

A TRANSPORT SPECIFIC LIFE-CYCLE ASSESSMENT

THE EUROPEAN SUPPORT ACTION TRANSENSUS LCA

Final Event

Thilo Bein & Felipe Cerdas (FhG)
on behalf of the TranSensus LCA Consortium

June 25, 2025



Funded by
the European Union

GA # 101056715

Agenda



- 10:00** Welcome & Introduction
- 10:15** Brief overview of TranSensus LCA
- 10:30** Project Presentations (ESCALATE, RESPECT, ZEVRA)
- 12:00** Lunch
- 13:00** Project Presentations (CLEVER, HiQ LCA, RELIEF)
- 14:30** Panel discussion with all speakers from the projects
- 15:30** Implementation and research needs
- 16:00** End of Meeting

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Felipe C.

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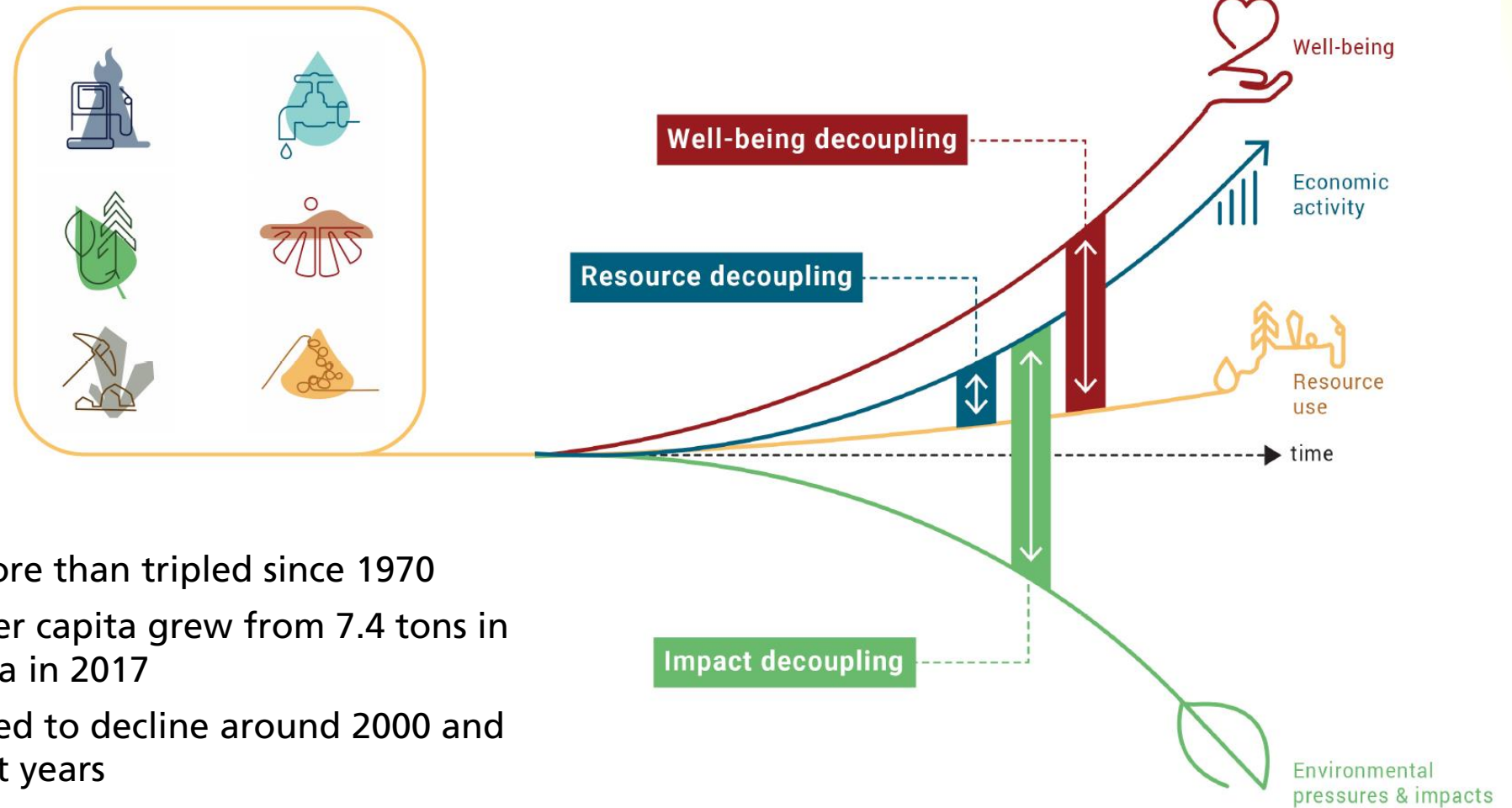
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Background

The Decoupling Concept

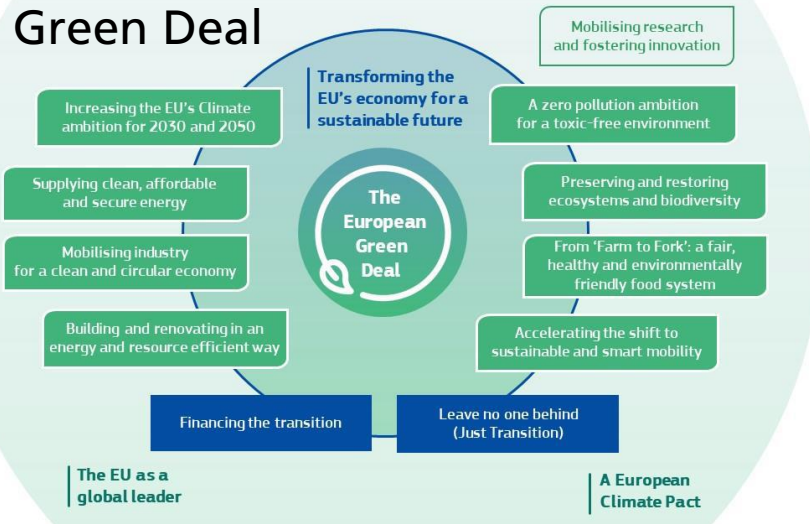


- Global resource use has more than tripled since 1970
- Global material demand per capita grew from 7.4 tons in 1970 to 12.2 tons per capita in 2017
- Material productivity started to decline around 2000 and has stagnated in the recent years

Background

European Initiatives

Green Deal



Industrial Action Plan for the Automotive Sector

Innovation & Digitalisation

- Creating **large-scale cross-border test beds** for automated driving
- Developing **next-generation battery technology** through BATT4EU, with a dedicated budget of around **€350 million** + **€1 billion** from Horizon Europe for connected and autonomous vehicles and batteries
- A **European Connected and Autonomous Vehicle Alliance** for Companies to develop shared software, chips and autonomous driving technology

Clean Mobility

- Accelerating the **uptake of zero-emission vehicles** in corporate fleets
- More **flexibility for meeting the 2025 CO₂ standards** while keeping the target
- Improving **battery reparability** and accelerating the **roll-out of charging infrastructure** + **€570 million** from the Alternative Fuels Infrastructure Facility
- Ensuring **price transparency at recharging points**

Level Playing Field with non-EU competition

- Ensuring that **European companies are protected** against unfair competition
- Ensuring that **foreign investments in the EU automotive sector** benefit European companies and contribute to the industry's long-term competitiveness

Competitiveness & Supply Chain Resilience

- Boosting Europe's battery industry with a **'Battery Booster' investment package** to support EU made batteries + **€1.8 billion** from the Innovation Fund
- Promoting **European production** of key components for connected and automated vehicles

Supporting Workers

- A **European Fair Transition Observatory** to track employment trends in the automotive sector, identifying potential 'hot spots' of job displacement for proactive solutions
- **€90m Pact for Skills fund** to boost skills training in the automotive industry

Clean Industrial Deal

Circularity and Access to Materials

High dependence of EU industry on critical raw materials. Materials are not reused sufficiently, precious materials are being thrown away

- Ensure lower prices and higher availability for critical raw materials by organising joint purchases (through an EU Critical Raw Material Centre)
 - The New Circular Economy Act will reduce dependencies on primary materials imports and create business opportunities
- Increase circular material use rate from 11.8% today to 24% by 2030



Background

Overall Challenges



The **ecological footprint** of a product over the full life-cycle (cradle to cradle) must be considered and evaluated already in the product development process:

- energy- and GWP-balance
- EoL-strategies
- costs (Total Cost of Ownership)

and must be the basis for the **selection of the right technology**.



REDUCE



REUSE



RECYCLE



Substantial reduction of
hazardous substances

Motivation

Challenges for a harmonised assessment of the ecological footprint



Ecological footprint assessment and communication is needed to support the transition toward low carbon and circular economy of the transport sector, but...

Standardised and comparable (real) data are missing.

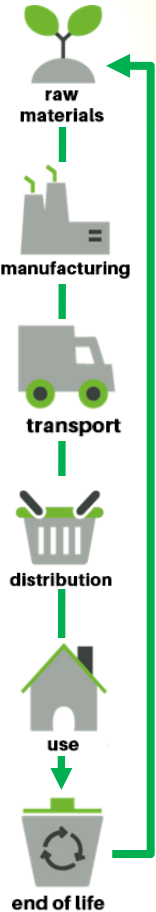
Harmonised methods and tools for affordable (in terms of cost and time) and easy-to-handle assessment of the ecological footprint are needed.

Strategies and definitions for consistent circular economy approaches (e.g. categories like share of recovered materials, energy efficiency of recycling process ...) are missing.

Knowledge and skills for LCA and CE are lacking.

LCA- and circular economy-based solutions are not implemented on a wide scale.

Communication and acceptance of LCA- and circular economy-based solutions.



The Coordinated and Support Action (CSA)

TranSensus LCA



€ EU Funding ~3,7M€



30 Months
Started in **January 2023**

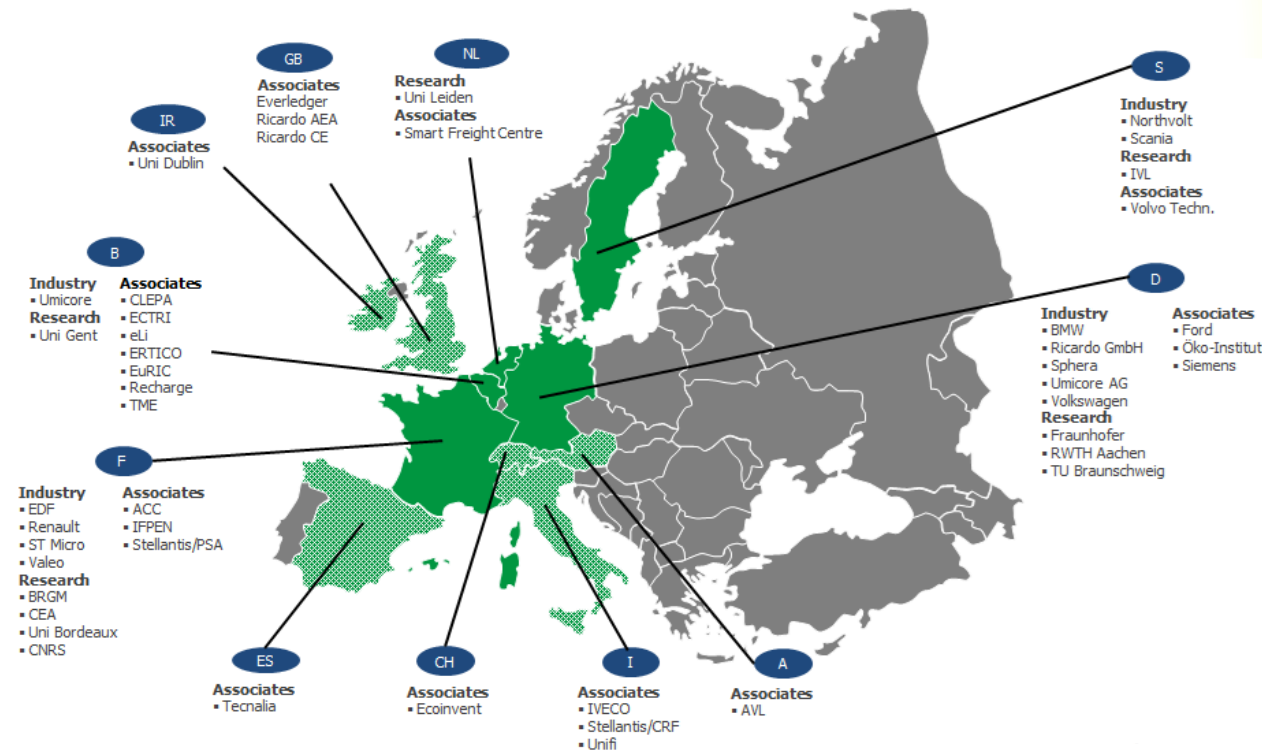


20 Beneficiaries
11 Industrial Partners
9 Research Partners

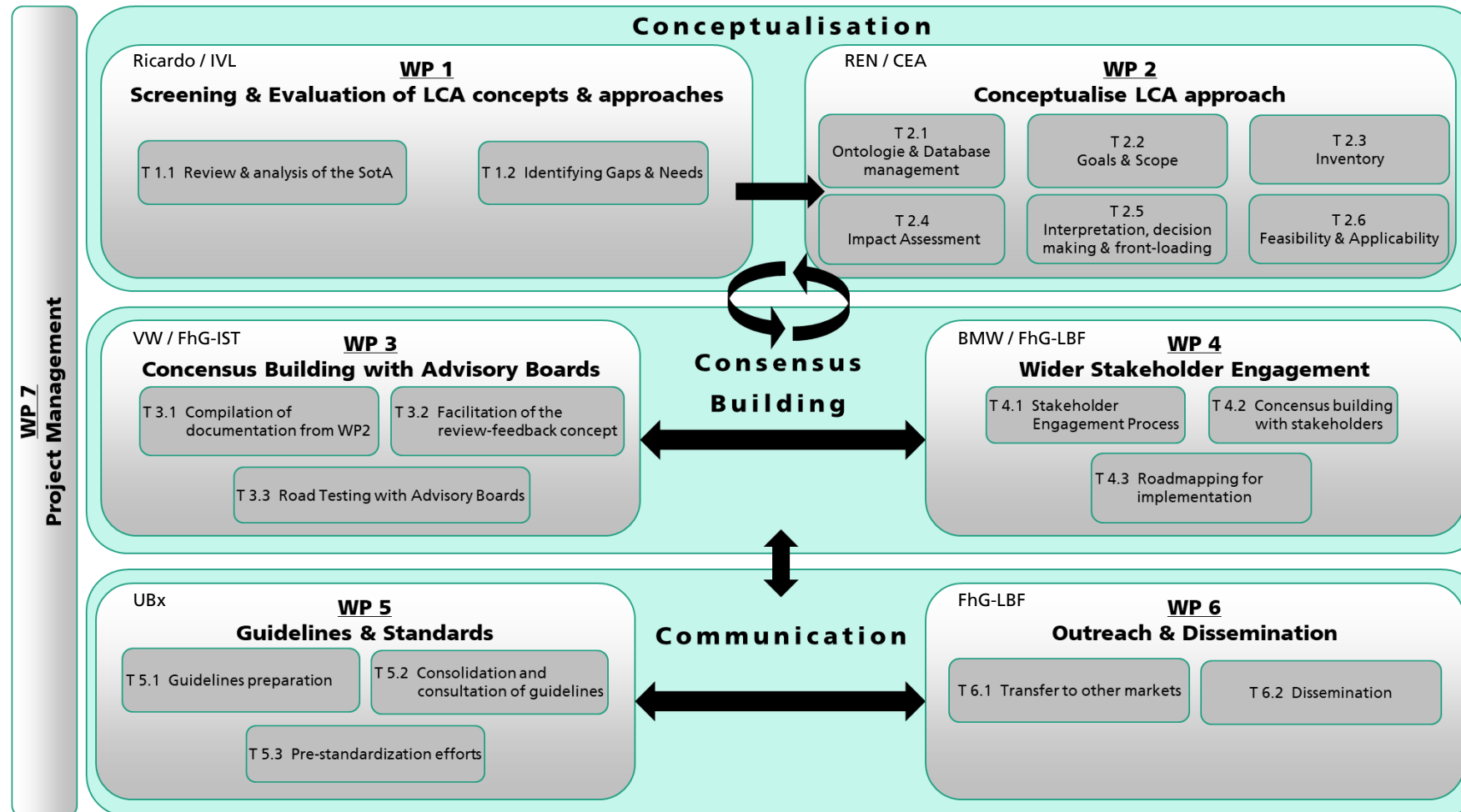
24 Associated Partners
3 Wider consultation groups

Commonly accepted and applied single LCA approach for zero-emission road transport

- Conceptualize and demonstrate a single, European-wide real-data LCA approach for zero-emission road transport
- Harmonization of methodologies, tools and datasets
- Elaborate an ontology and framework for a European-wide LCI database
- Conceptualize LCI data management and update along the life cycle and along the supply chain
- Paving the way for LCA-based product and business development
- Consensus building across all stakeholders



Work Package Structure



Achievements



- **Most of the deliverables are or will be made publicly available on our website www.lca4transport.eu**
 - 17 out 21 reports are public
 - 16 reports available, remaining 5 will be delivered with end of project.
 - Extensive review of SotA, gaps and needs
 - Unique proposal for a harmonized LCA approach
 - Guideline how to apply it
- **> 60 stakeholders involved**
- **Interaction with > 10 other initiatives**
- **Continuation of process e. g. through ERTRAC**



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Project Presentations

ESCALATE

Dimitris Kotses

ESCALATE 

RESPECT

Enrique Molinier

 **Respect**

ZEvRA

Violeta Vargas

 **ZEvRA**
Zero Emission electric Vehicles
enabled by haRmonised circularity

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LUNCH
BREAK

til 13:00

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Project Presentations

CLEVER

Mehul Kandewhal



HiQ LCA

Guido Sonnemann



RELIEF

Joana Rosa Gouveia



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Thilo B. (moderator)

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Challenges and research needs in context of LCA

Role of LCA in a Circular Economy

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WE'RE ALL
IN THE SAME
BOAT

Thank you very much for participating
in our final event!

Have a safe trip home!