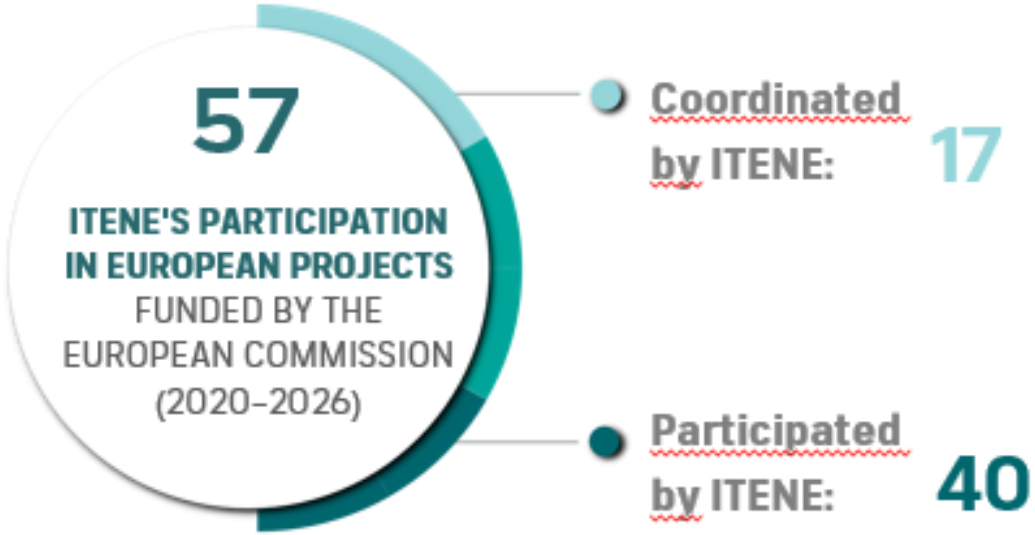
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Expertise offered	• 30+ years supporting industrial innovation, adopting solutions throughout the whole value chain in the packaging sector. Strong industrial network across Europe **CORE EXPERTISE** ♻️ **Circular economy & recycling** 🧪 **Advanced and sustainable materials** 🤖 **Digitalisation, AI & Digital Twins** 🔋 **Critical raw materials recovery** 🌱 **SSbD, LCA and sustainability assessment**
Organisation	**Instituto Tecnológico del Embalaje, Transporte y Logística (ITENE)** Private non-profit RTO (Valencia, Spain)
Topics	**Main topics of interest: HORIZON-CL4-2027-01-MAT-PROD-22** **HORIZON-CL4-2027-01-MAT-PROD-06** **HORIZON-CL4-2027-01-MAT-PROD-62** Other topics of interest in CL5: 01-MAT-PROD-02, 01-MAT-PROD-03, 01-MAT-PROD-08, among others clusters and topics (CBE, CL1, CL3, CL5, CL6)

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Private non-profit Research & Technology Organisation (RTO) supporting industry in the transition towards a *circular, safe and climate-neutral economy*.

- Materials and technologies for the circular economy
- Packaging safety, design and functionality
- Safety and environmental monitoring technologies
- Transport, logistic and digital transformation





EU Returns 26,39 millions of euros between 2020 and 2026

EU Returns 56,64 millions of euros between 2007 and 2026

European project experience:
Cluster 4
Cluster 6
CBE JU

Priority topics for HE Cluster 4

ITENE is interested in participating in collaborative Cluster 4 projects addressing:

- Advanced materials and circularity
- CRM recovery and valorisation
- Smart and circular manufacturing
- AI and digitalisation

HORIZON-CL4-2027-01-MAT-PROD-22

Recovery of strategic and critical raw materials

- Hydrometallurgical processes
- Recycling of WEEE, plastics, textiles and complex waste streams
- Pilot-scale validation and techno-economic assessment

HORIZON-CL4-2027-01-MAT-PROD-06

Development of advanced sustainable materials

- Bio-based and recycled polymers
- Material formulation and compounding
- Circularity assessment and SSbD implementation

HORIZON-CL4-2027-01-MAT-PROD-03

Digital twins

- Process simulation
- AI and machine learning
- Industrial data analytics
- Circular manufacturing processes

Additional topics of interest

- MAT-PROD-02 Advanced materials
- MAT-PROD-08 Circular manufacturing
- Industrial AI and robotics
- Data spaces and federated AI
- Industrial traceability and digital product passports

What does ITENE bring to CL4?

Advanced materials and circularity

CRM recovery and valorisation

Smart and circular manufacturing

AI and digitalisation

Advanced Materials Development

- Polymer synthesis and modification
- Reactive extrusion
- Polymer blending and compounding
- Biocomposites and nanocomposites
- Functional additives and fillers
- Surface functionalisation and plasma treatments

Recycling & Circular Processing

- Mechanical recycling (extrusion, compounding, injection)
- Chemical recycling (solvolysis, hydrolysis, glycolysis, alcoholysis, ammonolysis)
- Depolymerisation technologies
- Delamination and selective dissolution
- Decontamination and purification processes
- Thermochemical conversion and pyrolysis

Critical Raw Materials Recovery

- Hydrometallurgical recovery processes
- Selective leaching
- Solvent extraction
- Electrodeposition and electrowinning
- Metal purification and recovery from complex waste streams

Scale-up & Industrial Validation

- Laboratory, pilot and semi-industrial scale facilities
- Process optimisation and simulation
- Techno-economic assessment
- Circularity and sustainability assessment

Contact details

Contact person	[María Martha Barroso Quiroga]
Organisation:	[**Instituto Tecnológico del Embalaje, Transporte y Logística (ITENE)**]
Address:	[Valencia, Spain]
Phone:	[(+34) 96 182 00 00]
E-mail	[martha.barroso@itene.com]
Webpage:	[https://itene.com/]
LinkedIn/Twitter	[https://www.linkedin.com/company/itene-instituto-tecnologico-del-embalaje-transporte-y-logistica/]

