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Key Enablers for the Energy Transition

PEOPLE — TECHNOLOGY — SUSTAINABILITY



**Global Tech
Company**



Vertical Markets

Automotive
Manufacturing

Airports

Electronics
Industry

Water and
wastewater Industry

Data
Centers

Machinery and
Plant Production

Food and
Beverage

Chemical
Industry

Municipalities
and DSOs

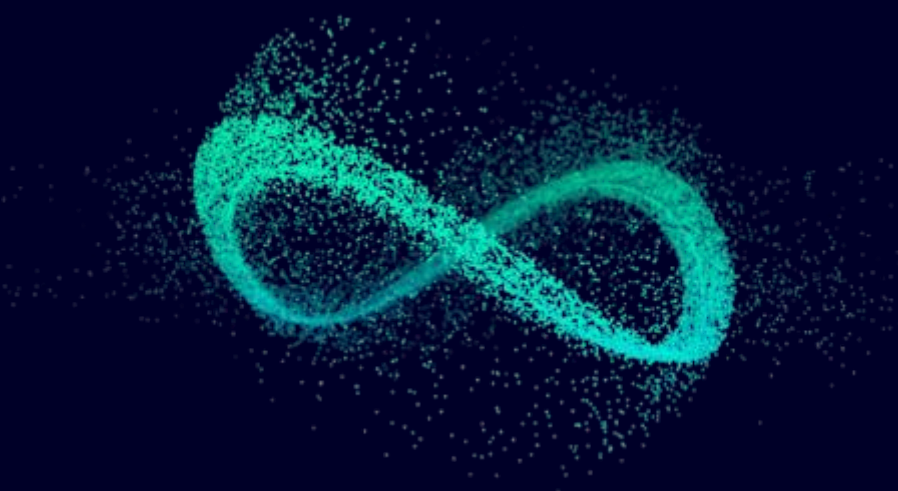
Cranes

Intralogistics

Aerospace

Battery
Manufacturing

Real
world



Digital
world

Glass
Production

Pharmaceutical
Industry

Campus

Tire
Industry

Mining
Industry

Cement

Transportation
and Logistics

Panel
Building

Wind
Energy

Pulp
and Paper

Life
Science

Healthcare

Oil and Gas
Industry



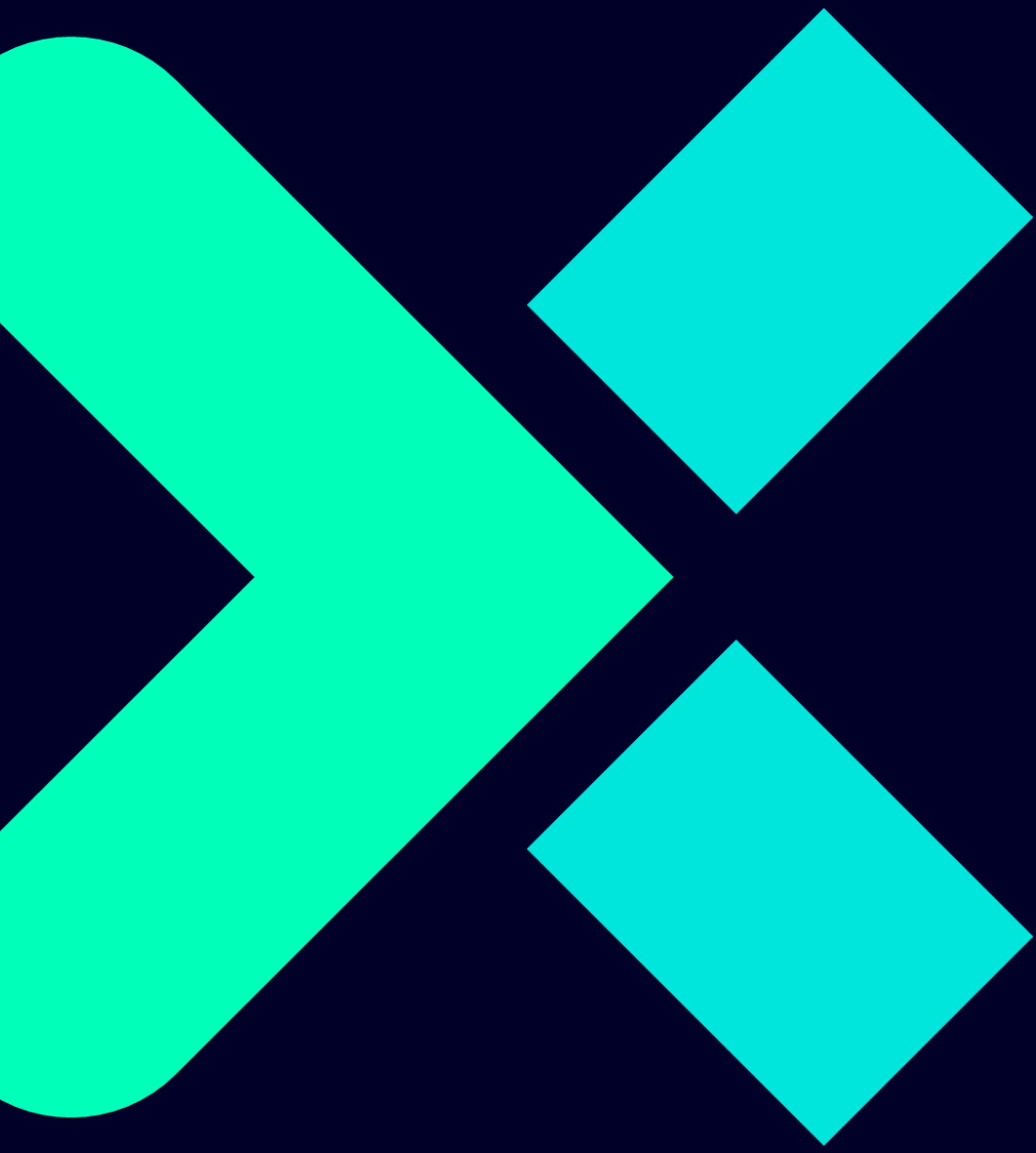
Sector Coupling Smarter, Flexible & Interconnected Verticals

An aerial photograph of a city street grid with a semi-transparent digital grid overlay. Several building footprints are highlighted with glowing cyan outlines, representing a complex energy system. The highlighted areas include a large industrial or warehouse complex in the upper right, a cluster of smaller commercial buildings in the center, and a long, narrow building complex in the lower left. The text "Higher Complexity in Energy Systems" is overlaid on the right side of the image.

Higher Complexity in Energy Systems

**Shortening
the gap**





SIEMENS XCELERATOR

The open
digital
platform



SIEMENS XCELERATOR

The open digital platform

openness

interoperability

flexibility

Tending to as-a-service

Use Case **Portfolio**

Comprehensive **Ecosystem**

Explore, educate, co-create and exchange on the **Marketplace**



Read
QR code

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Water Sector: Leveraging data and assets

Water also as an Energy Asset

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Decarbonizing Islands In Azores & Madeira

High RES penetration
in finite power systems

Micro-Grid w/ Market Trading

Island

capability and
resynchronization

Self-supply

using CHP, photovoltaics and
battery storage

Market

participation for energy and
ancillary services

Lemene (Finland) Industrial District

Sustainability

Digitalization

Challenge

Energy self-sufficient ecosystem and business district .Industrial players through economical prices, security of supply and sustainability

Solution

- 2 photovoltaic power plants (4 MW)
- 6 gas CHPs (8,1 MW)
- 1 fuel cell (130 kW)
- 2 electrical storage systems (4 MW)
- Main grid connection at 20 kV, heat network





Smart-Campus Siemens Portugal

**Carbon
Neutral
Site**

**Full
Integration
of Assets**

**130+
E-Chargers**

Living lab

Sustainability

Digitalization

Solution

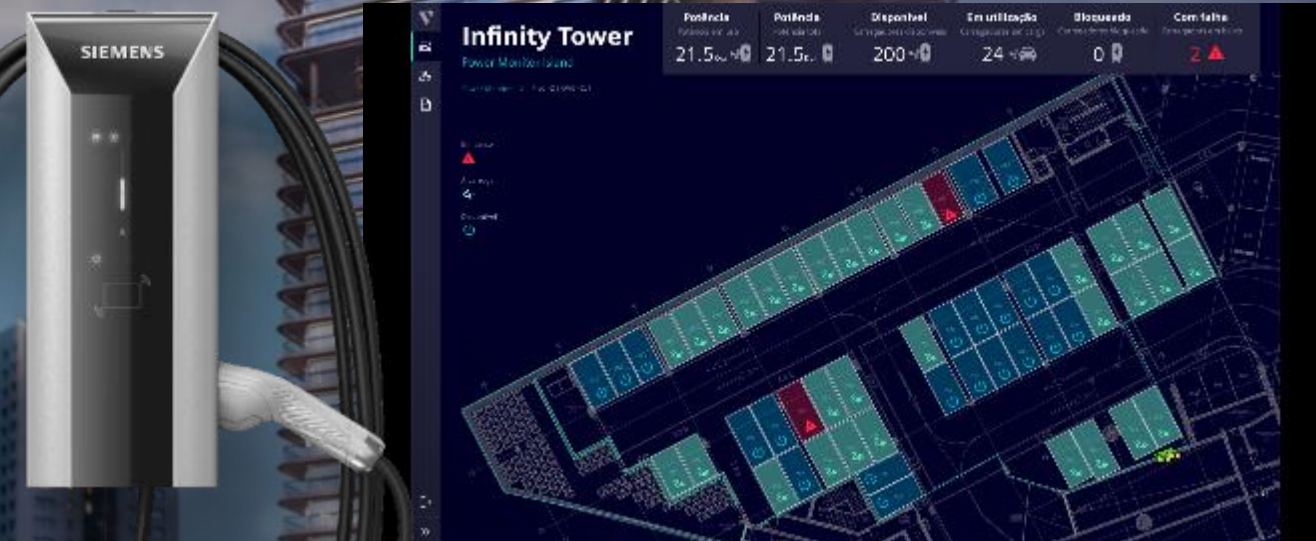
- e-chargers
- Fast DC-Charging (Public & Private Charging)
- Storage
- Building Management
- Microgrid Controlling
- PV Inverters
- Dashboards
- Dynamic and intelligent e-charging Management

Near future

- Enhanced Energy Community concept validation



Infinity Tower – Smart EV Charging



**AC Charging
Type VC3
(220un)**

**Smart Load
Management
&
Dashboard**

Challenge

- Manage +200 AC chargers with only 300kW available
- Interface with Building Management, w/ real-time control

Solution

- 220un AC charger Versicharge Gen3 & installation
- Load management HW+SW system, with Microgrid Controller A8000 and Control Dashboard APP (design LisbonTechHub Siemens – Building X compliant)

Success Factors

- Turn-key solution for both HW and SW needs
- Clear OT w/ IT approach, unique in the market

Customer benefit

- On premise solution, fully automatized including reports for Building management
- Future proof solution, ready to integrate PV, Storage, Enhanced Energy Communities, etc.

SIEMENS

Evolution, not a revolution

Hélio Jesus

Technology and Innovation Officer
Siemens S.A.