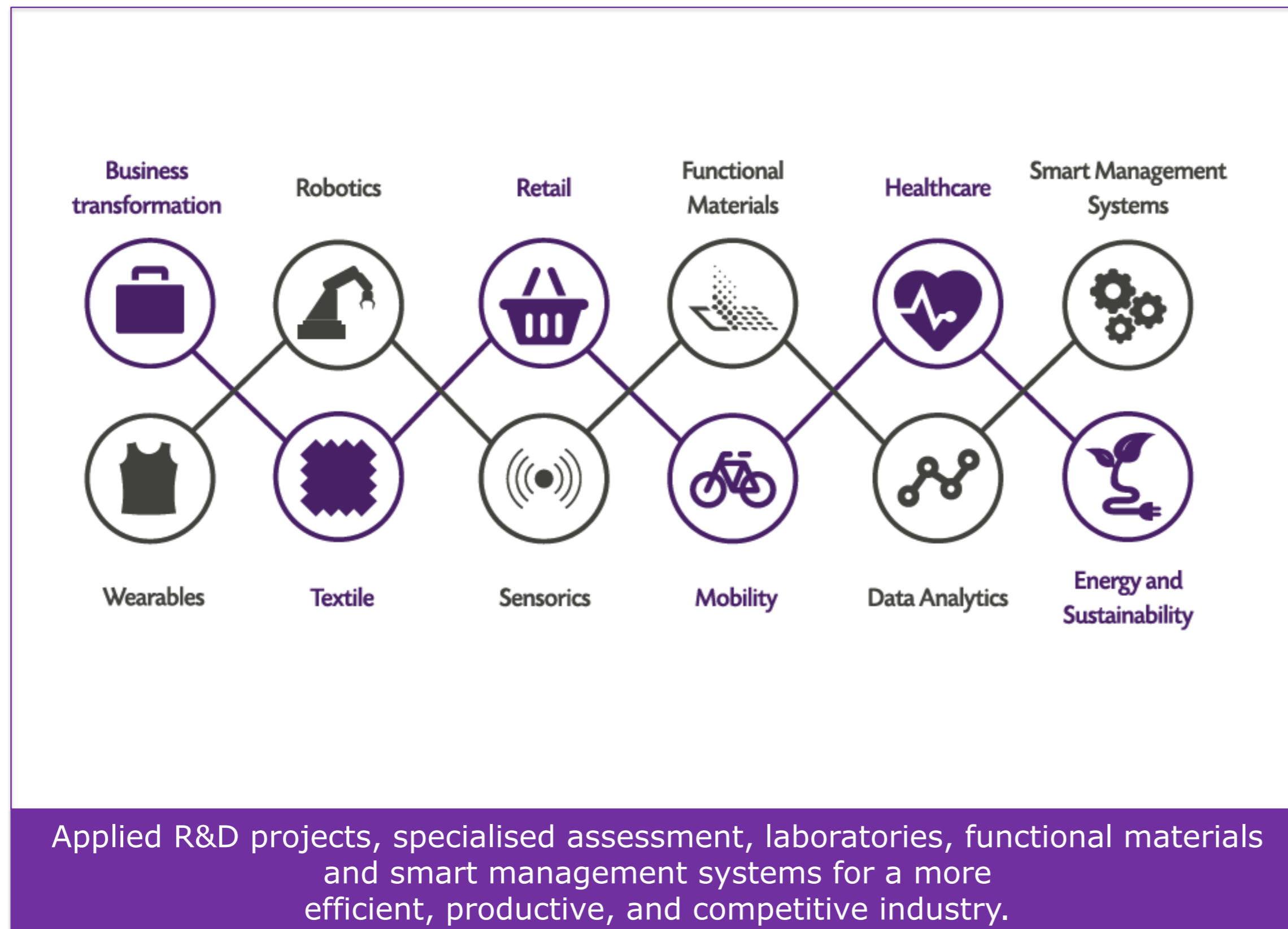
### EURECAT 3D NEW TECHNOLOGIES

Our main research lines in new 3D printing technologies, which have already resulted in proprietary technologies, are:

- 1. UDM: Ultrasonic Deposition Modelling for the direct production of plastic parts. PATENTED**
- 2. LM-RM: Solid Metallic Structure Formation by Localized Microwaves. PATENTED**
- 3. SLM system consisted on a vertical milling centre equipped with a Ytterbium-fibre laser.**



# / DIGITISING PARTNER FOR NMBP PROJECTS



## Industrial leadership for technological innovation

### Data Analytics:

Eurecat leads the Big Data Centre of Excellence in Barcelona

### Cibersecurity:

Eurecat's IoT Cybersecurity Industrial Lab investigates how cybersecurity is implemented in IoT systems, focusing on embedded equipment and infrastructure.

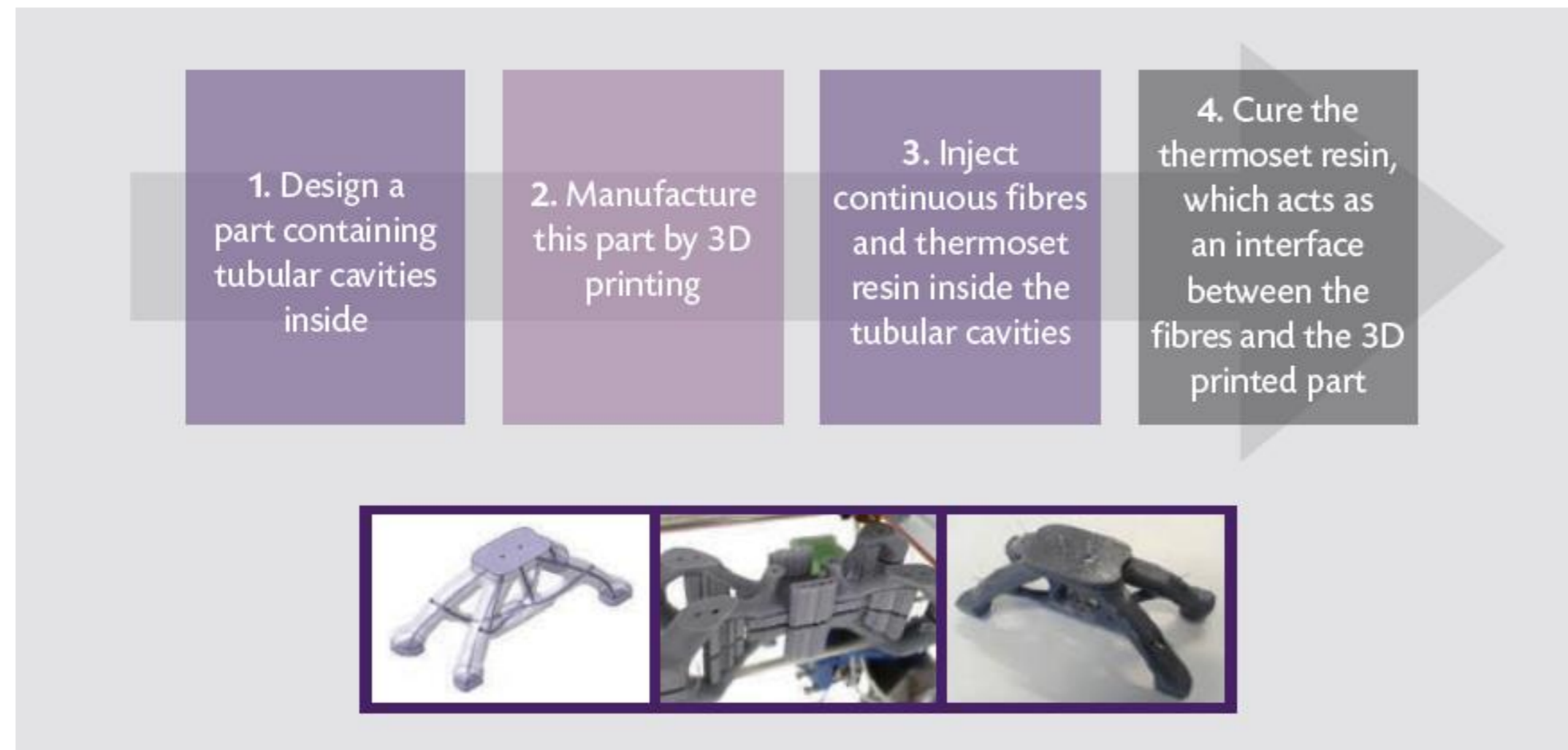
### Smart Management Systems:

Our latest spin-off: Watener



# / 3D PRINTING-BASED PROCESS FOR MULTI-MATERIAL REINFORCED LARGE COMPOSITES

## Fibre-Reinforced Additive Manufacturing



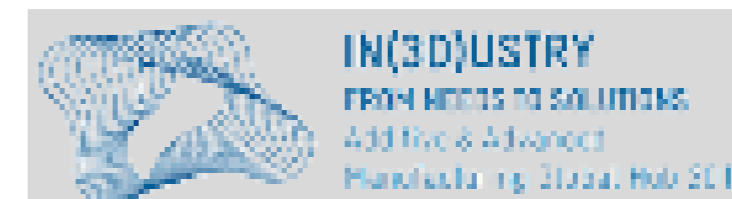
New technology for manufacturing continuous fibre reinforced parts using 3D printing

## Industrial leadership for technological innovation

### Fibre-Reinforced Additive Manufacturing

Eurecat is developing a new technology enabling the manufacture of continuous fibre-reinforced parts (e.g. carbon fibres) using Additive Manufacturing. This technology, which is in patent process, is based on an innovative manufacturing concept that provides disruptive advantages.

### Awarded technology in:



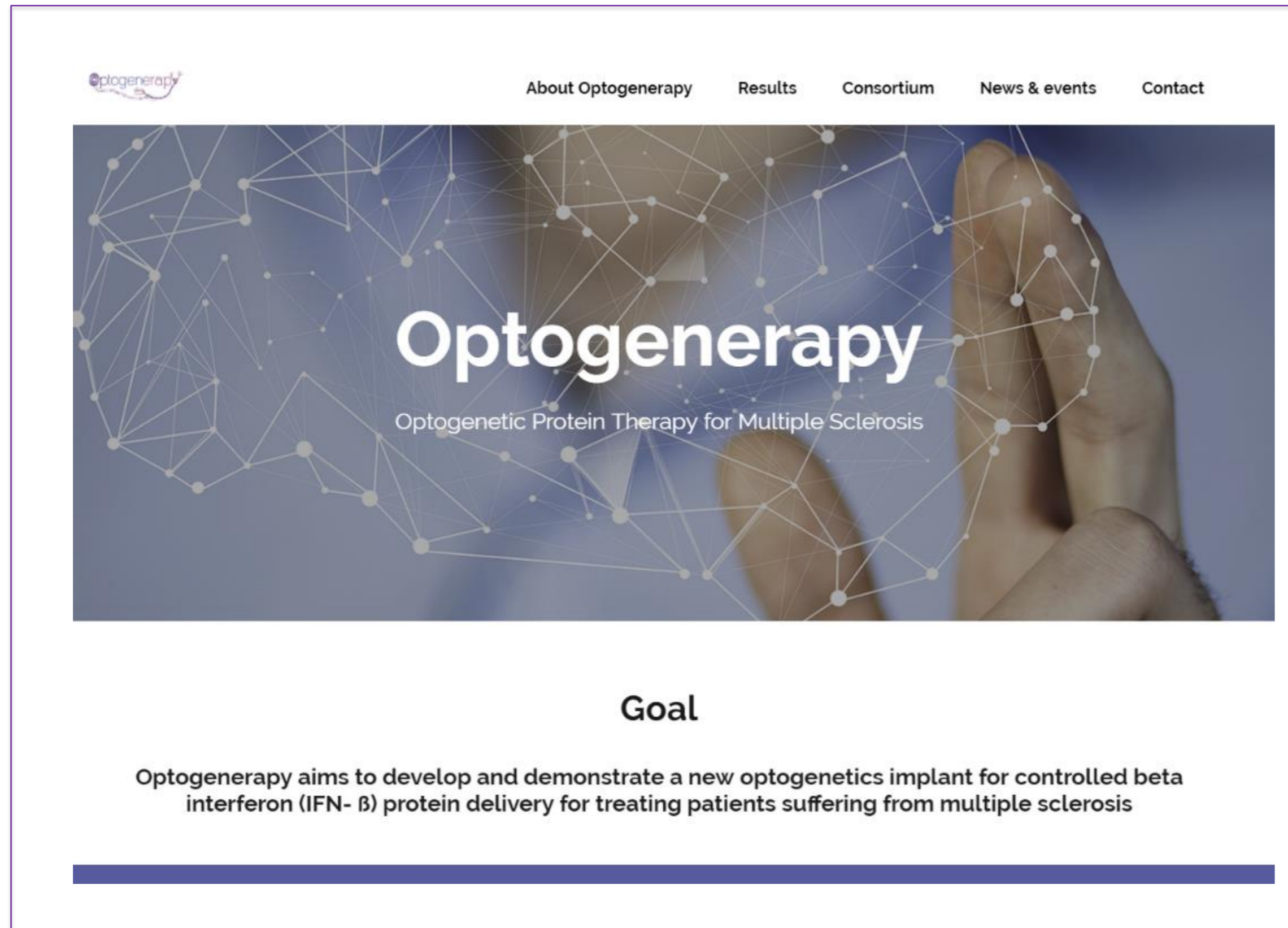
# / SOME NMBP PROJECTS



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- Optogenerapy
- OptinanoPro
- OptIntegral
- Optician 2020
- Preview
- NMBP-dela
- BIPUpy
- InsiTrate
- Resseepe
- AdvancedForming
- Rewastee
- BIM4
- ...

## / SOME NMBP PROJECTS

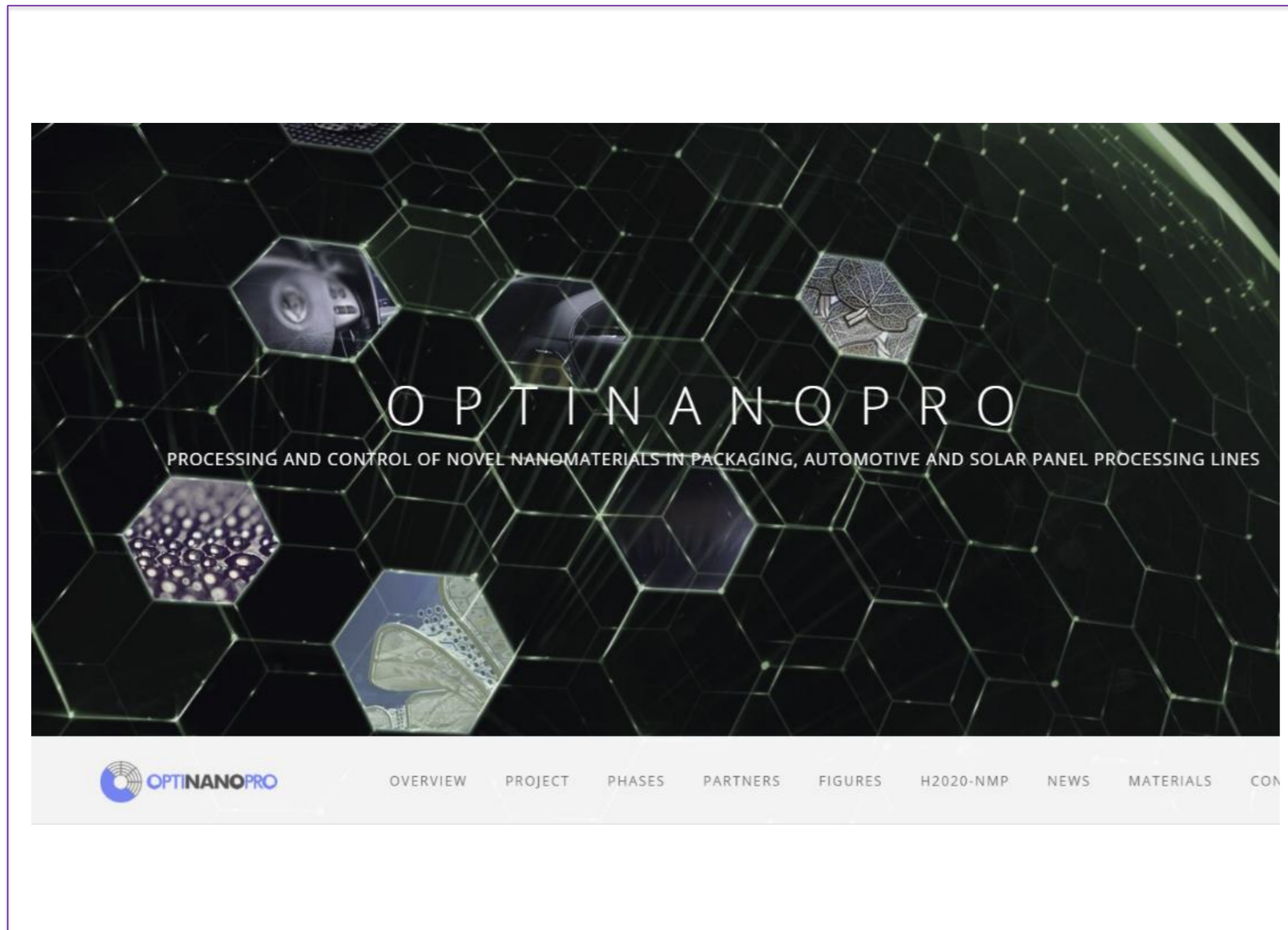


The screenshot shows the website for Optogenerapy. At the top, there is a navigation menu with links for 'About Optogenerapy', 'Results', 'Consortium', 'News & events', and 'Contact'. The main header features the text 'Optogenerapy' in a large font, with the subtitle 'Optogenetic Protein Therapy for Multiple Sclerosis' below it. The background of the header is a network of nodes and lines overlaid on a photograph of hands. Below the header, the word 'Goal' is centered, followed by a paragraph: 'Optogenerapy aims to develop and demonstrate a new optogenetics implant for controlled beta interferon (IFN-  $\beta$ ) protein delivery for treating patients suffering from multiple sclerosis'.

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## / SOME NMBP PROJECTS



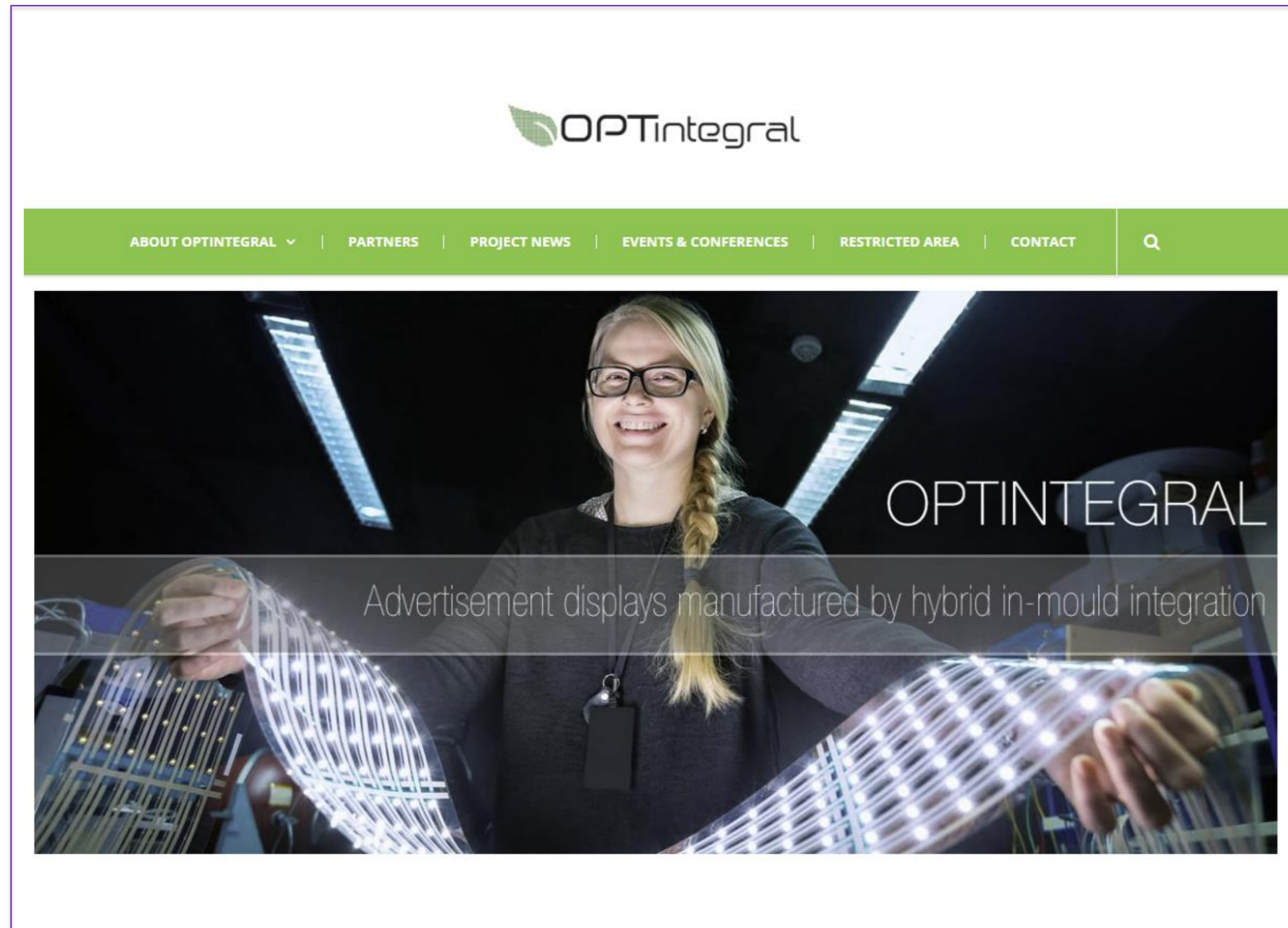
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# / SOME NMBP PROJECTS



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optician<sup>2020</sup>



FLEXIBLE AND ON-DEMAND MANUFACTURING by close-to-optician OF CUSTOMIZED SPECTACLES production clusters

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# / SOME NMBP PROJECTS

**Project Partners**

**PREVIEW**

A consortium of **8 partners** has secured **€3,321,852** of EU funding for development of a predictive system to recommend injection mould setup in wireless sensor networks.

**Project Partners:**

- PROMOLDING
- PRO FORM KFT.
- eurecat
- PLASTIA .COM
- HUMBOLDT-UNIVERSITÄT ZU BERLIN
- iris
- MPT PLASTICA
- SMITHERS RAPRA

**PREDICTIVE SYSTEM TO RECOMMEND INJECTION MOULD SETUP WITH PROCESS OPTIMISATION IN WIRELESS SENSOR NETWORKS**

- Data Acquisition System
- Advanced Predictive System
- Wireless Capability

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# / SOME NMBP PROJECTS



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# / SOME NMBP PROJECTS

**BIP-UPy**  
Bioactive Implantable Polymers based on Ureido-Pyrimidinone

Buscar

Project Partners News & Events Impact Contact Partner's Restricted Area

### About BIP-UPy

**Context**

**Pelvic Organ Prolapse (POP)** and **Stress Urinary Incontinence (SUI)** are common pelvic floor dysfunctions affecting millions of women worldwide, especially women who have had children, are obese or at elder age. People suffering from SUI have an estimated lifetime risk of 20-40%, which reaches to 30-50% for POP patients. The current techniques that use implants have been causing high complication rates.

**Pelvic Organ Prolapse (POP) and Stress Urinary Incontinence (SUI)**

30-50%	20-40%	⚠️
Lifetime risk of POP	Lifetime risk of SUI	Current treatment involves high risks

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# / SOME NMBP PROJECTS



**InSiTrate** In situ treatment technology for drinking water production from nitrate-polluted groundwater

Home ▾ The Project ▾ Partners ▾ Downloads ▾ News ▾ Networking ▾

Layman's Report and new video of InSiTrate already available ▾

Home ▾ News ▾ The pilot plant of InSiTrate project is running to remove nitrate from groundwater ▾

News ↑

**The pilot plant of InSiTrate project is running to remove nitrate from groundwater**

InSiTrate news in Sant Andreu de Llavanes web (in catalan)

Interview to Irene Jubany, InSiTrate Technical Manager (in Spanish)

Project leaflet available (in catalan)

Tracer test video

Events

Gallery

Participation in 3rd Day of Rural Water Supply

Open day at pilot plant InSiTrate

InSiTrate at Google Street View

The new video of pilot plant construction is already available

## The pilot plant of InSiTrate project is running to remove nitrate from groundwater



**The first week of May was started up the pilot plant in Sant Andreu de Llavanes**

The insitu bioremediation pilot plant, which was started up on the first week of May, is located in Sant Andreu de Llavanes (Maresme), in the final stretch of the stream, where nitrate contamination in groundwater is existing. This experimental system will demonstrate the feasibility of in situ bioremediation for nitrate removal to produce drinking water. The pilot plant consists of two organic matter injection wells, an extraction well and three wells to control the process. On the other hand, the system has an on-line nitrate sensor to monitor the quality of the water produced. The system will operate for one year in order to optimize the process and to evaluate it from the technical, economic and environmental point of view. This test will validate the technology at pilot scale and will determine the success of the project. InSiTrate project is co-financed by the European Union under the LIFE + program. Project partners are the Fundació CTM Centre Tecnològic (CTM), Amphos 21 Consulting SL and

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# / SOME NMBP PROJECTS

**RESSEEPE**  
*REtrofitting Solutions and Services for the enhancement of Energy Efficiency in Public Edification*

PROJECT NEWS & EVENTS RESEARCH PROGRESS RELATED TO RESSEEPE CONTACT LOGIN

**The RESSEEPE framework**  
will be validated and refined by a strong demonstration programme, envisaging the renovation of 102.000 square meters of public buildings, arriving to a total renovation of 205.000 square meters that will be deployed in the following years.

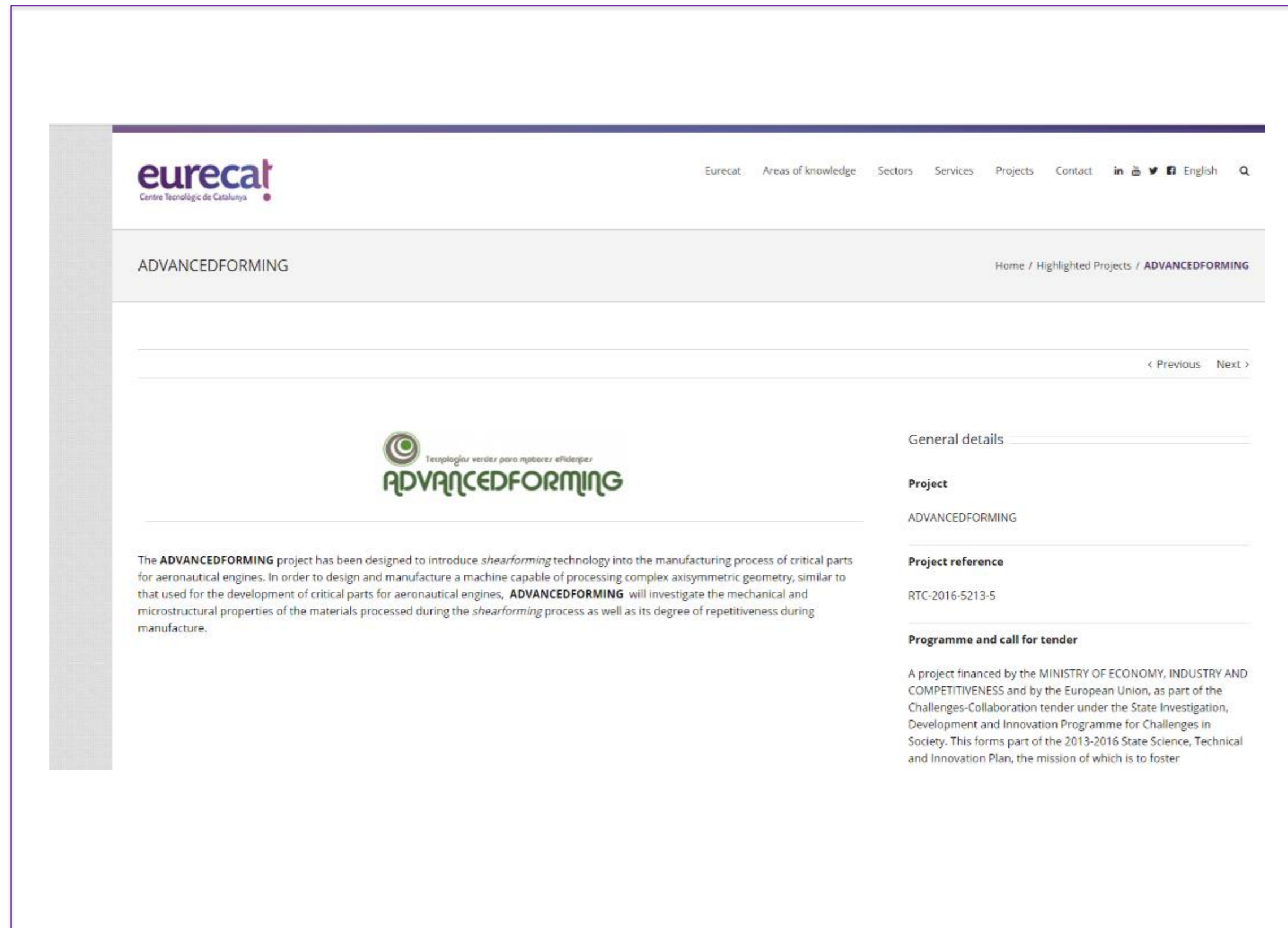
READ MORE

**RESSEEPE Demo Sites**

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# / SOME NMBP PROJECTS



The screenshot shows the project page for ADVANCEDFORMING on the Eurecat website. The page includes the Eurecat logo, navigation links, and project details. The main content area features the project logo and a description of the project's goals and objectives. The right sidebar contains sections for 'General details', 'Project', 'Project reference', and 'Programme and call for tender'.

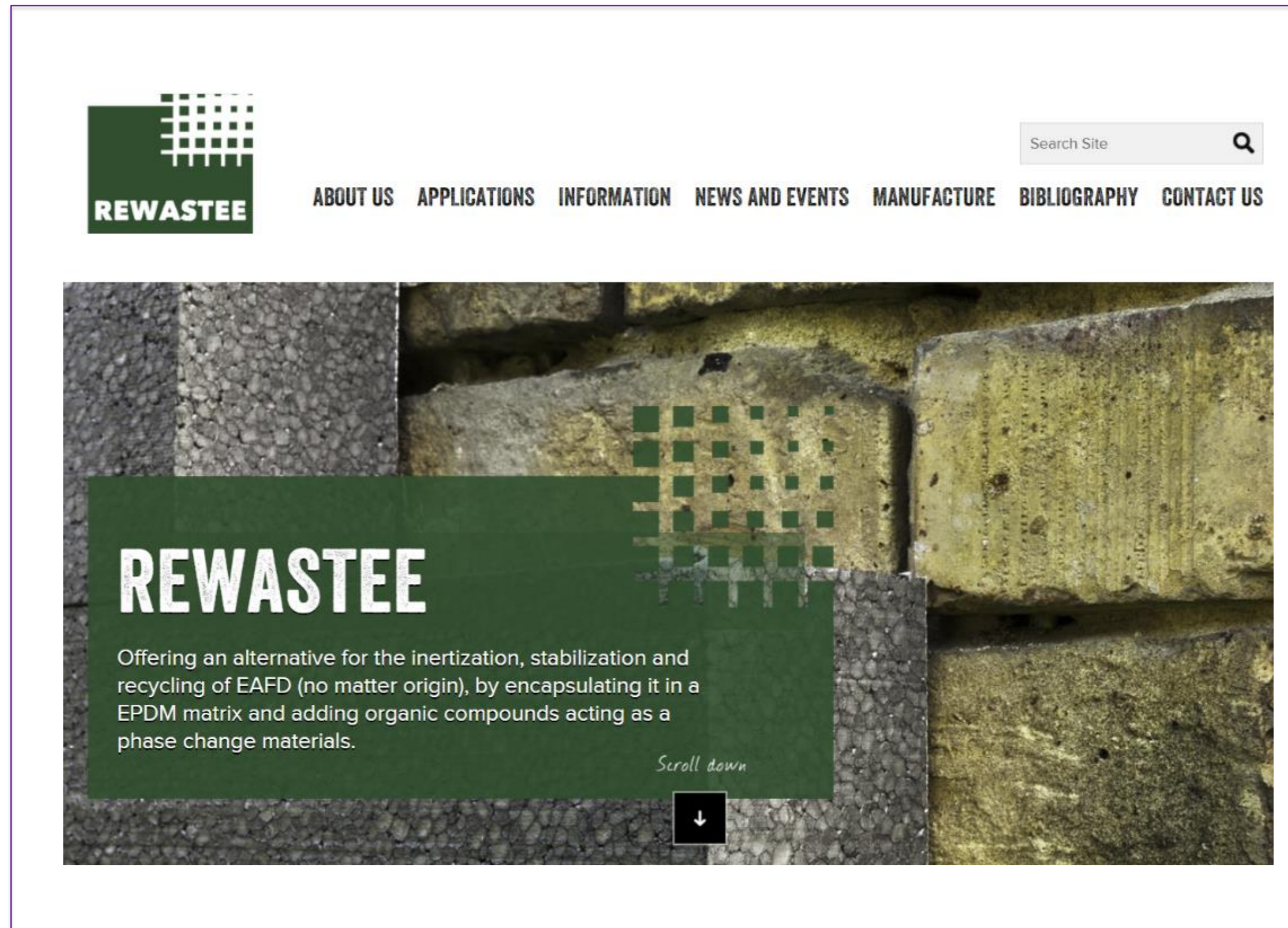
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**eurecat**  
Centre Tecnològic de Catalunya

Eurecat Areas of knowledge Sectors Services Projects Contact in English

< Previous Next >

**General details**

**Project**  
BIM4

**Project reference**  
RTC-2016-5430-7

**Programme and call for tender**  
A project financed by the MINISTRY OF ECONOMY, INDUSTRY AND COMPETITIVENESS and by the European Union, as part of the Challenges-Collaboration tender under the State Investigation, Development and Innovation Programme for Challenges in Society. This forms part of the 2013-2016 State Science, Technical and Innovation Plan, the mission of which is to foster technological development and quality innovation.

The **BIM4** has been designed to use **BIM methodology** to include a new safety improvement system during the construction of buildings and infrastructures.

This project will develop a technology to enable the continuous monitoring of workers, collective protection teams, and machinery used in construction work, and connect them to an Occupational Risk Prevention Management system with indicators displaying the risks derived from their different working environments.

**BIM4** is financed by the Ministry of Economy and Competitiveness under the Challenges-Collaboration tender.

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**BIM4**



# THANK YOU



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## **HORIZON 2020** Nanotecnologia, material avançats, biotecnologia i producció



*Entitats catalanes participants*



## **HORIZON 2020** Nanotecnologia, materials avançats, biotecnologia i producció



*Entitats catalanes participants*



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i **innovació** a Europa



Co-organitzadors:

**ACCIÓ i AGAUR**

Amb el suport de:

**iberCaja** 

