



European Association of Automotive Suppliers

EU Automotive suppliers R&I vision on Circularity

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CLEPA, the European Association of Automotive Suppliers, represents over 3.000 companies supplying state-of-the-art components and innovative technologies for the mobility of the future

Direct membership of over 140 global suppliers

15 national associations & 14 associated members



€30 bn invested in R&D annually



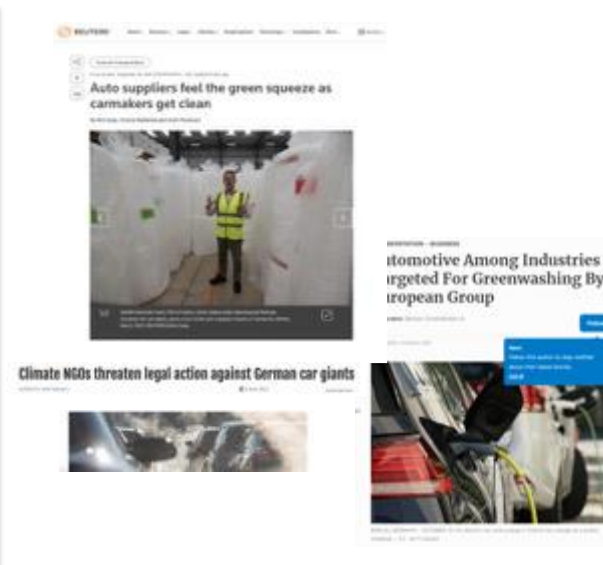
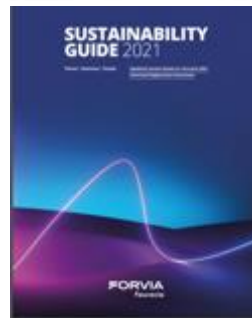
75% of the vehicle value comes from suppliers

SUSTAINABILITY – WHAT’S AT STAKE?



TODAY

Automotive suppliers conduct materiality assessments, formulate sustainability strategies, and proactively communicate on their metrics and KPIs



HOWEVER....

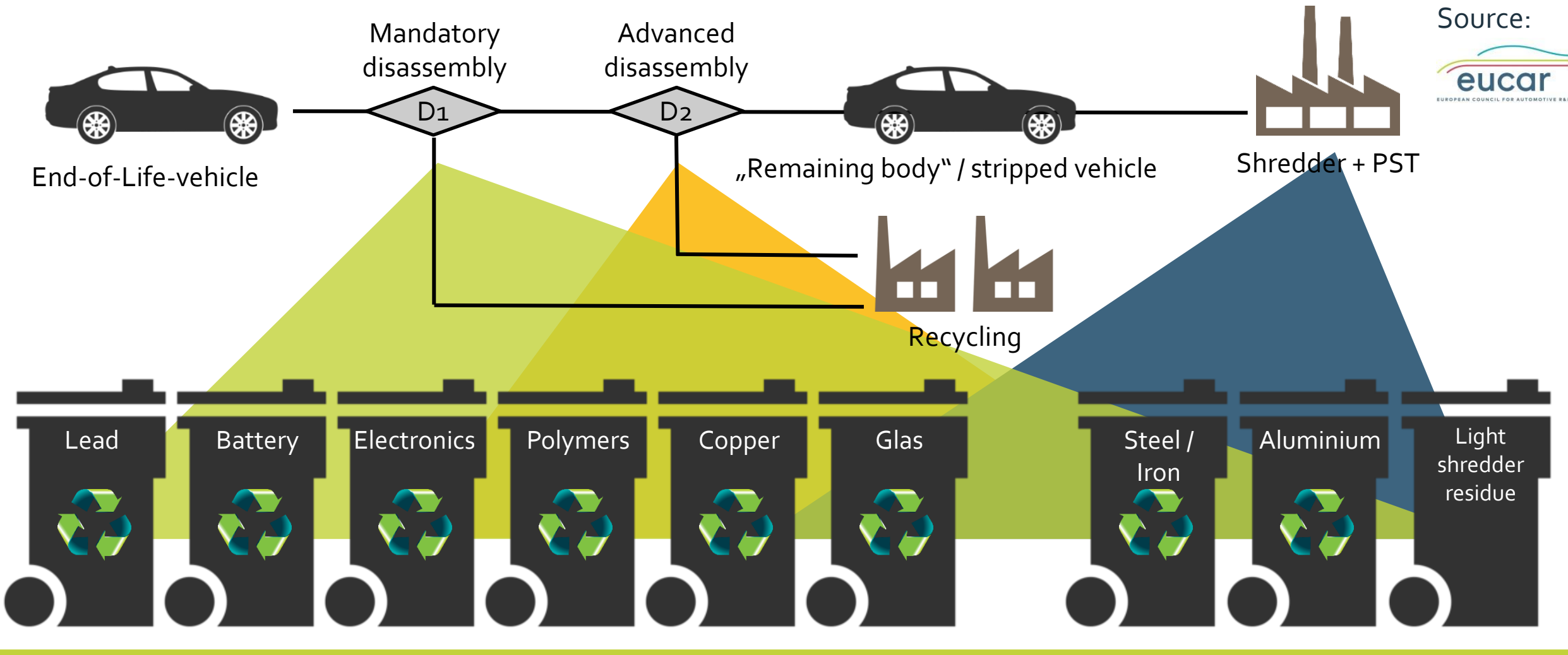
The automotive sector remains under public scrutiny, and there are different degrees of maturity in the industry

TOMORROW

In line with the overlying European Green Deal targets, and evolving customer demands, suppliers are increasingly investing in sustainability

Circularity is crucial for reducing the environmental impact of vehicles

How does the Automotive Recycling System today look alike?

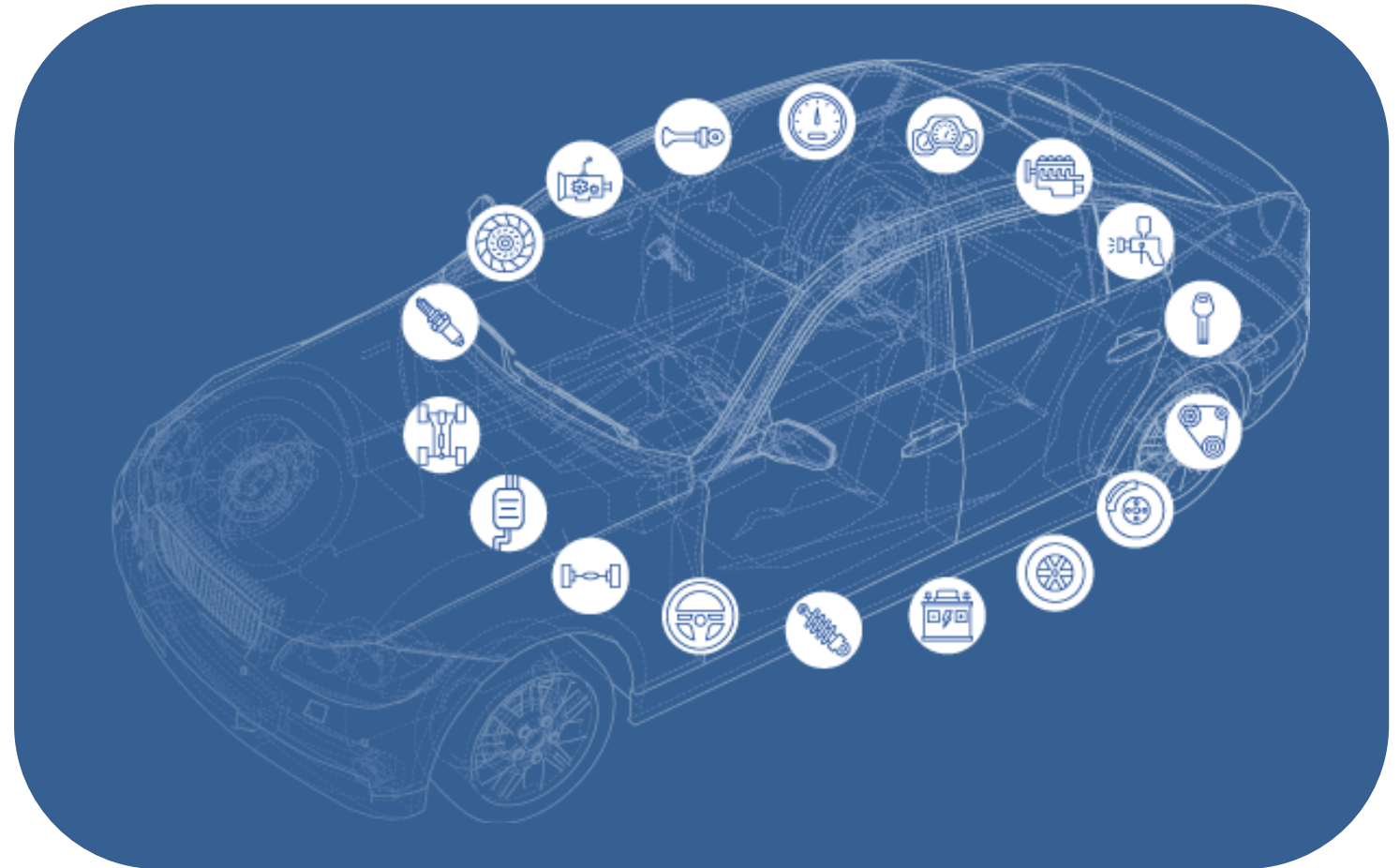


HOLISTIC APPROACH TO CIRCULARITY



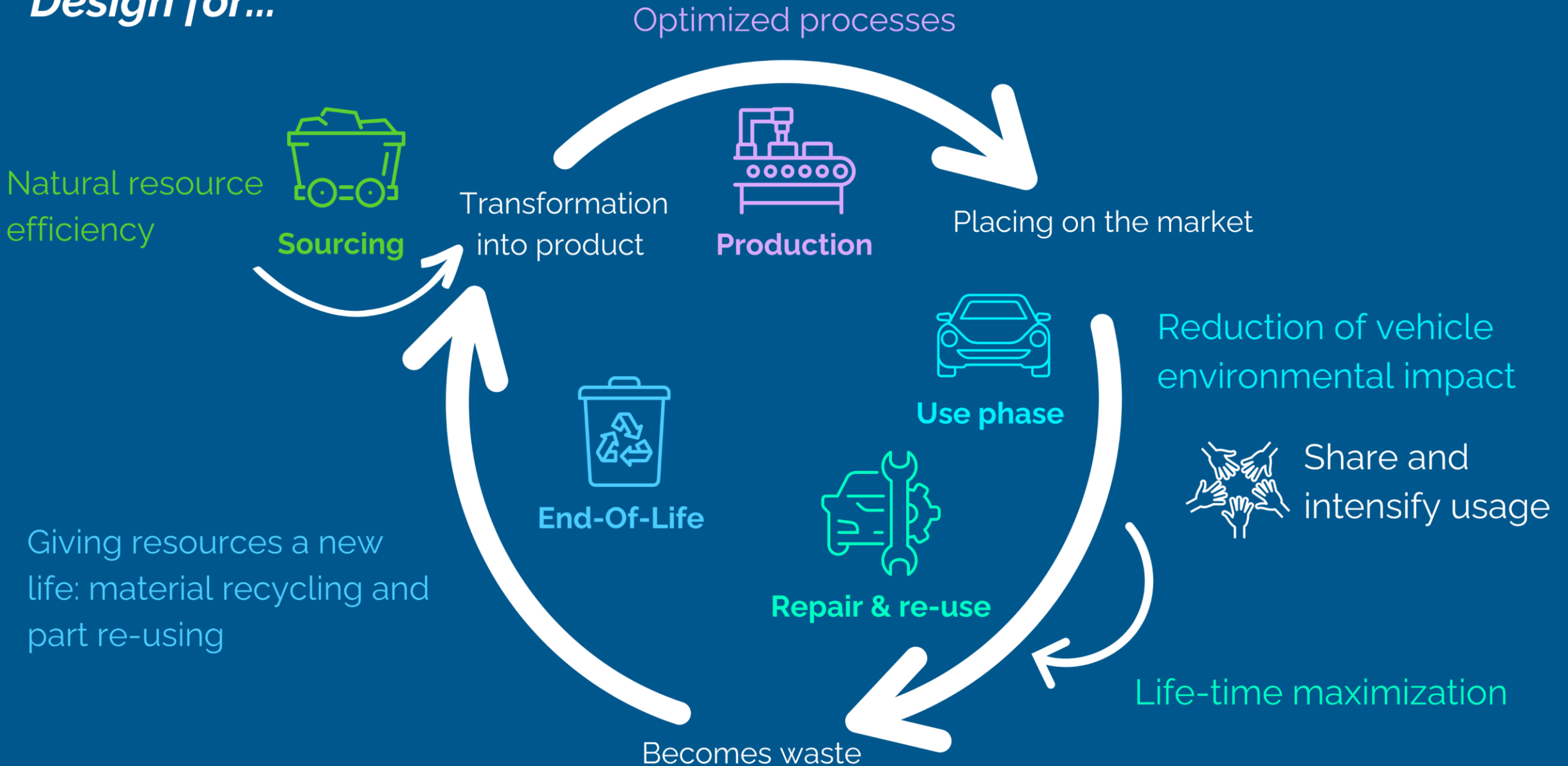
An average vehicle is made of more than 30.000 components

- Suppliers are key providers of innovative technological solutions
- Strong need for dedicated research in new areas requiring:
 - Novel forms of collaboration among the value chain
 - Circular-Economy mindset right from the vehicle concept and design phase



ECO - DESIGN APPROACH TO CIRCULAR VEHICLE

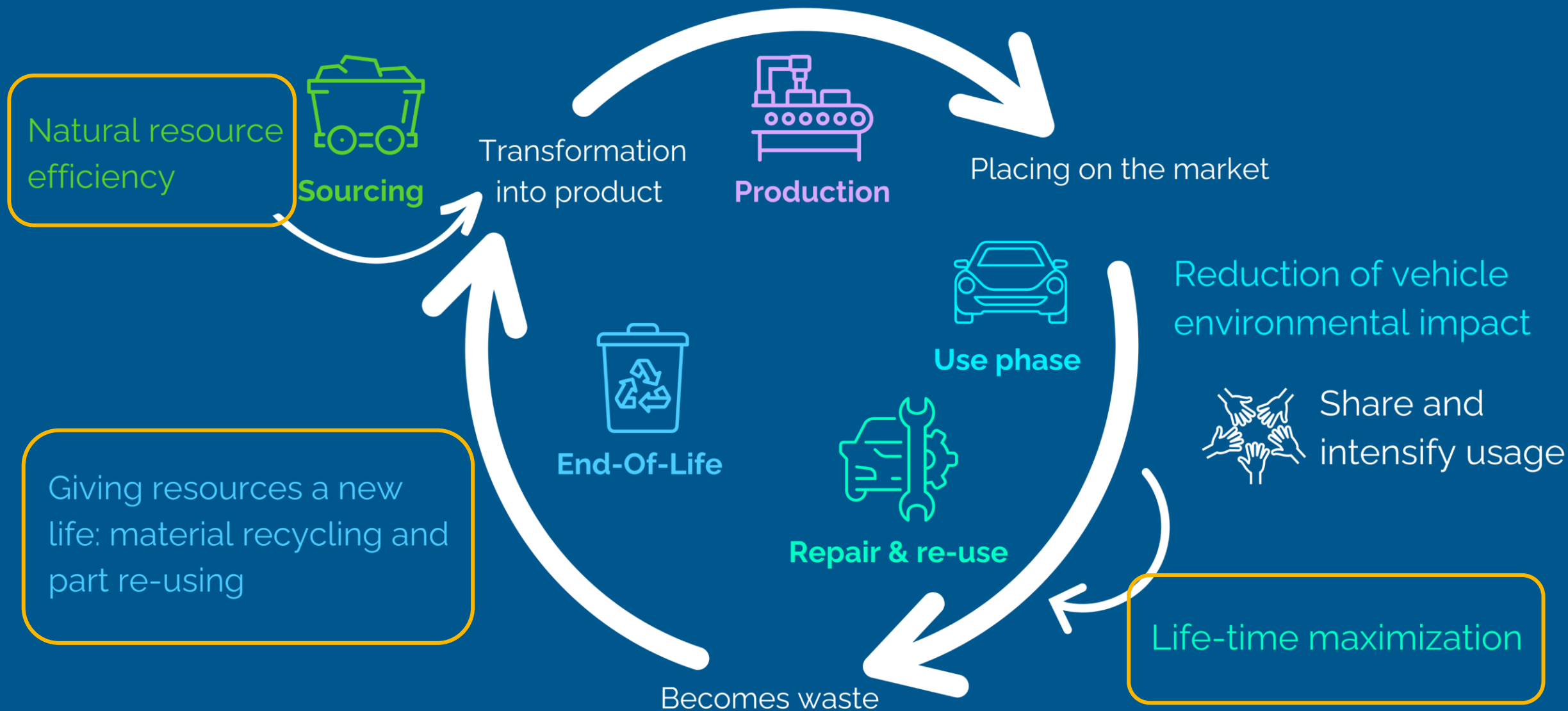
Design for...



ECO - DESIGN APPROACH TO CIRCULAR VEHICLE

Design for...

Optimized processes



Key aspects of a vehicle circularity in the EU



Life time maximisation and usage intensification

14-20 years is the average lifetime of a vehicle, being one of the consumer products with the longest lifespans.

Up to **15 years** after vehicle production, customers are supplied with new and remanufactured spare parts.



Natural resource efficiency

1/3 of a vehicle, already consists of secondary materials.



Giving resources a new life: material recycling and part re-use

> 85% of a vehicle that has reached the end of its lifecycle can be recycled, being one of the most recyclable consumer products.

LIFE-TIME MAXIMIZATION

Solutions to maximize vehicle lifetime need to be integrated at design stage

Maintain vehicle performance over a longer life-span



Facilitate repairability and maintenance



Maintain vehicle attractiveness longer



NATURAL RESOURCES EFFICIENCY

Design-thinking approach, through frugal design techniques and better selection of materials used with sustainability in perspective

Frugal design & variability reduction



Prioritize usage of low CO₂ emission materials
(avoid fossil feedstocks)



Alternatives to scarce, critical, or restricted substances



GIVING RESOURCES A NEW LIFE

Once a product reaches its end-of-life, required is a multi-stakeholder approach to second-life, recyclability and disposal

Design solutions to enable multiple lifecycles of product and materials



Understanding conditions at the end of life
Quality insurance criteria



Facilitate sorting and separation



KEY ENABLERS FOR CIRCULAR ECONOMY

Holistic approach necessitating policy measures coupled with industry alignments and collaboration along the value chain

- Life-time maximisation as a crucial element of a circular economy
- Trade-off between circular economy and chemical restrictions
- Secondary materials must meet the automotive high-quality standards
- Reliance on sustainable value chains
- Efficient information sharing
- Effective cooperation

KEY ENABLERS FOR CIRCULAR ECONOMY

In the same context, EUCAR has defined a series of key objectives, including:

- Design for sustainability and circularity covering recycling processes and improving sustainability of materials and components.
- Promote standardization of a set of tools and defining performance indicators to help the Automotive Industry achieve the objectives.
- Develop technologies for the efficient use of resources to boost material recycling quotas and increase secondary material use
- Establish globally recycling loops and return facilities especially for end-of-life EVs to allow an efficient use of the vehicles across markets and regions. Closed-loop recycling, especially for critical battery materials (Li, Ni, Mn, Co), is a geopolitical necessity
- Ensure longer and more sustainable lifetimes of vehicles by addressing the repairability and upgradability of vehicles
- Adopt holistic approach involving all stakeholders and specifically addressing the fragmented recycling industry.



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Many thanks

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