



AIDI Circular Economy Workshop, 8th of September 2021



TREASURE is a project funded by the European Union Framework Programme for Research and Innovation Horizon 2020 under G.A. n. 101003587



TREASURE project - Details



WORK PROGRAMME: H2020-SC5-2020

PARTNERS:

Politecnico di Milano
Nederlandse Organisatie Voor Toegepast Natuurwetenschappelijk Onderzoek
Universidad de Zaragoza
Scuola universitaria professionale della Svizzera italiana
Università degli Studi dell'Aquila
Material Recycling and Sustainability (MARAS) B.V.
Edgeryders OU
EuroLCDs SIA
Walter Pack SL
Pollini Lorenzo e Figli srl
SEAT SA
TXT E-Solutions Spa
Industrias Lopez Soriano SA
UNI Ente Italiano Di Normazione
MOV'EO/Nextmove

DURATION: 3 years – June 2021 / May 2024

TOTAL GRANT: 4 MLN

GRANT AGREEMENT: n. 101003587



Project vision



The project's purpose is **to test innovative technologies to make the automotive sector more circular**, by going beyond some historical limitations characterizing this industry.



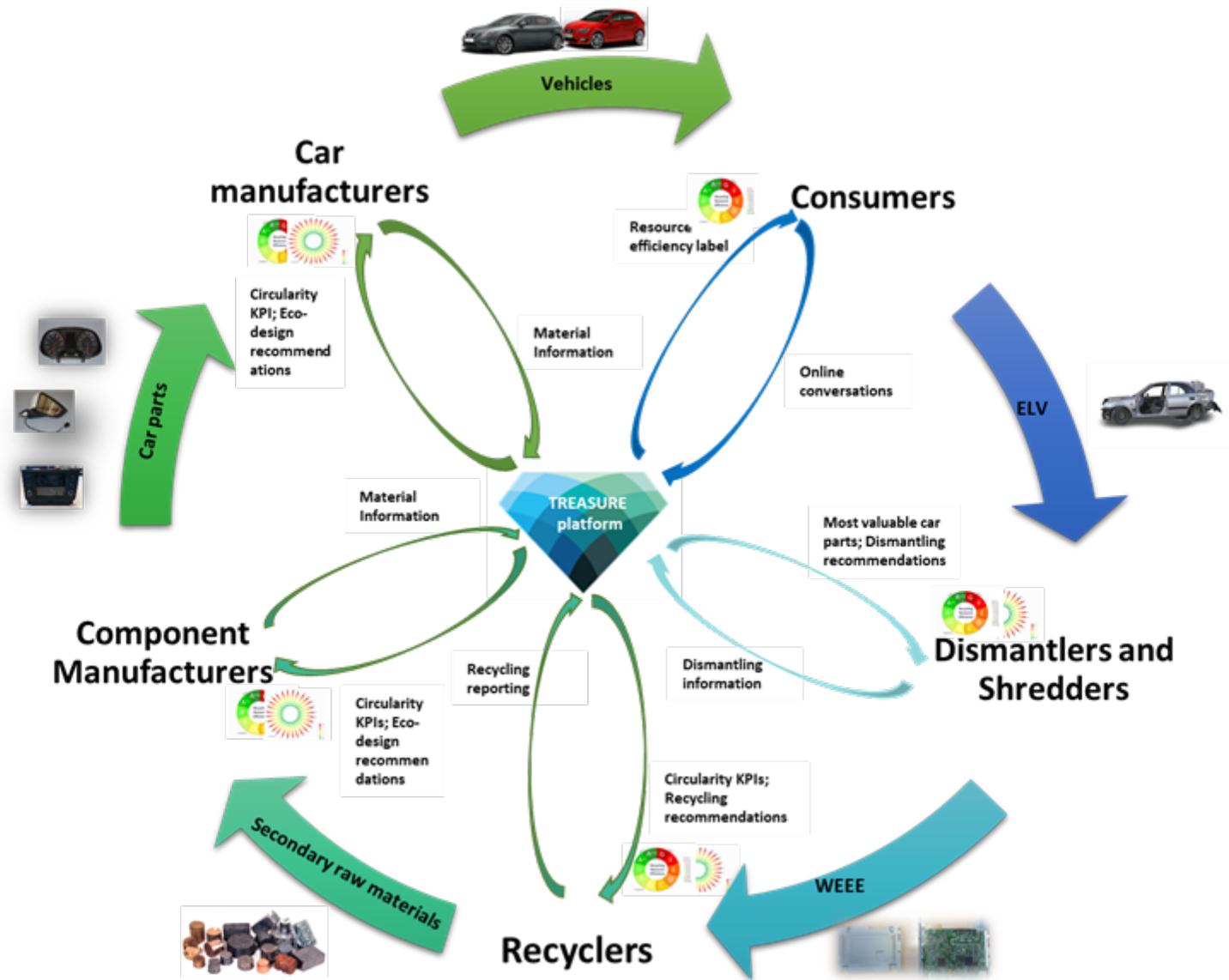
The first aim of TREASURE is the development of an AI-based scenario assessment tool supporting the development of circular supply chains in the automotive sector

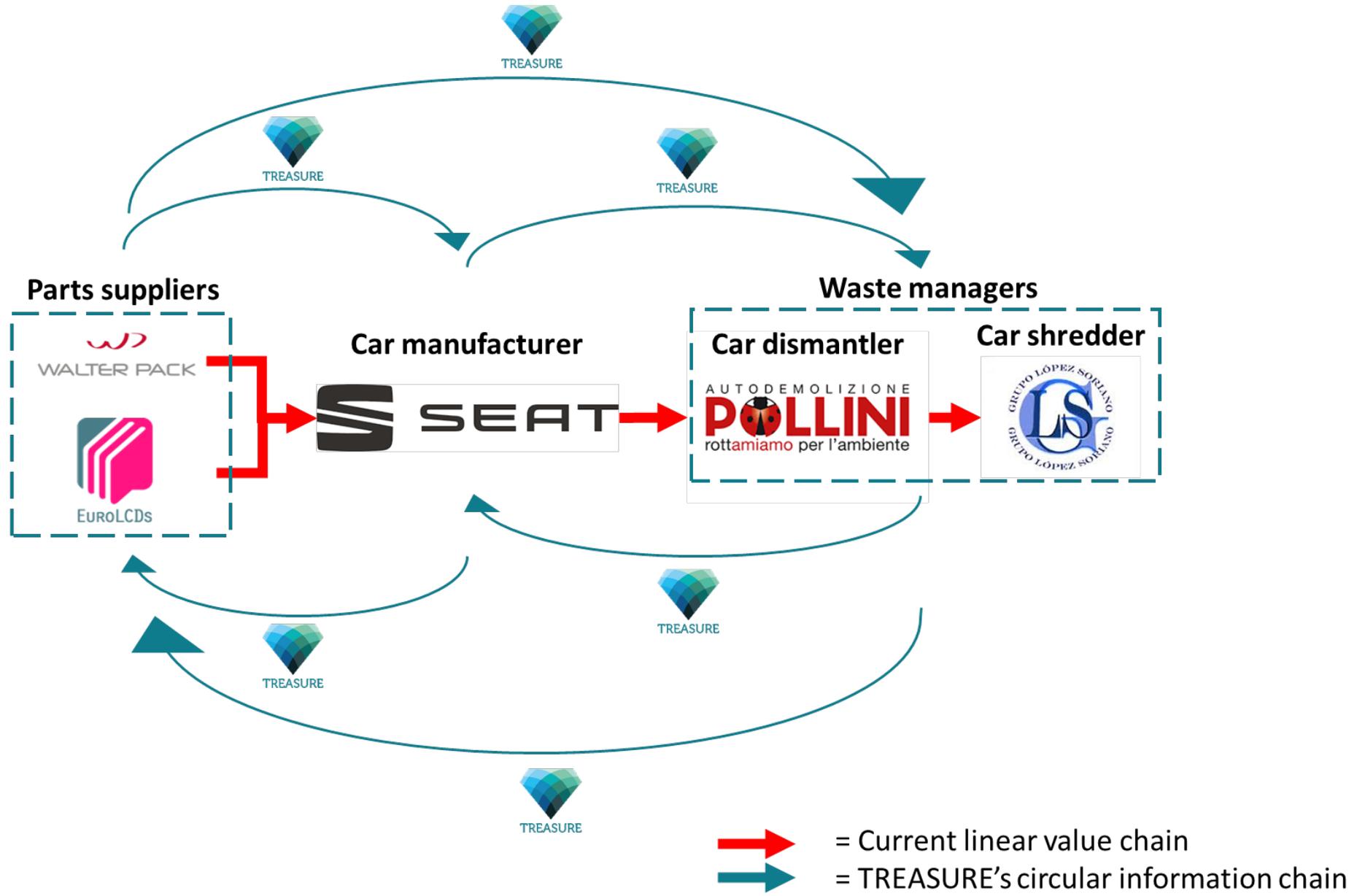


The second aim of TREASURE is the representation of a set of success stories involving key actors of the automotive industry (focusing on SMEs): 1) dismantlers/shredders ; 2) recyclers and 3) manufacturers, practically demonstrating the benefits coming from the adoption of CE principles in the automotive sector

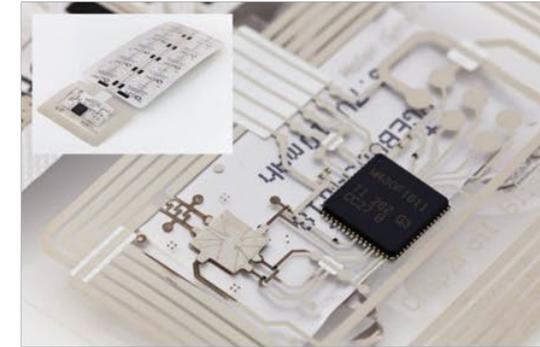
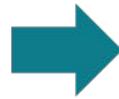


The third aim of TREASURE is the integration of Key Enabling Technologies (KETs) for the efficient design of car electronics and subsequent disassembly and materials recovery





Backward direction:
Obsolete (scrap) printed electronics enter the EoL process, becoming source of secondary materials for printed electronics production



PCB disassembly station



Bio-hydrometallurgical pilot plant



In-mold/structural electronics pilot line

Forward direction:
Obsolete (scrap) car electronics enter the EoL process, becoming source of secondary materials for printed electronics production

Project ambitions



Current state	TREASURE ambition
Critical/scarce metals embedded in ELVs not recycled	Improve circularity, output quality level and technological development of ELV management practices through I4.0
Electric vehicles embeds more sensors and electronic control units than traditional ones	Compare existing metallurgical recycling processes and reconfigure them for car electronics recycling
Degradation of materials' quality forces a downgrading of recycled materials only in low-value applications	Adopt innovative simulation methods to assess the quality of recycled materials leaving the TREASURE's pilots
The automotive value chain is disaggregated, especially in terms of knowledge about recycled materials from ELVs	Involve all the actors from the automotive value chain willing to reuse secondary automotive materials in a valuable way
The current ELV directive does not stimulate the recovery of critical/scarce metals	Perform a set of standardization and policy-related activities to make both industrial and politician actors aware
The disassembly and recycling of in-mold/structural electronics is still in its infancy	Study in-mold/structural electronics disassembly and recycling processes
Access to detailed data on the composition of vehicles and their components is difficult	Increasing of the EU knowledge base on secondary raw materials embedded in cars