

# Nanotechnology to **boost innovation** in plastics

The use of engineered nanomaterials "**nanofillers**" in the plastic industry is growing continuously due to the increasing number of applications in key sectors, promoting the achievement of many interesting and crucial properties such as strength and stiffness, barrier to oxygen and moisture, resistance to food component attack or flexibility, among others.



## Contact Us:

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 @NanoDesk



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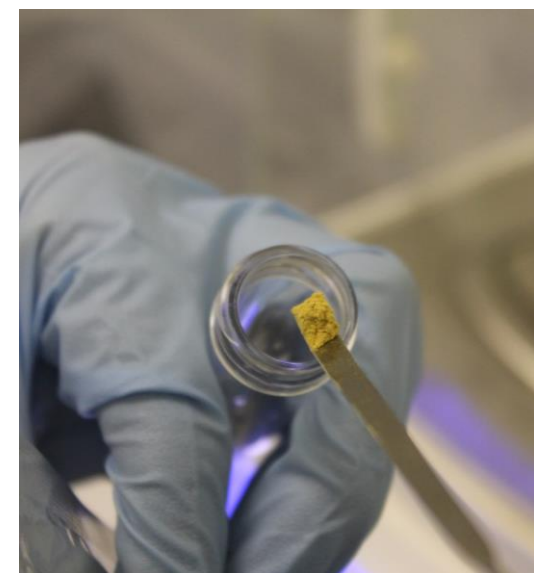
ITENE

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## NanoDESK

Advanced web based tools to promote the application of nanotechnology and safe use of nanomaterials in the plastic industry



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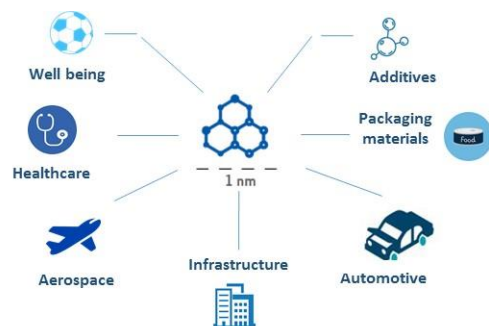


## Project

NanoDESK is a three year Interreg SUDOE project that runs from June 2016 to May 2019, being focused on **promotion of the nanotechnology** to support the development of new added value plastic materials.

## Motivation

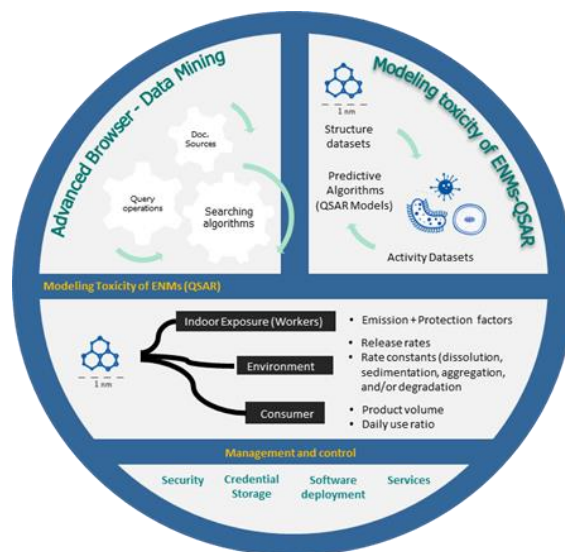
Nanotechnology has the potential to **contribute significantly to the future of plastic**, promoting the development of a new generation of smart and innovative products. However, the current uncertainty about the effects of ENMs on the environment and human health, and the consequent lack of regulation, are a difficult barriers to overcome by the plastic sector.



## Objectives

The project focussed on the development of a **set of web based applications** to promote investment and safe use of nanofillers in the plastic industry, including:

- A decision support system to assist companies, in particular SMEs, in the selection of nanofillers to meet the performance criteria of added value composites;
- A new information searching tool to assist companies in the identification of market trends and nanotechnology applications;
- An interactive observatory on the safety of nanostructured polymer based materials;
- A set of computational modelling approaches (QSAR models) to support the characterization of the toxicological profile of target nanofillers;
- Three novel exposure estimation models to support SMEs in the evaluation of the risk posed by the use of nanofillers in workers, consumer and



## Working plan

	Title of Task Group	Leader of TG
<b>Technical Tasks Groups</b>		
1	Definition and specification of uses of nanomaterials in the plastic sector	INL
2	Development of advanced information search tools	URV
3	Optimization and development of nanoQSAR prediction models	ProtoQSAR
4	Development of exposure estimation models	ITENE
5	Creation of the observatory for the safety of plastic materials	INVASSAT
6	Developing the NanoDesk web application	ITENE
<b>Cross-Task Groups</b>		
1	Project Management	ITENE
2	Project Communication	INVASSAT
3	Monitoring and evaluation	ITENE

## Regions Involved

EN: Valencian Community, Catalonia  
 PT: Oporto, Minho  
 FR: Occitania

