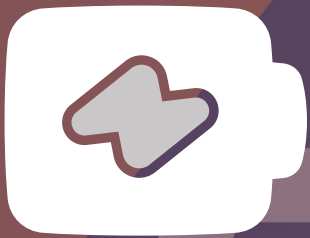
ToRDIS

Discover TaRDIS use case:
SMART ENERGY
(Multi-level smart charging & Grid Balancing)



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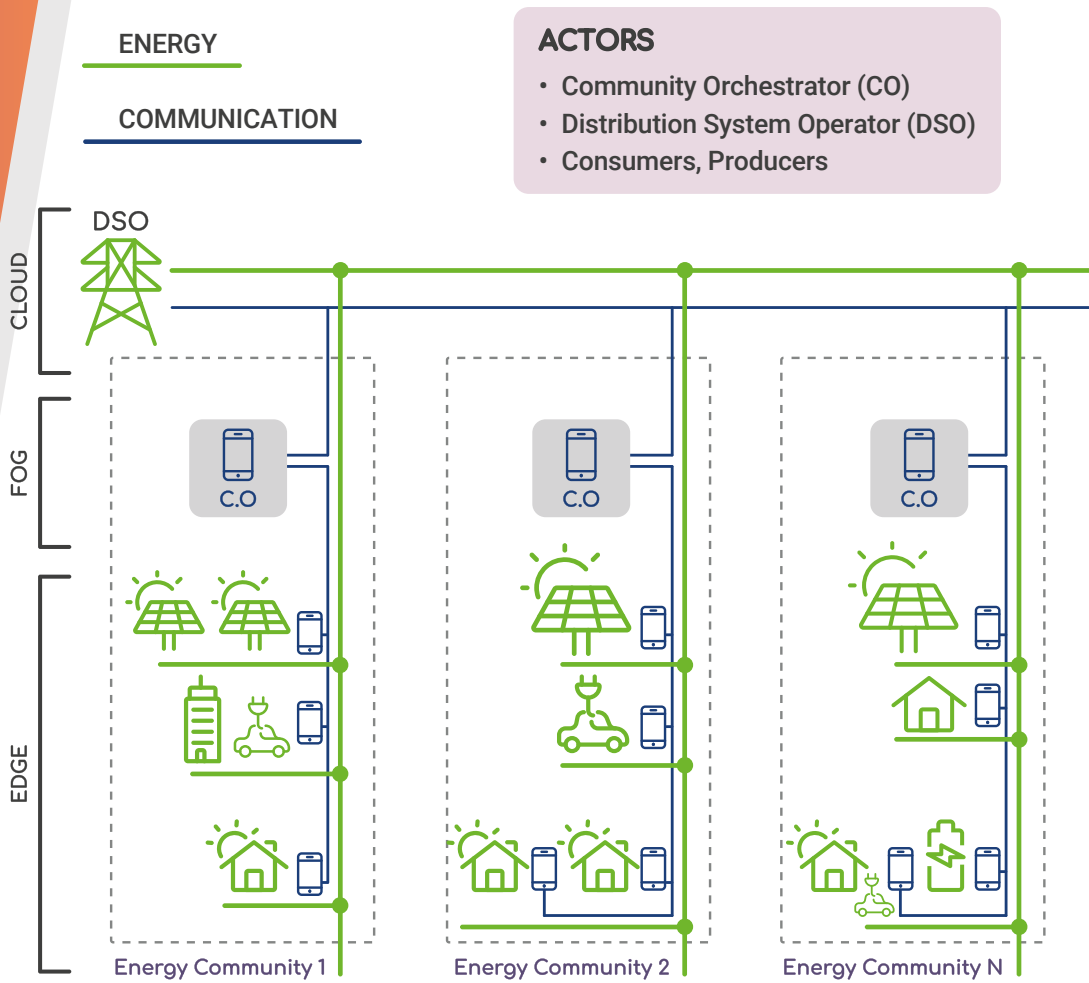
info@project-tardis.eu

CONCEPT

The goal is overcoming the grid imbalance arising from Electric Vehicle charging. The concept is divided into three core layers to provide a local energy balance by matching generation with local **flexible loads** – energy consumers with controlled energy usage. At the edge layer, connected devices can customize load profiles and exchange energy with the upper layer.
In the fog, using TaRDIS, the **energy community** orchestrator manages different consumer and prosumer requests.
Finally, at the cloud level, the Distribution System Operator reduces grid imbalances and provides monitoring and analytics.

BENEFITS

The DSO can manage the increasing load on the grid and balance local demand with available power, deferring infrastructure rehabilitation. The use of local renewable energy and distributed algorithms can lead to a more sustainable and resilient energy system, reducing CO2 emissions and benefiting grid stability. Increased participation of citizens promotes engagement and awareness towards sustainable energy practices. The efficient use of resources through vehicle-to-grid bidirectional chargers and optimization algorithms can lead to a more cost-effective and efficient energy system.


ENERGY
COMMUNICATION
ACTORS
• Community Orchestrator (CO)
• Distribution System Operator (DSO)
• Consumers, Producers
CLOUD
FOG
EDGE
DSO
C.O
C.O
C.O
Energy Community 1
Energy Community 2
Energy Community N

TaRDIS

Trustworthy And Resilient Decentralised Intelligence For Edge Systems

Learn more about TaRDIS on our website:

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Funded by the European Union

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