

ESCALATE

Powering European Union Net Zero Future
by Escalating Zero Emission HDVs
and Logistic Intelligence



NextETRUCK Mid-Term Conference

Alonso Davila Graf – Polis Network

21.2.2024





13 Countries involved

-  Belgium
-  Denmark
-  Germany
-  Spain
-  Estonia
-  France
-  Finland
-  Greece
-  Poland
-  Portugal



This project has received funding from the European Union's Horizon Europe research and innovation programme under grant agreement No 101096598.



37 Project Partners



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ESCALATE MANAGEMENT



SERVAIS OUENOU GAMO
THORSTEN SCHNORBUS
France & Germany
PROJECT COORDINATOR



Assoc.Prof. AHU ECE HARTAVI KARCI
United Kingdom
SCIENTIFIC & TECHNICAL
COORDINATOR



ULRIKE GOHIL
Germany
FINANCIAL COORDINATOR

5 Truck Manufacturers
3 Infrastructure Supplier
6 OEMs
4 Shippers
10 Research Institutes
5 NGO

Duration: 42 Months
01/2023 – 06/2026



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What is ESCALATE?

Transform long haul freight transport to reach 2050 CO2 targets

ESCALATE will play a pivotal role in propelling Europe to the forefront as a leading pioneer of carbon-neutral freight transport through fleet management tools and its innovative:

- Battery Electric HDV
- Fuel-cell Electric HDV
- Range Extender HDV





Challenges targeted

- Diesel-powered HDVs account for about 25% of the total on-road CO₂ emissions in the EU - Despite only representing 1% of total fleet vehicles
- Problems hindering the commercialization of zHDV such as:
 - Limited range on a single charge/fuel
 - High upfront costs
 - Long charging/fueling times
 - Lower payload
 - Lack of effective solutions for integrating EVs into fleets
 - Power grids without negative impacts





Project Objectives



- R&D of ground-breaking high-efficiency long-haul HDVs with 800km uncharged range under real-world operational conditions



- R&D of cost-effective electric multi-powertrains for a minimum of 500 km daily operation under full load for 6 months



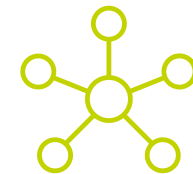
- R&D of grid-friendly (multi) energy fast charging solutions



- Seamless integration and fluid operation of z-HDV fleets



- Development of 5 Modular DTs



- Global Leadership for European Automotive, Logistics, and Infrastructure & Powering EU Absolute Zero Future



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5 pilots

Red lines – Electra – Refrigerator Solar Battery

UK: Dundee – Southampton, 800km
Germany: Flensburg – Worth (Karlsruhe), 800km

Purple line – FORD – Refrigerator Fuel Cell

Geneva – Lyon – Barcelona, 800km

Orange lines – BMC – Fuel Cell

Munich – Paris, 800km
Bolu – Istanbul – Bolu, 510km

Green line – MBT – Battery Electric

Istanbul – Sofia, 510km

Black line – SISU – Range Extender

Vuosaari (Helsinki) – Jyvaskyli - Vuosaari (Helsinki), 540km



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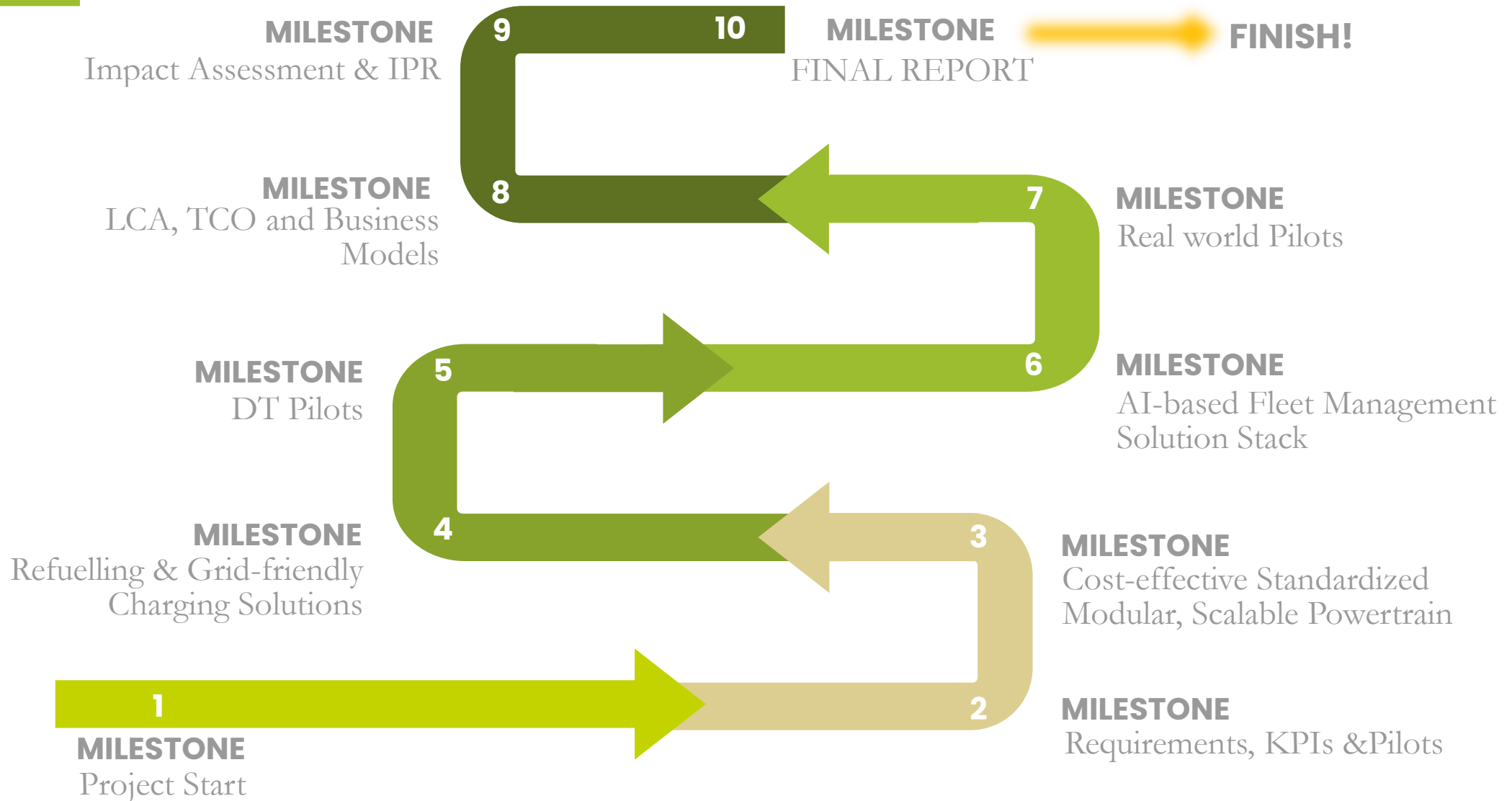
5 pilots

- 5 Demonstrator Vehicles
- 24 Months of Tests under Real-World Conditions
- +500.000 km
- Regional and Cross-border Tests



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What's to come?



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