

Energy Efficient Innovation

Lighthouse Project Roll2Rail

UIC Energy Efficiency Workshop

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This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No: 636032

Agenda

SiC Converter

Car Body

Running Gear

Market Conditions



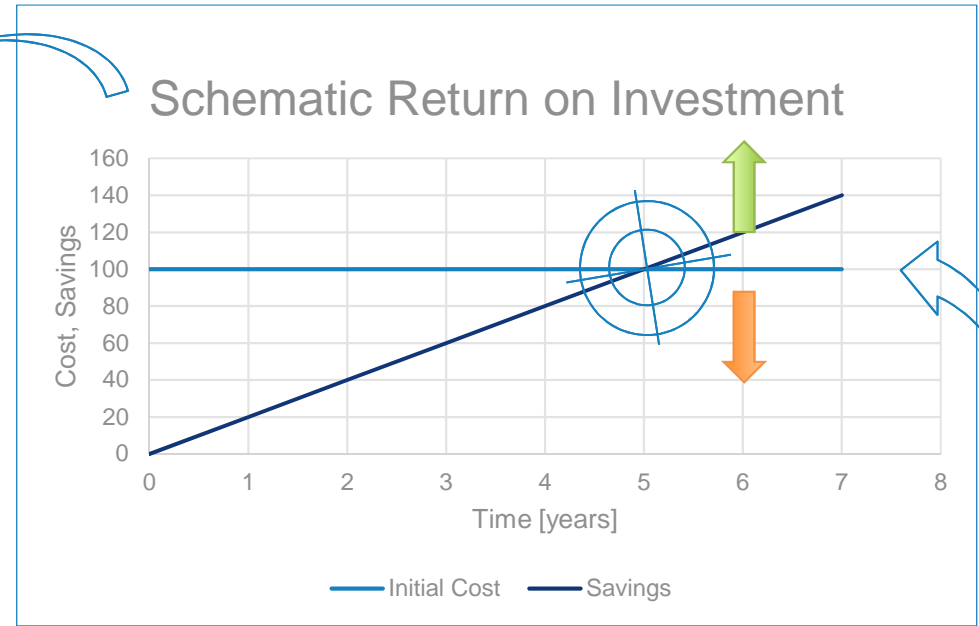
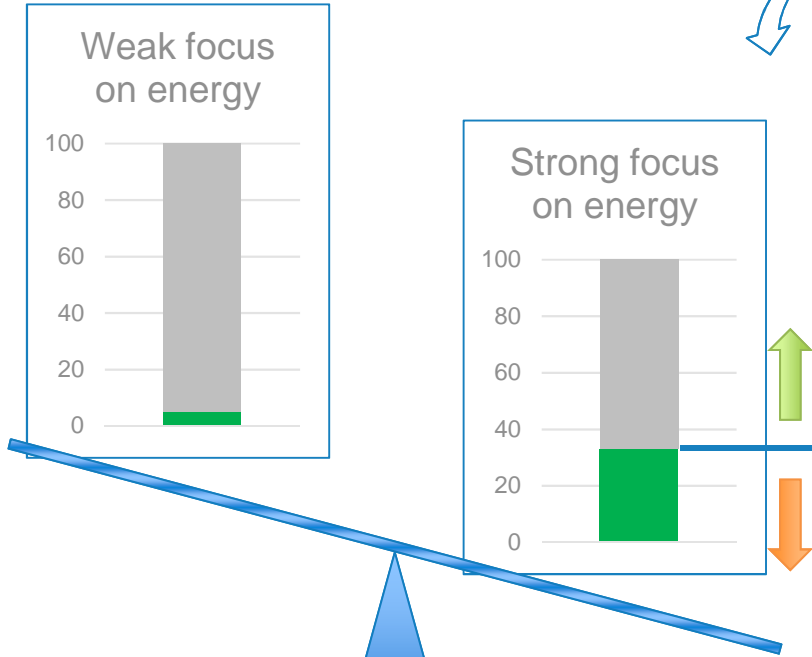
Standardization

Energy Efficient Innovation



Energy Efficient Innovation Needs Market Pull

Energy weighting in tender evaluations



Energy cost
€ / kWh
in European
Countries /
Operators



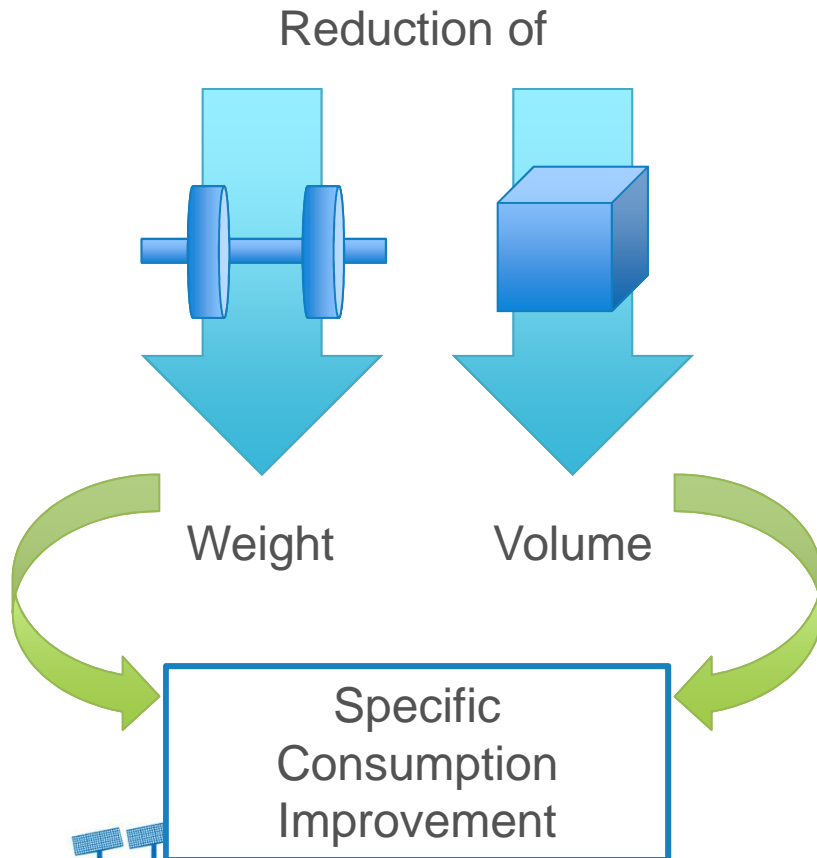
Source: Wikipedia



Roll2Rail



Traction innovation: SiC



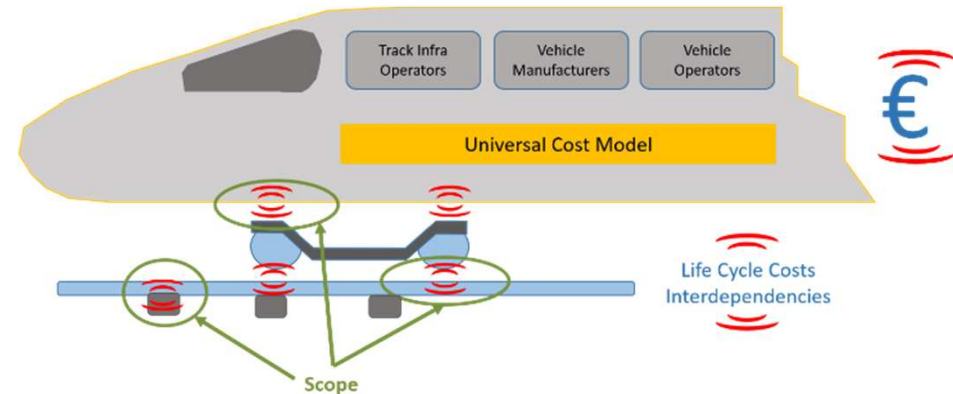
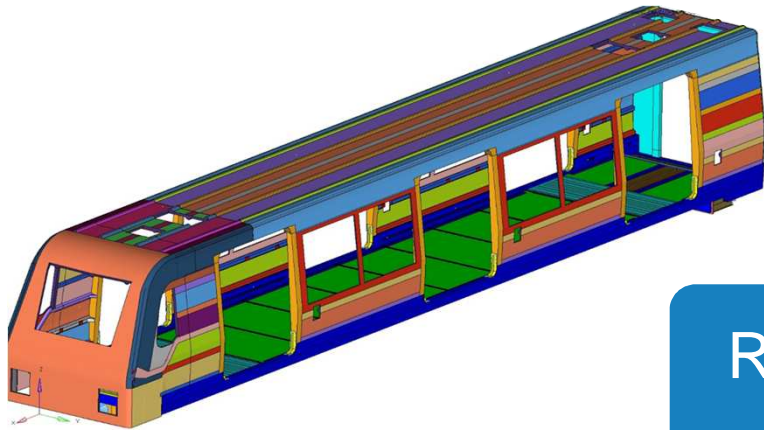
PINTA Overall Targets incl. SiC & others
(Selection):

Regional TD:	Suburban TD:
10 % savings	15 % savings

* TD = Technical Demonstrator



Car Body & Running Gear



Car Body Weight

- Materials
- Structures

Running Gear Weight

Running Resistance

Energy Cost



Standardization



Recommendation of TS 50591 for further development

Gaps in TS 50591

Improvement Recommendations

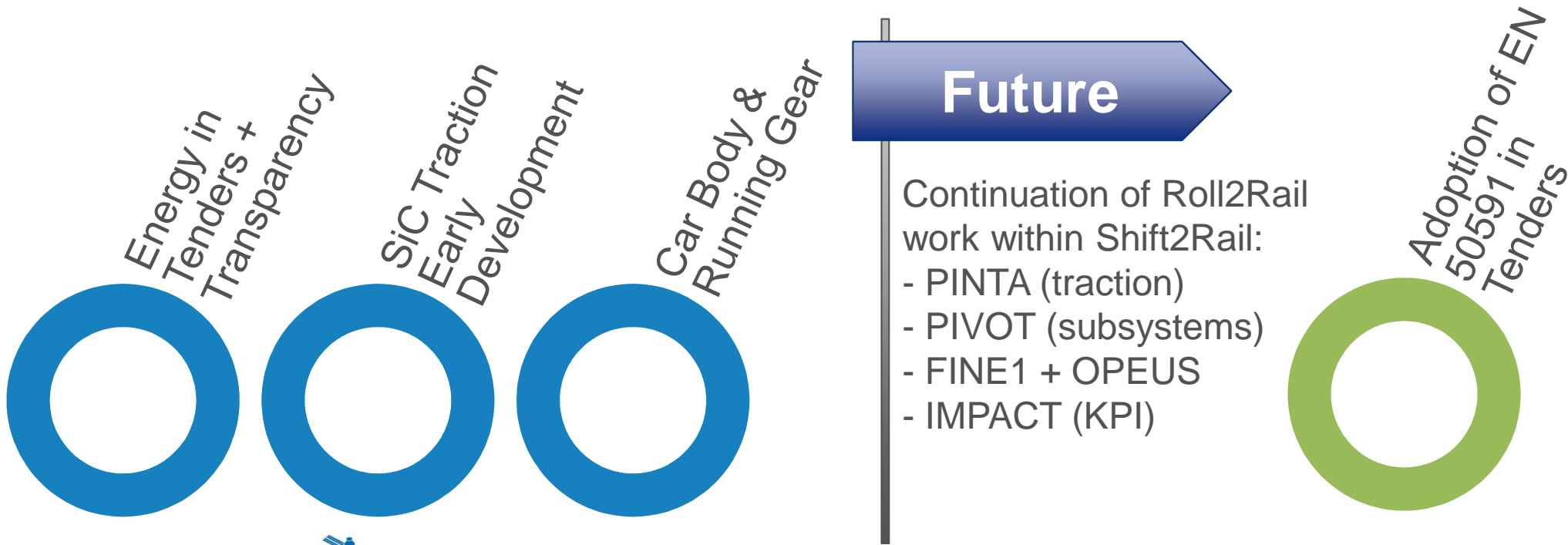
prEN 50591

Future

Adoption of EN 50591 method for rolling stock procurement + energy validation



Summary & Outlook



Continuation of Roll2Rail work within Shift2Rail:

- PINTA (traction)
- PIVOT (subsystems)
- FINE1 + OPEUS
- IMPACT (KPI)



Thank you for your attention!

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Radical Innovation

Interior Design

Braking Systems

Noise Reduction

Composite Materials

Capacity
Reliability

Wireless

Energy Efficiency

Attractiveness

Mechatronics

Rolling Stock

Passenger Comfort

Next Generation

Light vehicles

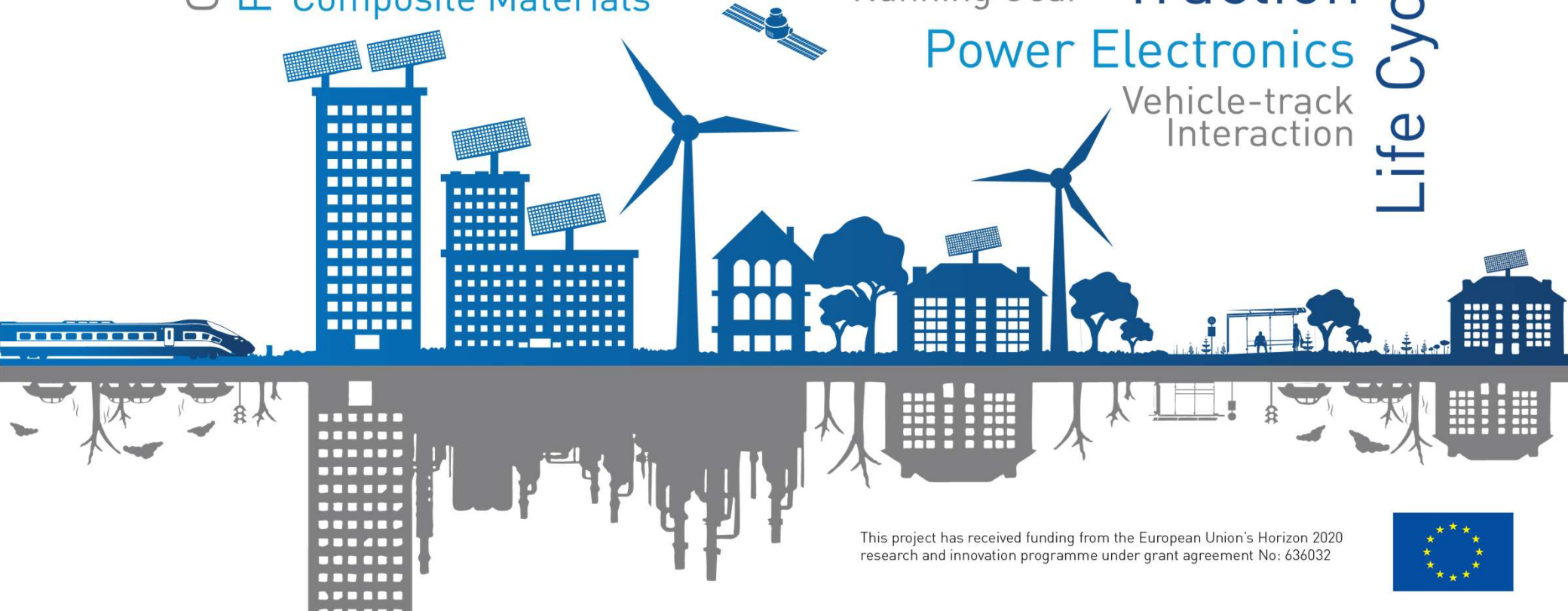
Running Gear

Traction

Power Electronics

Vehicle-track
Interaction

Life Cycle Costs



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