



OPTITRUCK APPROACH ON: CHALLENGES FACING PREDICTIVE POWERTRAIN TECHNOLOGIES

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ERTICO - ITS Europe
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Our overall objective



optimal* fuel consumption with predictive *powertrain* control and calibration for *intelligent Truck

optiTruck brings together the most advanced technologies from powertrain control and intelligent transport systems to achieve a global optimum for consumption of fuel (>20% reduction) while achieving Euro VI emission standards for heavy duty road haulage (40t).

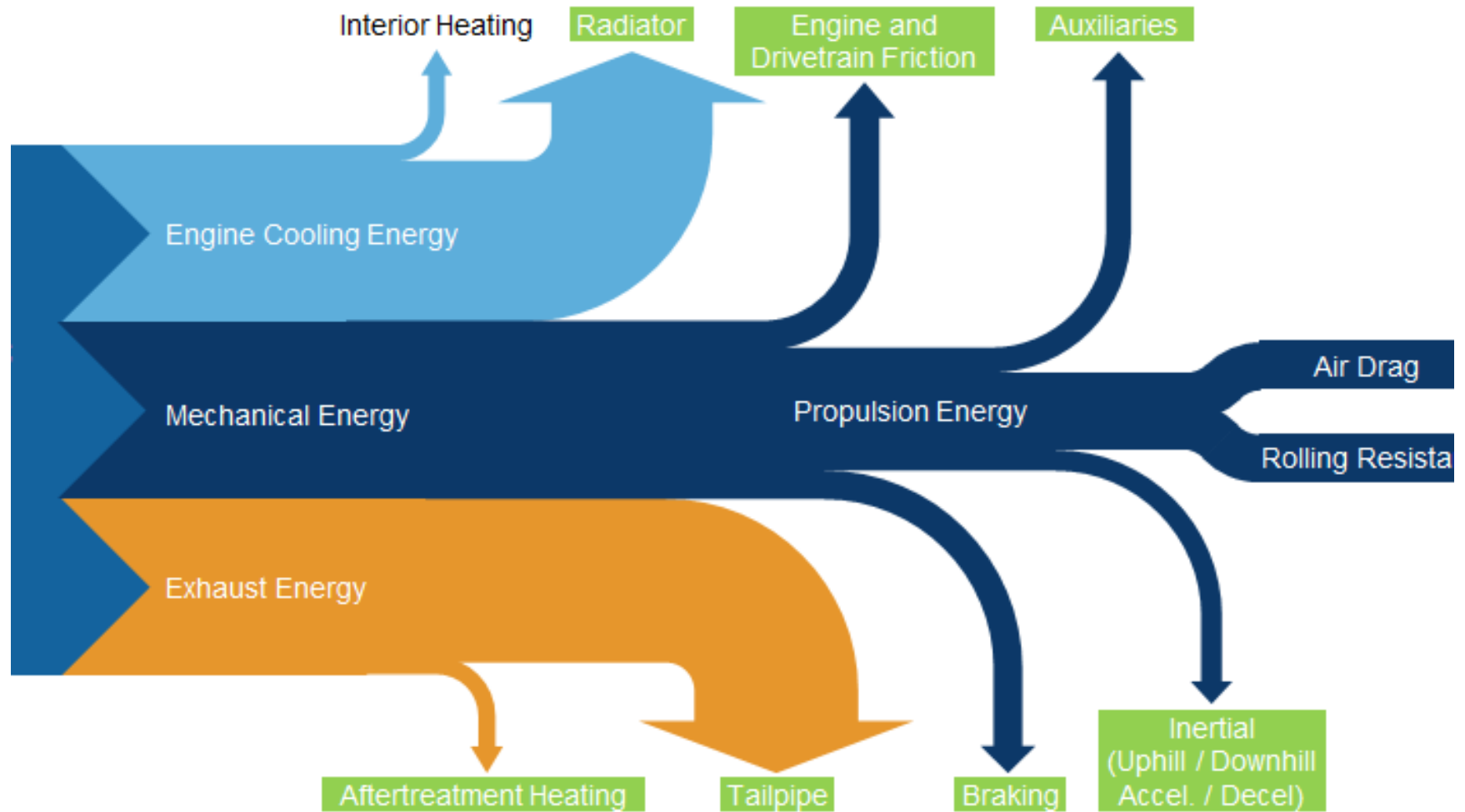
How to achieve it?



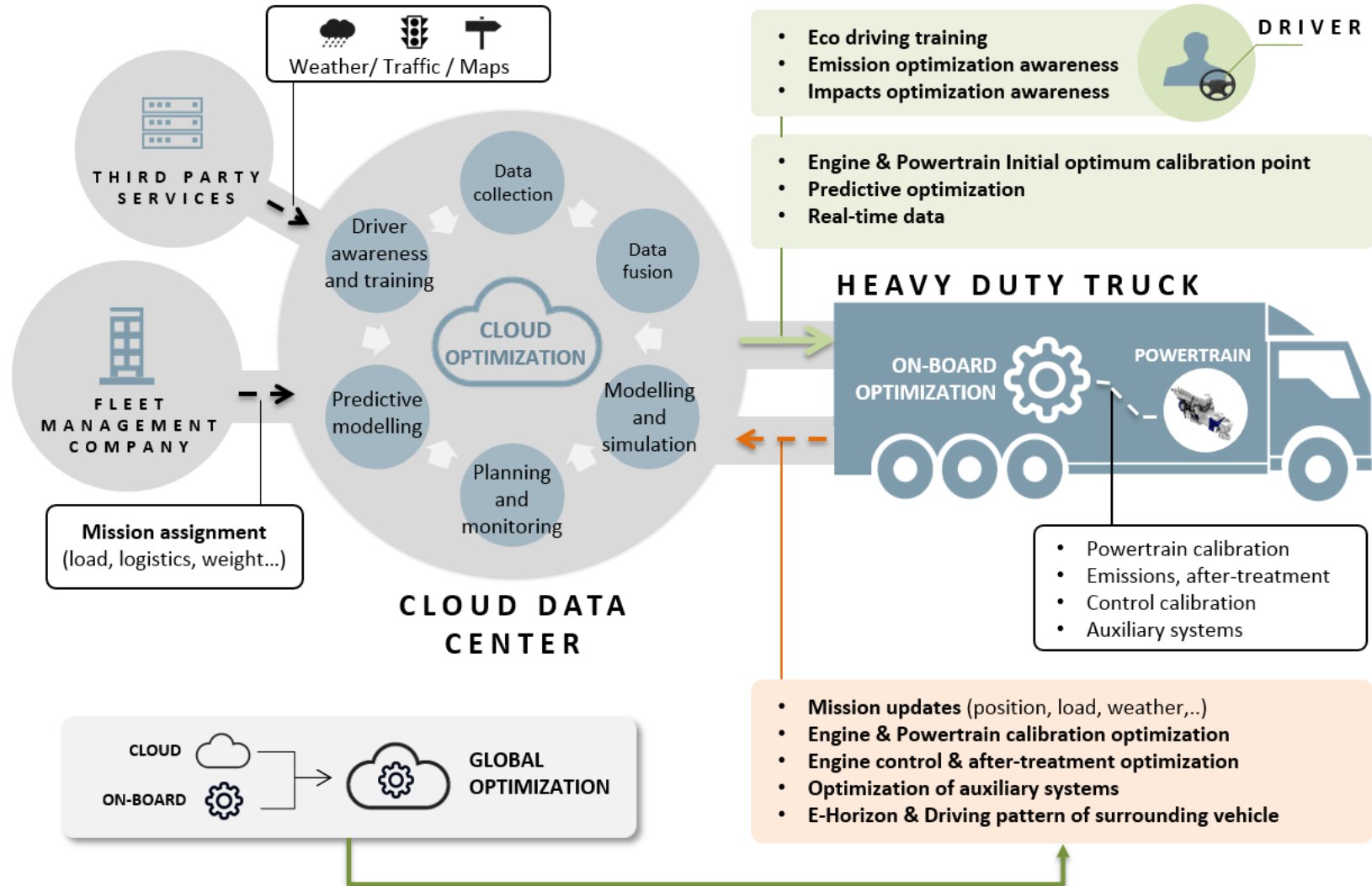
by creating a **global optimiser**

- consisting of a set of *dynamic, intelligent control and prediction components* designed for effective powertrain management,
- using environment data related to:
 - transport mission
 - road topography
 - weather and road conditions
 - and *surrounding vehicles (only in simulation)*

Focus on fuel energy losses and distribution



Concept and approach



Driven by 10 innovation Elements => impact



IEx	Innovation Element description	Foreseen impact
IE1	Optimization of powertrain control and calibration according to real world driving conditions	% 5
IE2	Prioritization of engine operating mode or continuous engine/combustion control together with aftertreatment coordinator function	% 5
IE3	Adaptation to dynamic changes in vehicle load and aerodynamic forces	% 3-5
IE4	Model based aftertreatment coordinator	% 2-3
IE5	Predictive management and control of auxiliary systems	% 1
IE6	Predictive management of the cooling system	% 1
IE7	Energy flow operating mode coordinator	% 1
IE8	Driving patterns of surrounding vehicles: in combination with IE1	-
IE9	Driver support information system (ecoNavigation or ecoDriving for truck)	% 4-5
IE10	Definition of the transport mission and initial calibration of optimum points	% 5

Project Partners



Project Coordinator		
Industry		
User Sector		
Research & Innovation Sector		
		
		

optiTruck

- Started Sept 2016
- Duration 3 years
- Budget: 5.39 Mio€
- Funding: 4.54 Mio€



Thank you! Any Questions?

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