

# ITENE: Packaging, Transport, Logistics

CE-NMBP-26-2018: Smart plastic materials with intrinsic recycling properties by design

Thematic brokerage workshops

EU Brokerage Event on Kets in Horizon 2020

Strasbourg, 17th October 2017

# Who we are – ITENE

ITENE was founded in 1.994 as a private association with **NON PROFITABLE PURPOSES** and integrated by companies and institutions related to Packaging and Logistics



## Materials

- Synthesis
- Functionalization
- Encapsulation
- Nanoreinforcements
- Pilot plant/upscaling
- physic-mechanical, thermal, barrier properties.

## Waste Management

- Characterization
- Collection
- Transport
- Sorting
- Pre-treatment
- Recycling/Valorisation

## Environment & Sustainability

- LCA Environmental
- Economic-Costs
- LCA Social
- Carbon footprint
- Eco design

## Others

- ICT - traceability
- Health and Safety
- Business Models
- Dissemination

# ITENE'S previous experience

**39** Projects financed in **FP6-FP7**

5 Coordinators

6 Technical management

28 WP leader

**120**

Professional

**22** Financed projects in other calls: LIFE, Interreg, Ecoinnovation (coordinators in 3 Lifes and 1 Sudoe)

**23%**

Doctors

**11** projects financed in **H2020**

2 Coordinators: PLASTICIRCLE, IMPACPAPEREC

1 Technical management BBI (Funkifiber)

7 Participation (EcoBulk, Agrimax,Optinanopro...)

**14**

Qualifications

**20** SME's Instrument F1-F2 (support to the coordination, management and business)

**3%**

Annual investment in  
Technical training

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## STEP 1: Design of polymer material and recycling technologies:

1. PILOT SCALE: Innovative deinking process (100kg/h) with an efficient water treatment system (LDPE, HDPE, PP and PS)
2. Polymer design to improve “Recyclability”: use enzymes/bacteria to decompose the polymer into monomers that can be used as starting material in other polymerization processes
3. Universal additive: Additive to make conventional polymers also compostable.
4. Chemical recycling of multilayers: pyrolysis or gasification

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## **STEP 2: Improvement of sorting technologies → Improve waste quality (purity)**

1. Improved optical sorting/Magnetic separation
2. Autosorting: markers to be added in the plastics to sort them easily by material or group of materials. This is useful for black plastics, multilayers or compostable materials in general
3. Innovative Removable Adhesives: to achieve the easy separation of multilayers in the sorting plant (only with water, temperature, or specific removing components)

## **STEP 3: Valorization of other fractions contained in plastics into added value products**

## LOOKING FOR EXPERTS IN THESE AREAS TO FURTHER DEVELOP WINNING PROJECT IDEAS:

- Industry, Research centres, Universities, etc....
- ITENE could take the role of coordinator in one project
- Looking for potential coordinators to move the rest of selected ideas in related H2020 topics
  - CE-NMBP-26-2018: Smart plastic materials with intrinsic recycling properties by design
  - CE-SPIRE-10-2018: Efficient recycling processes for plastic containing materials (IA)
  - CE-BIOTEC-05-2019: Microorganism communities for plastics biodegradation
  - CE-SC5-01-2018: Methods to remove hazardous substances and contaminants from secondary raw materials

# Contact details

Contact person	
Organisation	ITENE: Packaging, Transport & Logistics
Adress	Albert Einstein, 1. Paterna. 46980. Valencia. SPAIN
Phone nr	(+34) 661 696 226
E-mail	Oscar.ruiz@itene.com