CONSORTIUM

ALMA MATER STUDIORUM UNIVERSITÀ DI BOLOGNA
apra europe
bax
bay Bay Zoltán Nonprofit Ltd. for Applied Research
BENTELER makes it happen
STELLANTIS CRF
COMPOSITEC
Continental The Future in Motion
EDAG
ENDURANCE
farplas
Fraunhofer IWU
eurecat
Havel metal foam
NTNU
POLITECNICO MILANO 1863
POLYMERIS Competitiveness cluster for rubbers, plastics and composites
STELLANTIS
RAFFMETAL
RI.SE
RKW Sachsen Wege für den Mittelstand
SKODA
Technische Universität Braunschweig
VTT
TOYOTA
ŞİŞECAM
Northumbria University NEWCASTLE
VOLKSWAGEN GROUP

FACTS and FIGURES

Full name:	Zero Emission Electric Vehicles enabled by Harmonised Circularity
Acronym:	ZEvRA
Starting date:	1st January 2024
Duration:	42 months
Partners:	28 partners from 11 countries

CONTACT

Project Coordinator: Fraunhofer IWU – Daniel Nebel
zevra@iwu.fraunhofer.de

Website: www.zevraproject.eu

This project has received funding from the European Union's Horizon Europe research and innovation programme under Grant Agreement No. 101138034 and UKRI under Grant Agreement No 10105316.

Picture credits: Adobe Firefly (title), EDAG (remaining photos)

ZERO EMISSION ELECTRIC VEHICLES ENABLED BY HARMONISED CIRCULARITY

ZEvRA



ABOUT

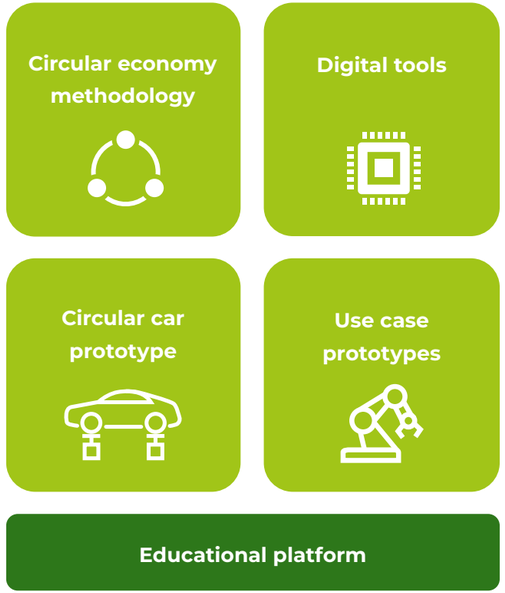
ZEvRA's main objective is to improve the circularity of light-duty EVs throughout their entire value chain, from materials supply and manufacturing to end-of-life (EoL) processes, which aligns with the European Union's goal of achieving zero CO2e emissions by 2035, particularly in the EV value chain.

To do so, ZEvRA will develop a Design for Circularity (DfC) methodology and a circularity assessment to improve the of electric vehicles (EVs) based on the 9Rs. This methodology will be validated by developing zero emission solutions for the most important automotive materials:

- Steel
- three versions of aluminium (wrought, casting, and foam)
- thermoplastics composites (long and continuous fibre-reinforced)
- unfiled/short fibre plastics
- glass
- tyres
- Rare Earth Elements (REE).

These solutions will be supported by a set of digital tools to support the manufacturing of the use cases, the assessment of circularity, traceability, and the virtual integration of components into a full replicable vehicle. To maximise the outreach of our methodology and zero emission solutions, ZEvRA will develop a dedicated training & upskilling programme for the automotive workforce and academia, together with activities aimed at increasing awareness & acceptability of the proposed zero emission solutions.

CONCEPT



OBJECTIVES

- Design for Circularity (DfC) methodology and a holistic circularity assessment
- Digital tools as a key enabler for circularity
- Circular car concept
- Validation in the most important automotive materials
- Creation of an educational platform for training and upskilling of industrial workforce





