



RETHINKING ROAD ELECTRIFICATION FOR E-TRUCKS

The New Energies Coalition Innovation Game





**The strategic challenge #3:
How can we innovate the
charging station's
business model?**

Objective

Highways and Logistics Hubs as Energy Nodes

Charging stations as a **new interface** between transport, energy systems, and logistics operations:

- Very high-power charging (MW-scale)
- Local grid connection & flexibility/How to make the massive infrastructure connected to the grids
- On-site energy storage and renewable generation

Digital orchestration of charging and traffic flows

Challenges

Explosive Growth in Power Demand

- Simultaneous charging at rest areas creates strong peak loads
 - Corridor-level electrification multiplies energy demand along highways
- In many locations, **grid capacity is insufficient or unavailable** in the required timeframes.

Infrastructure & Deployment Challenges

- Lack of standardized, future-proof charging architectures
- Limited grid access at highway rest areas and logistics zones
- Long lead times for grid reinforcement
- Depo & public infrastructure coordination

Infrastructure deployment risks being **slow, capital-intensive, and poorly scalable**.

Economic and Regulatory Barriers

- Very high CAPEX for grid connection and charging equipment
- Uncertain regulatory flow and subsidies
- Fragmented permitting and regulatory frameworks across countries
- The cost of energy alone is not a sufficient differentiator to justify the ROI
- Coordinating legal requirements and the necessary loading time

Solutions must **reduce investment risks while ensuring interoperability and long-term viability**.

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During the Design Sprint, the challenger will have access to this partners' experts & young talents to leverage its solutions to real product:



By combining & orchestrating our worlds



Smart road electrification at scale - Battle Grounds



Make it PROFITABLE – *How do we make electrification profitable and scalable?*

Covers:

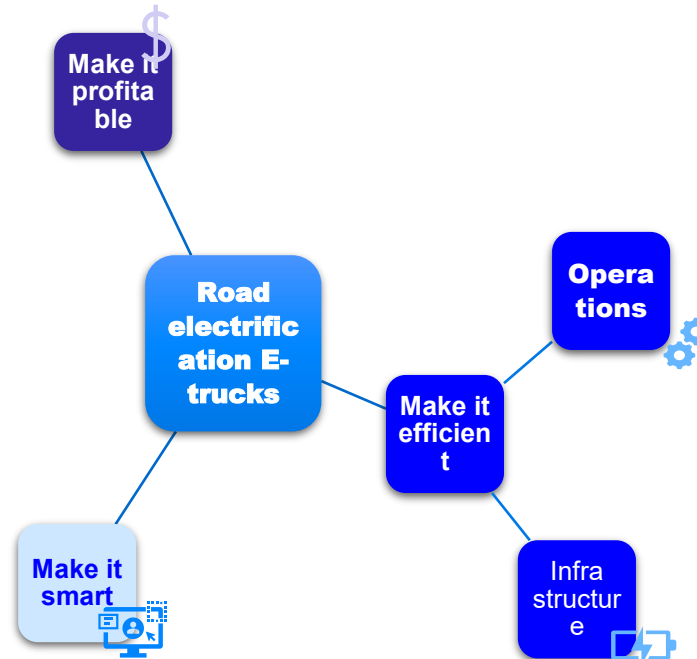
- Business models (CAPEX vs OPEX, ROI optimization)
- Private-Public partnerships
- Infrastructure sharing & cost pooling (matchbacks, external selling, shared services, re-routing, etc.)*
- New revenue streams
- Market adoption & incentives



Make it SMART – *How do we manage a complex system at scale using data?*

Covers:

- Digital twins for fleet management
- Energy optimization tools
- Corridor flow management systems
- Collaborative platforms
- Intermodality & network strategy (rail, cross-border flows)



Make it OPTIMIZED – *How do we maximize utilization and operational efficiency?*

Covers:

- Charging station utilization rates
- Match backs & empty miles reduction
- Dynamic rerouting
- Last-mile operations
- Fleet and route planning



Make it EFFICIENT – *How do we design flexible, high-value infrastructure?*

Covers:

- Charging station design
- Logistics hubs (cross-docking, storage)
- Energy flexibility (day/night charging, variable speed)
- New use cases (E-barges, E-trains, energy storage)

Smart road electrification at scale - Data Sets

Examples of public information



6 millions trucks in Europe. **10 thousands E-trucks** currently in operation (short distance mainly). **E-chargeable trucks** (battery electric, plug-in hybrid) together represent **2.3% of new registrations**.

The adoption of E-trucks in Europe is highly concentrated in Northern and Western Europe, with the **Netherlands, Denmark, Sweden, and Norway** leading in market share for new registrations



2,988 HDV recharging stations in Europe, of which **1,039 stations** are already equipped with at least **one 350 kW charging points**.

~300 Mega-charging stations in Europe

ENGIE Vianeo: plan to roll out 3,000 charging points in Belgium, with a target of 25,000 charging points across Europe by 2030.

MELINCE: plan to start 90 new charging hubs by 2028.



[Click here ▲](#)
to access Renault
Trucks charging stations
map



73% of road freight tonnage is carried over distances of 150km or less in EU economies**

Less than 2% gets carried over 1,000 km

43% of new regulated trucks are electric in **Sweden**, 13% in The **Netherlands** and 12% in **Norway**

The challenger will have access to a set of data to support the innovation go to market, f.e.: number of E-trucks in Europe, amount of existing charging stations, projections 2030-2040-2050, etc...

KEY MARKET PLAYERS



European HDV charging market :



DAIMLER TRUCK



BYD



Logistics operators leaders adopting E-trucks



European truck manufacturers leaders



IVECO

DAF

with more than 70% of the market share



WHY TO APPLY?



Do you want to:

- Tackle high impact decarbonization challenges in transport and logistics?
- Test, validate, and co-develop innovative low-carbon solutions?
- Benefit from tailored support and collaborative synergies with industry leaders?
- Increase the visibility and impact of your innovation?


Then this Innovation Game is for you! Join a dynamic ecosystem of corporates, startups, public & private mobility and logistics experts committed to accelerate the decarbonization. Together, let's imagine, experiment, and scale the next generation of sustainable mobility solutions.

Your solutions for SMART ROAD ELECTRIFICATION will have to:

- Introduce a new business model for charging stations, to optimize the utilization & operational efficiency
- Optimize the cost of energy used at the charging hubs
- Design a high value, flexible and scalable charging infrastructure

3 squads will be created and will compete to design Go to Market Solutions. The finale will be held in front of the investors, procurement teams, sector leaders. The winner will receive an award of € 30.000 to develop the solution!

Apply to become part of the innovative ecosystem shaping the future of low-carbon transport!

The background image is a 3D digital rendering of a port. In the foreground, a large cargo ship is docked at a pier. The pier is equipped with several large, blue, rectangular charging stations. In the background, a large offshore wind turbine is being assembled on a barge. The sky is blue with some clouds.

The strategic challenge #3: How can we innovate the charging station's business model?

APPLY HERE