Euto

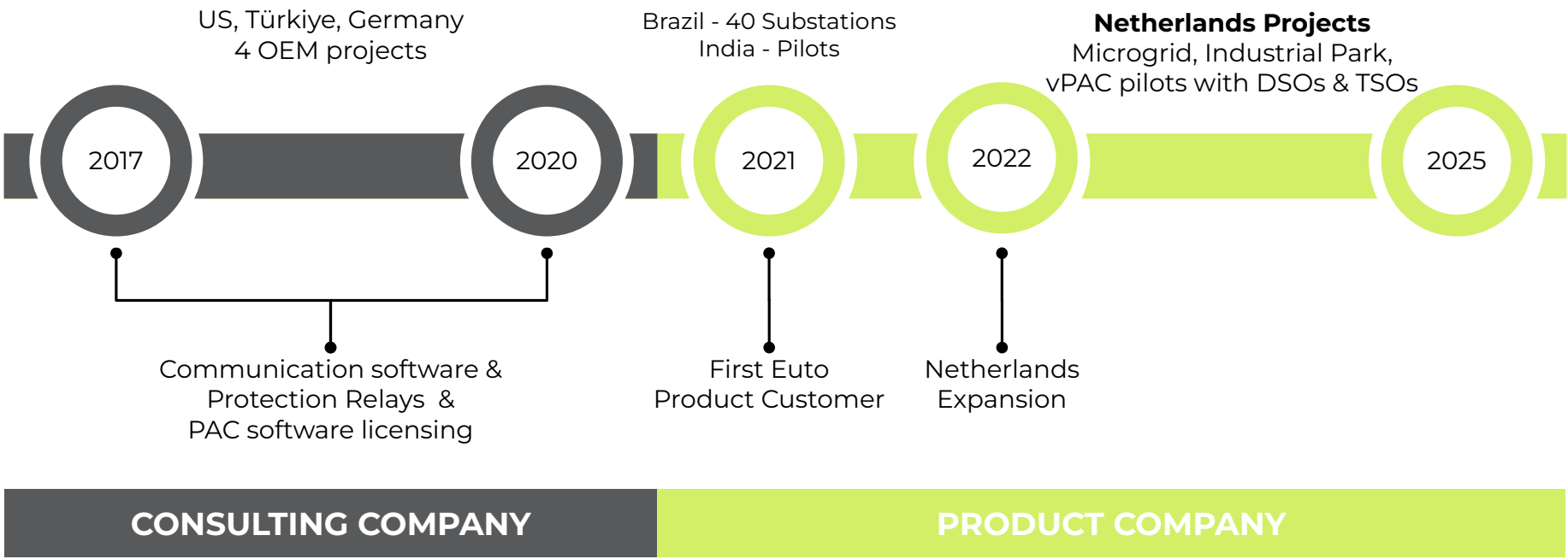
Empowering electricity grids to deliver **reliable energy** anytime, anywhere by enabling the **high-performance energy infrastructure** of the future, today.

eutoenergy.com

Company Overview

Euto's History

Since 2017, Euto's core software has been deployed over 1,000 times in distribution and transmission substations.




The Problem We Solve

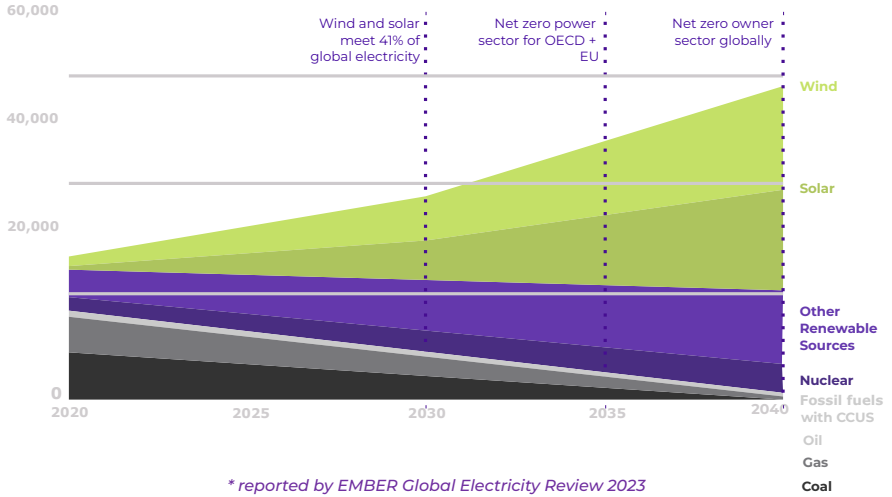
In the Netherlands alone, over **10,000 companies** are **stuck waiting up to 10 years** for grid capacity, a bottleneck estimated by BCG to cost society up to **€40B annually**.

Globally huge economical and social impact!

Demand is doubling

Power sector Transition to net zero by 2040

Global electricity generation (TWh)



** reported by EMBER Global Electricity Review 2023*

Energy Transition

Bottleneck

Electricity Grids

Problems

Grid Congestion

Capacity Expansion Shortage

Intermittent Sources - Renewable Integration

Rising Pressure from AI Development

Solutions

Increase Grid Utilization - Use Better

Enable Grid Expansion - Build Faster

Source: IEA.
International Energy Agency
Website: www.iea.org

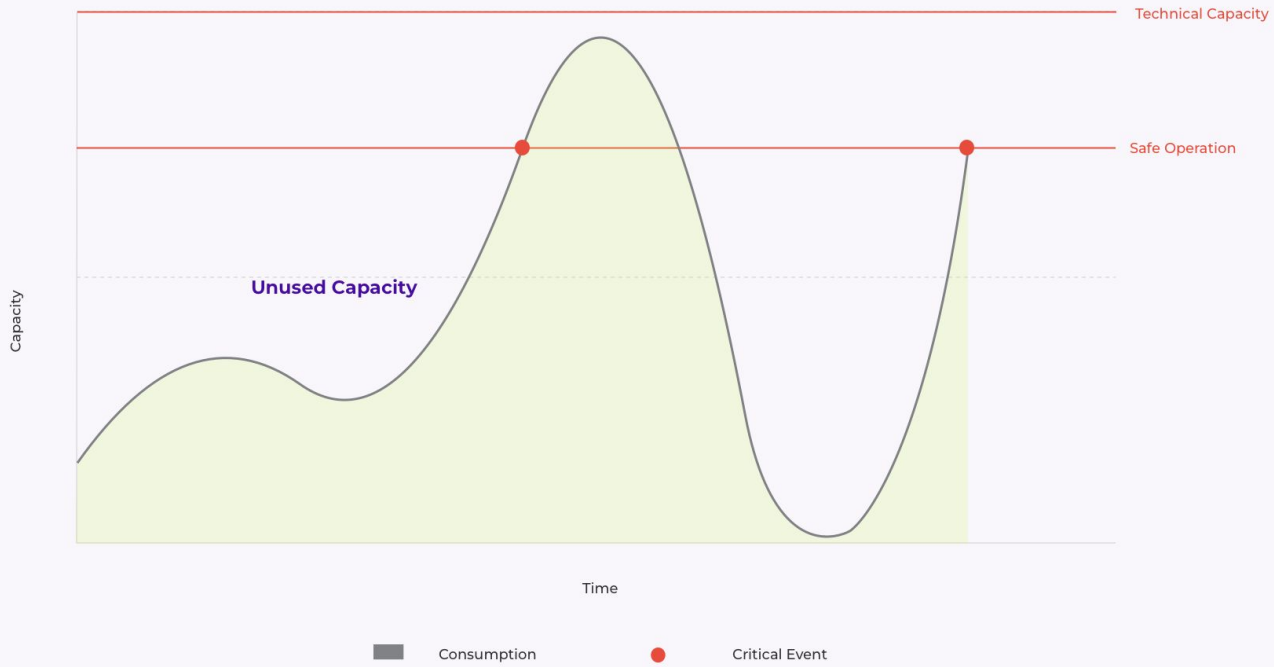
Abstract

Grids have been the backbone of electricity systems for more than a century, underpinning economic activity by bringing power to homes, industry and services. As clean energy transitions advance, the role of electricity will be more prominent, making grids even more important for society and economies. Electrification and renewables deployment are both picking up pace, but without adequate grids to connect the new electricity supply with the demand, there is a risk that clean energy transitions will stall.

This report offers a global stocktake of the world's electricity grids as they stand today, taking a detailed look at grid infrastructure, connection queues, the cost of outages, grid congestion, generation curtailment, and timelines for grid development. We find that there are already signs today that grids are becoming a bottleneck to clean energy transitions and analyse the risks we face if grid development and reform do not advance fast enough.

We find that delayed action means prolonging reliance on fossil fuels, resulting in an increase in emissions and costs to society. An unprecedented level of attention from policy makers and business leaders is needed to ensure grids support clean energy transitions and maintain electricity security. The report concludes with key recommendations for policy makers, highlighting the necessary actions in areas

The Grid Capacity Challenge



Around **70% of grid capacity is left idle** on average (calculated by IBM), **Congestion is not constant**: it arises only at peak moments, in specific places.

Key Market Challenges: A Three-level Bottleneck

Local	Regional	National
How do you **power an autonomous community** 24/7 with complex local assets?	How do you **grow your business** when the local grid connection is full?	How do you build the grid fast enough to meet **climate and economic goals**?

The Consequence

Local	Regional	National
Unreliable and insufficient power, **increasing energy costs**.	Waiting for grid connection for years, **stalled economic growth**.	Billions in CAPEX are planned, but projects are **delayed for years**.

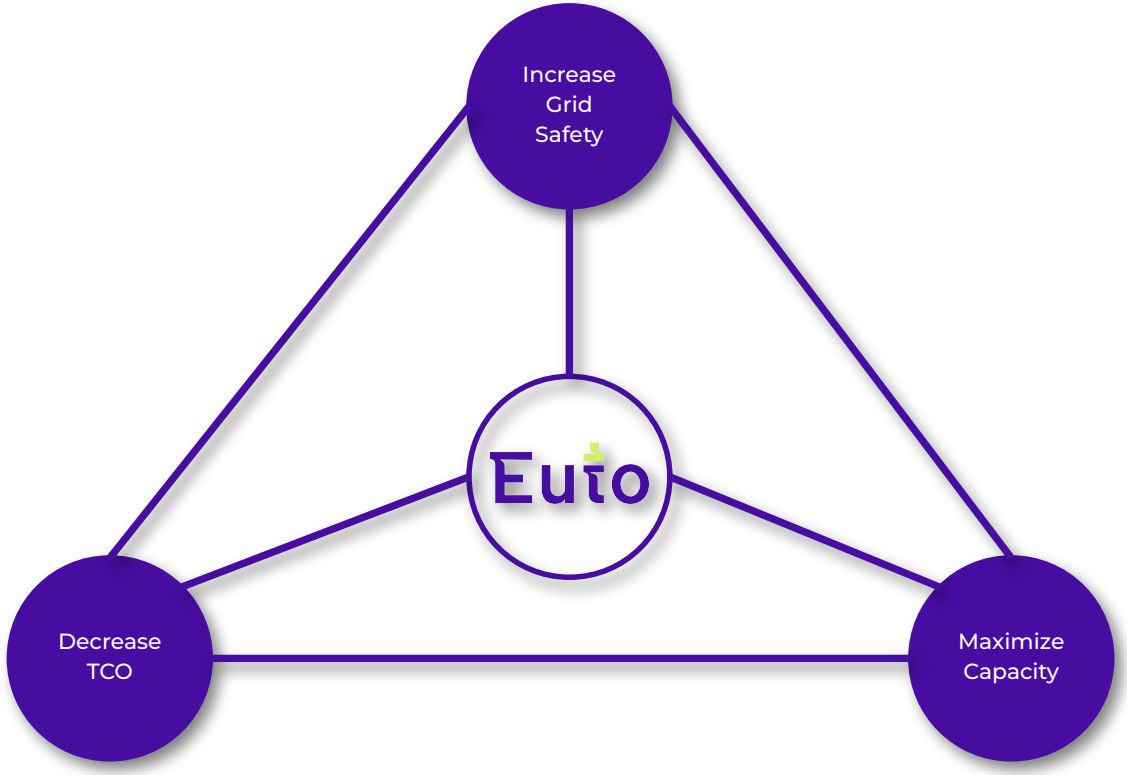
The Root Cause

Local	Regional	National
Lack of real-time **system-wide** visibility and **automated control over all distributed assets**.	No way to **dynamically share** the ~70% of grid capacity left unused.	A systemic crisis based on **high expansion costs** and a critical **scarcity of technical personnel**.

Euto DNA

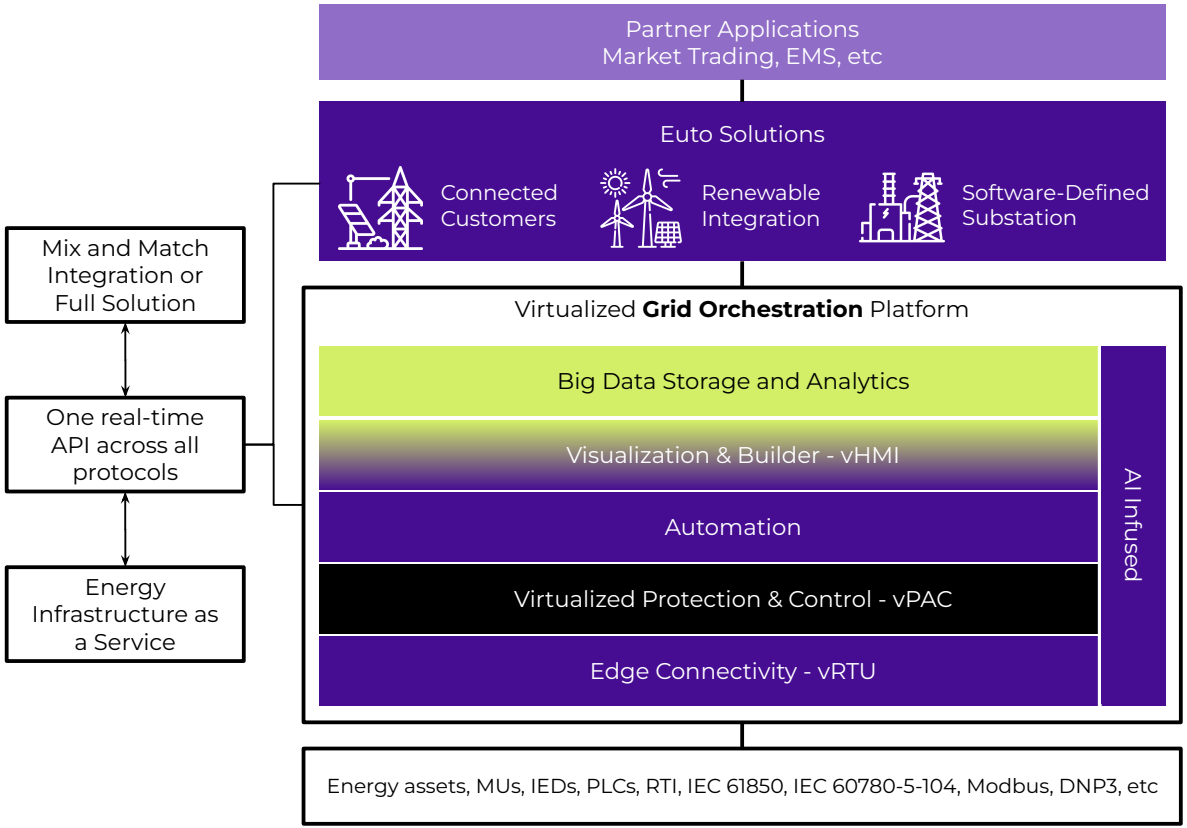
Euto Optimizes Grids to Do More with Less

Unlock hidden capacity with less costs , and improved safety



How our technology helps grids

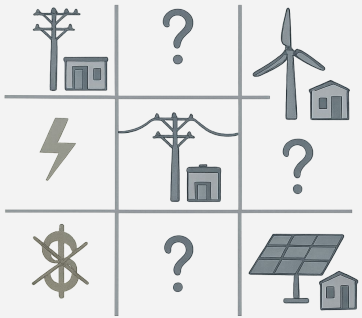
Euto Digitizes, Virtualizes and Controls Grid in Real-time



Euto is Building The Nervous System of The Grid

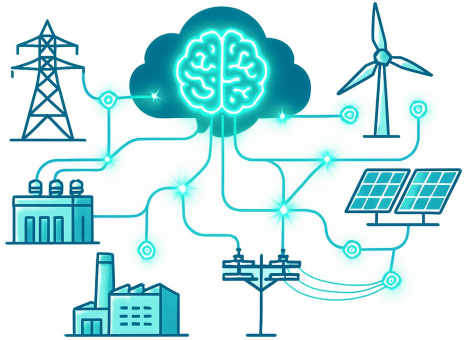
From Reactive Congestion to **Predictive Intelligence**

The "Blind" Grid: REACTIVE & FRAGILE



Blind Operation: No system-wide view
Siloed Control: Local decisions cause global problems
Slow Response: Manual intervention for every fault
Hardware-Dependent & Costly: Specialized inflexible hardware for every function, limited scalability, high installation and operating costs

The "Intelligent" Grid: PREDICTIVE & RESILIENT



Holistic View: System-wide optimization & control
Centralized Brain, Local Reflexes: AI-driven grid-wide strategy, autonomous edge execution
Self-Healing: Proactive fault prevention & instant recovery
Software-Centric & Cost-Effective: Runs on standard hardware, scales efficiently with software in quantity and functionality

We are building the future of energy with our **patent-pending** technology: **a self-healing, self-optimizing nervous system** for the grid.

Digital, Connected and Real-time: Use Better

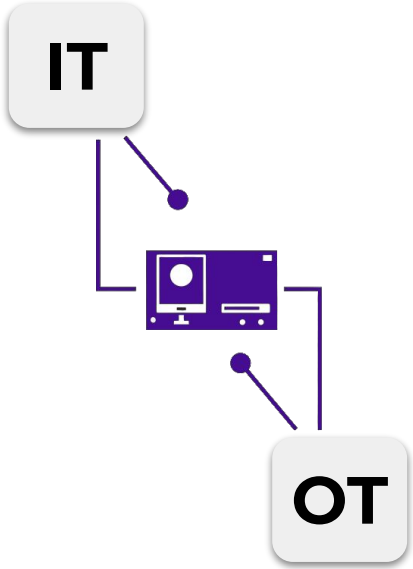
Efficient and real-time IT-OT connectivity **increases grid utilization** by keeping it safe and balanced.

Resilient

Flexible and adaptive PAC enables more responsive grids to less predictable effects.

Intelligent

Big data analytics gives more real-time insights and improves grid performance.



Interoperable

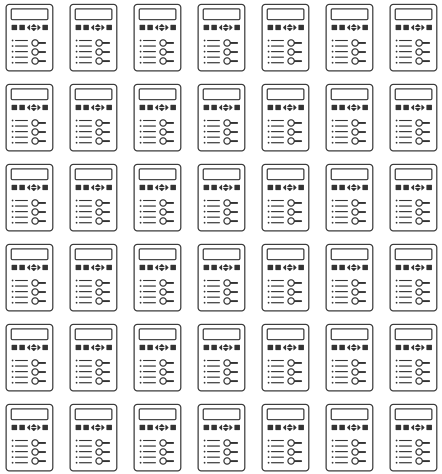
High interoperability increases grid performance without vendor lock-in.

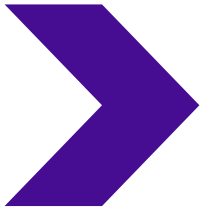
Reliable

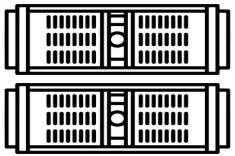
Protection, automation and control at the edge ensures reliability.

Virtualized and Centralized: Build Faster

By replacing more than 50 legacy devices with only 2 edge computers powered by Euto software, grid operators can **build faster, at lower cost, and with less reliance on technical staff**.







Minimize Costs 40%

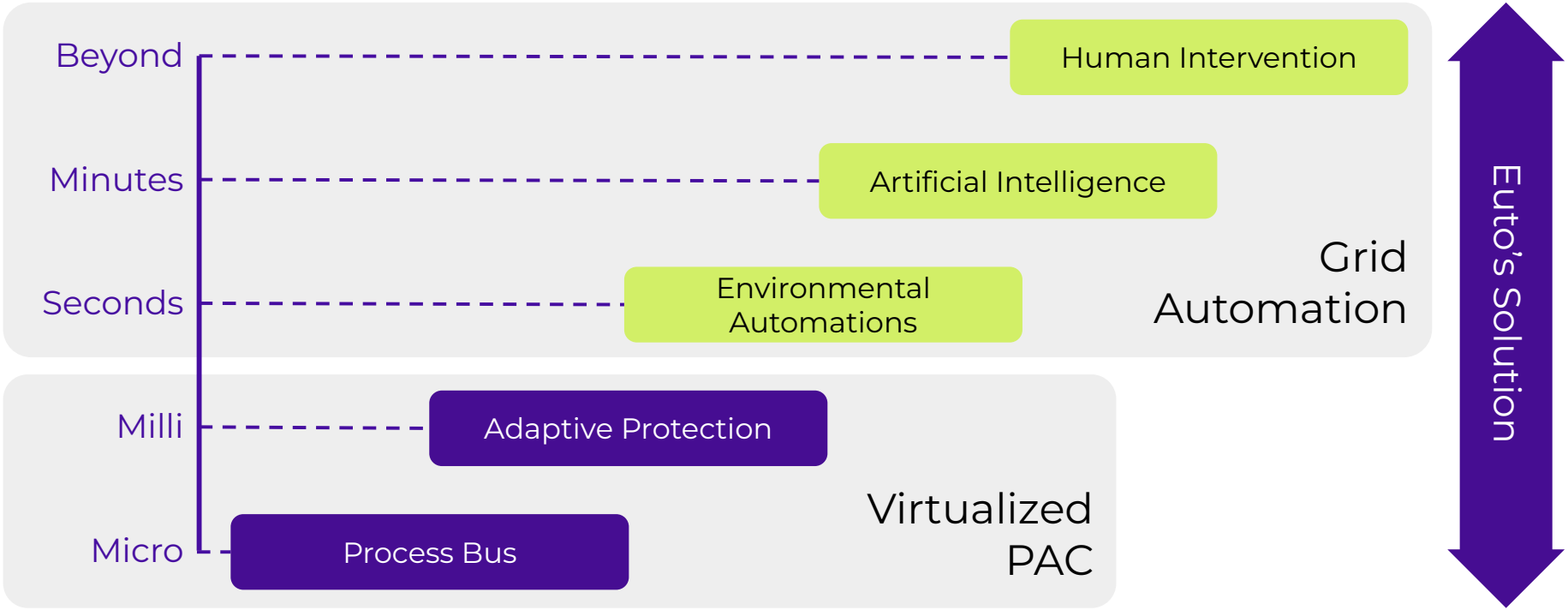
Less hardware
Less infrastructure
Less technical personnel needed

Future-proof

Always up-to-date performance and security for your changing grid.

Euto's Intelligence Advantage

Euto's solution enables **seamless real-time vertical integration** of functions across different time scales, infusing energy systems with **built-in reliability and intelligence**.



The Solution: One Unified Platform. Three Levels of Value.

AI-Powered Microgrid Controller

We provide **autonomy and resilience** for self-sufficient systems.

Deployed & Proven

Capacity Sharing System

We **unlock +30% capacity** by making the regional grid shareable.

Live & Delivering Value

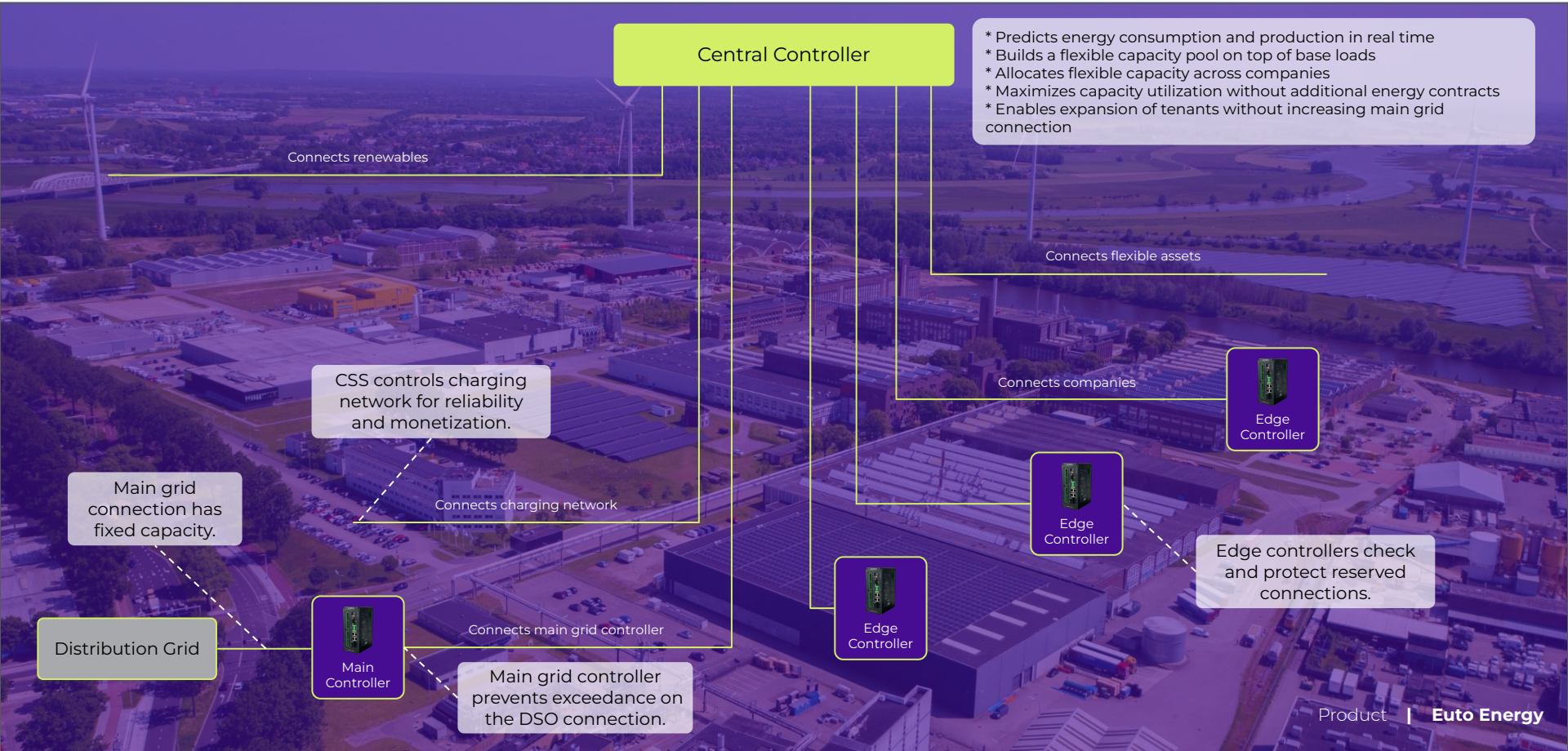
Virtualized Substation Automation

We provide the core intelligence (vPAC/vRTU/vHMI) for a national **software-defined grid**.

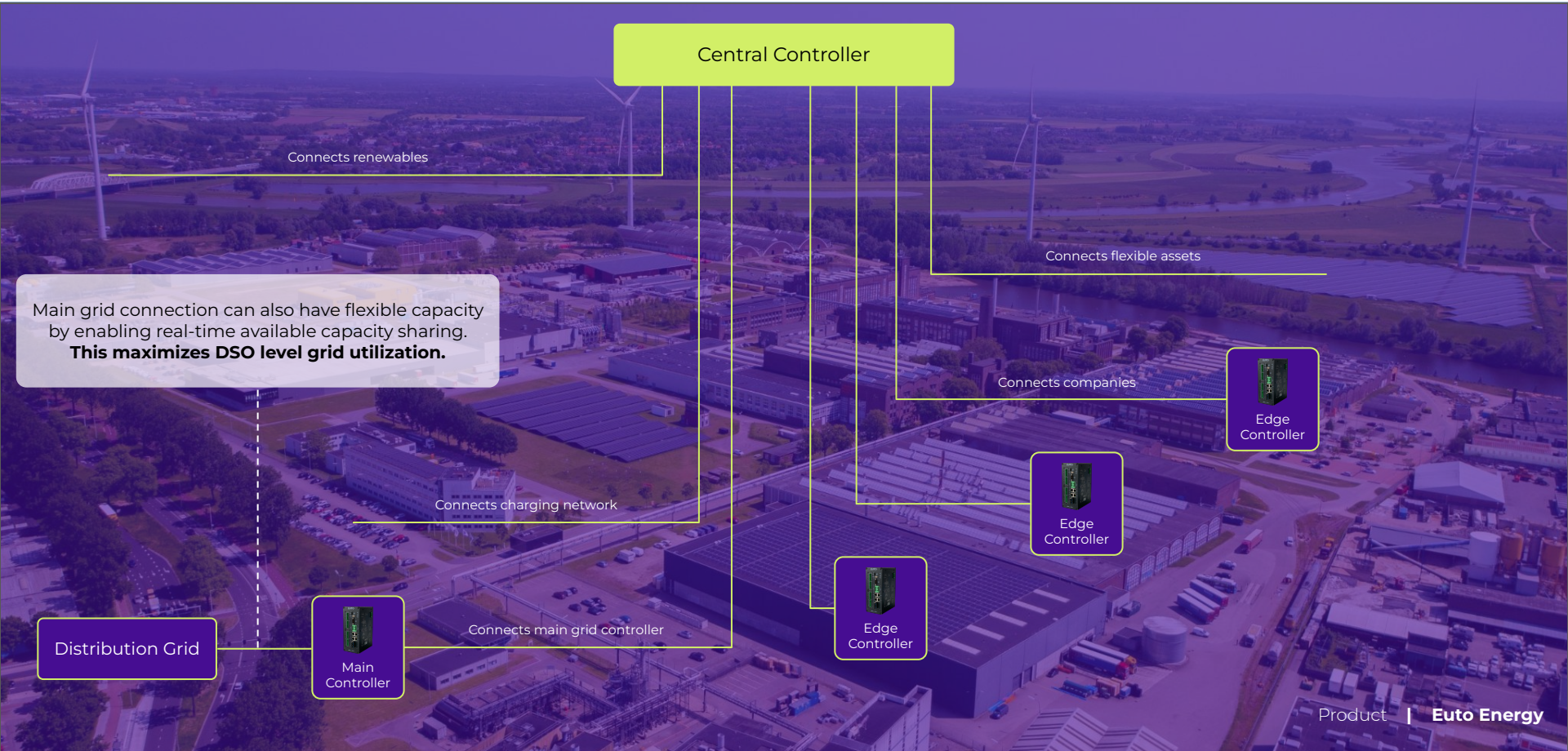
In pilot with leading DSO & TSOs

Cleantech Park Arnhem Case

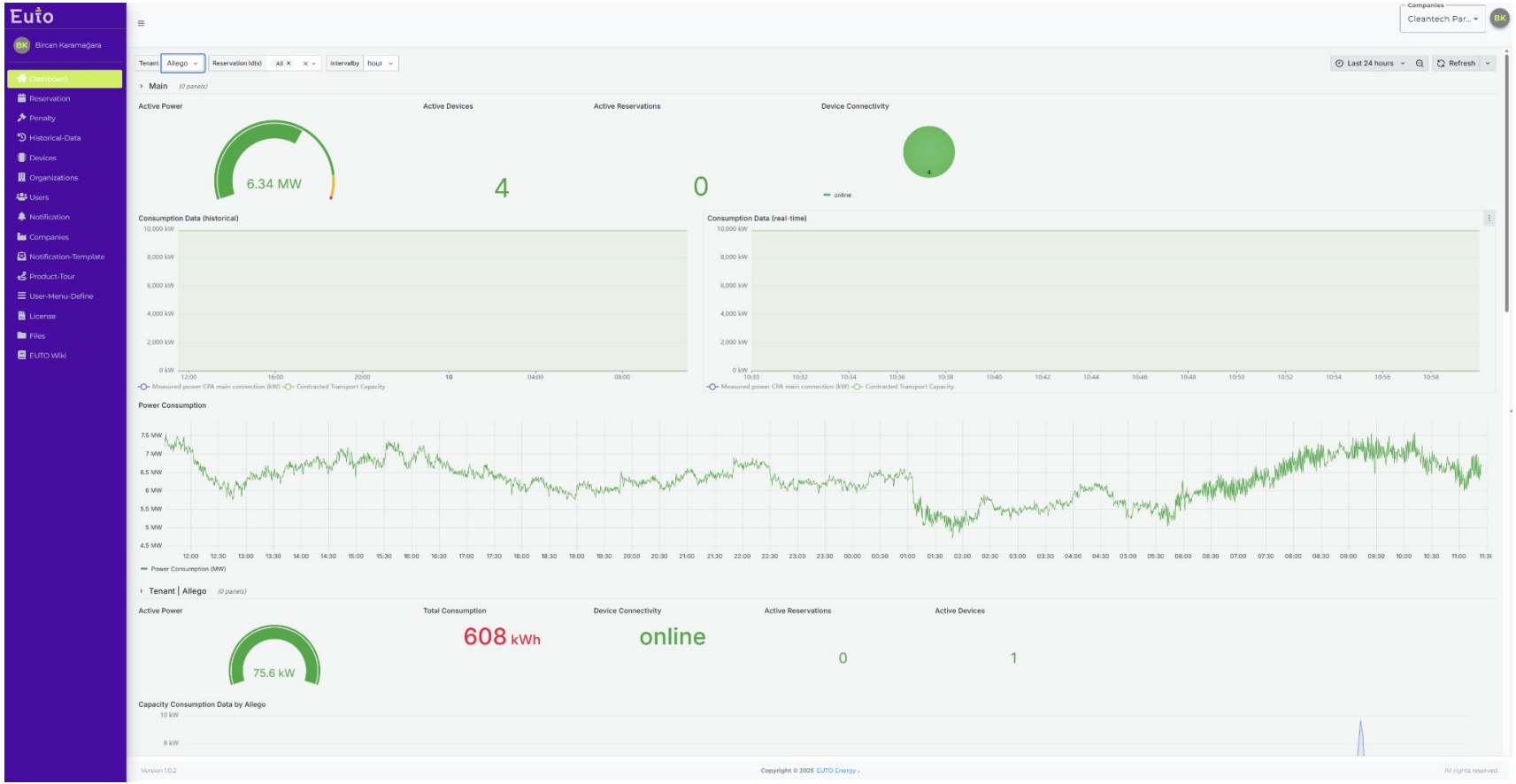
Capacity Sharing System



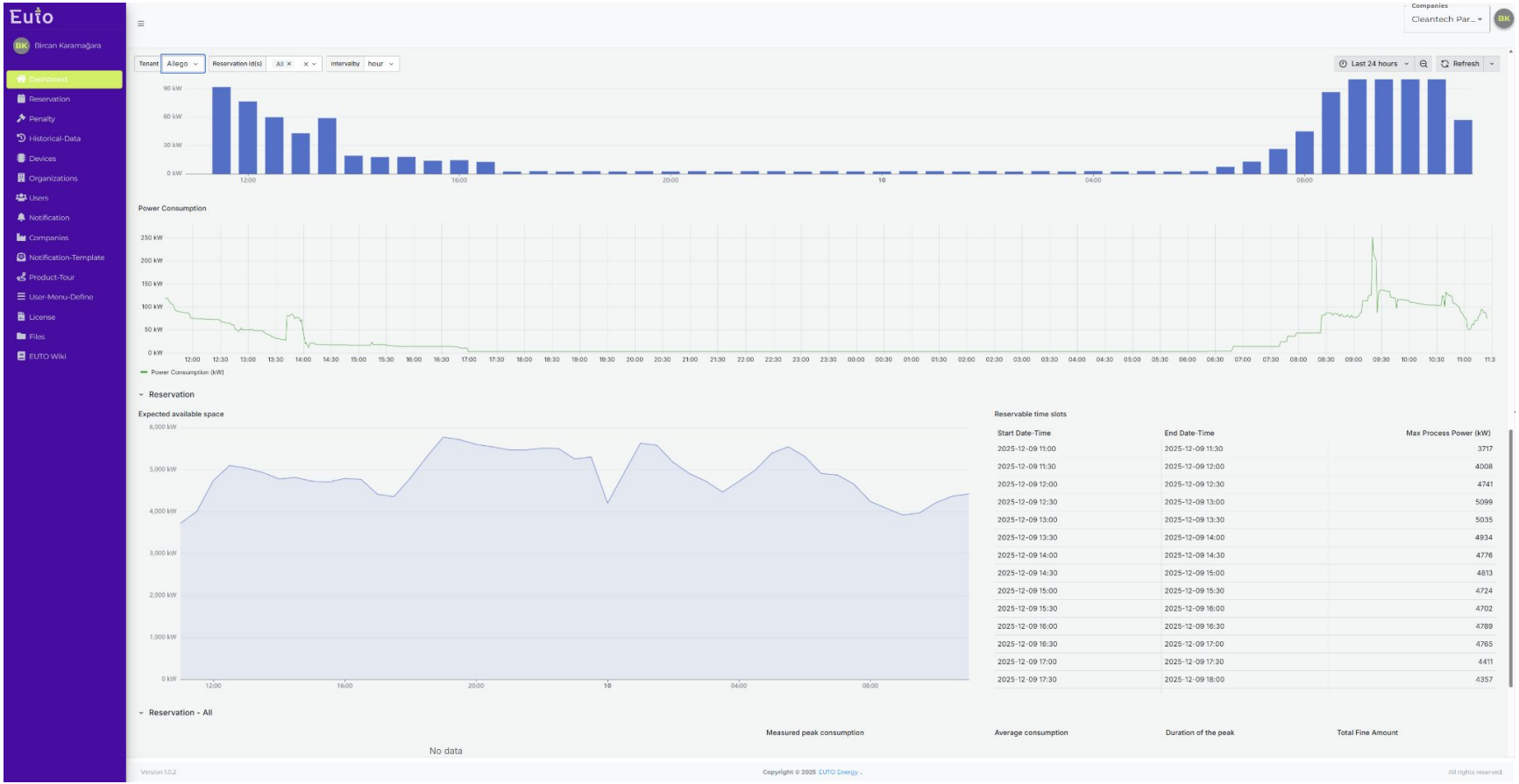
Capacity Sharing System



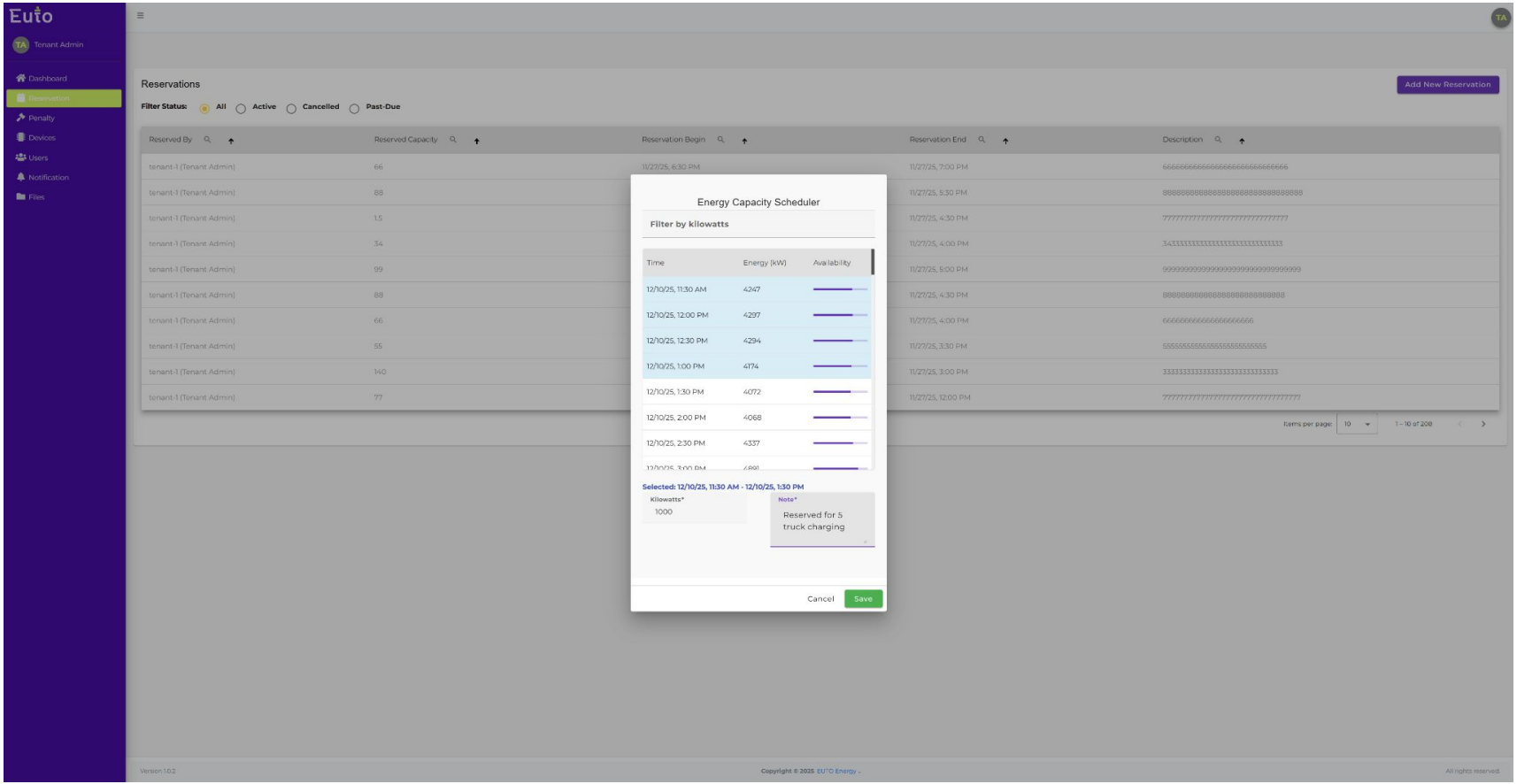
Capacity Sharing System Dashboard



Capacity Sharing System Dashboard



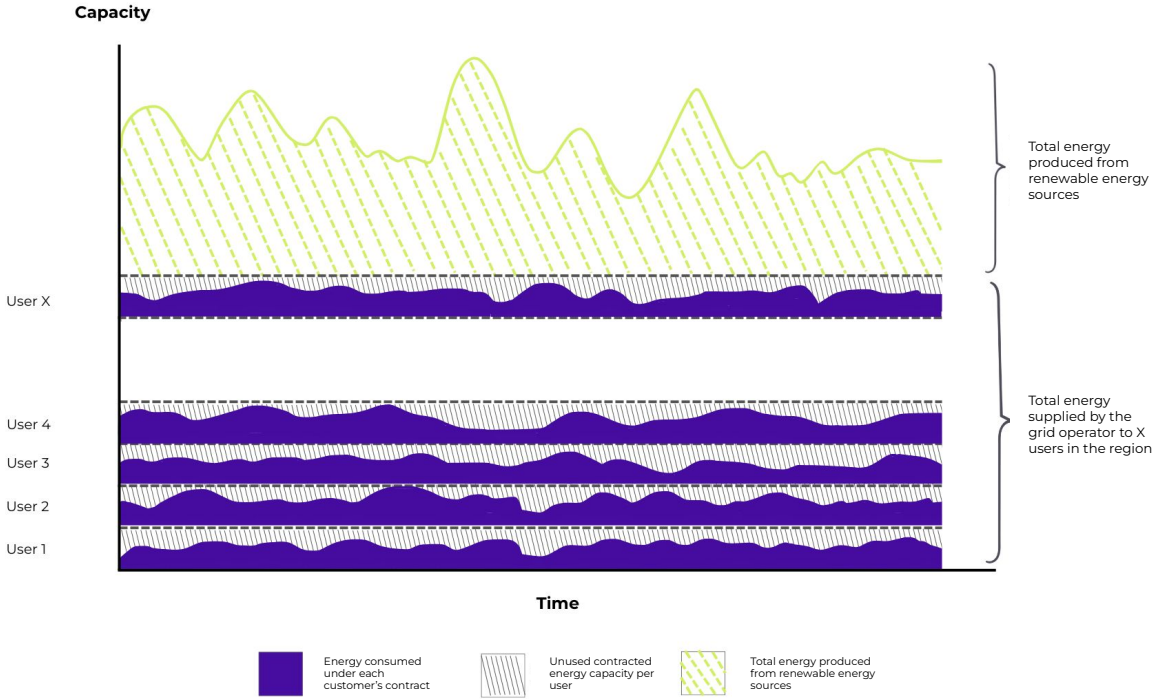
Reservation Screen




Thank you!

Capacity Sharing System

This chart shows that the grid operator allocates a specific connection capacity for each user, yet this capacity is not always fully utilized.



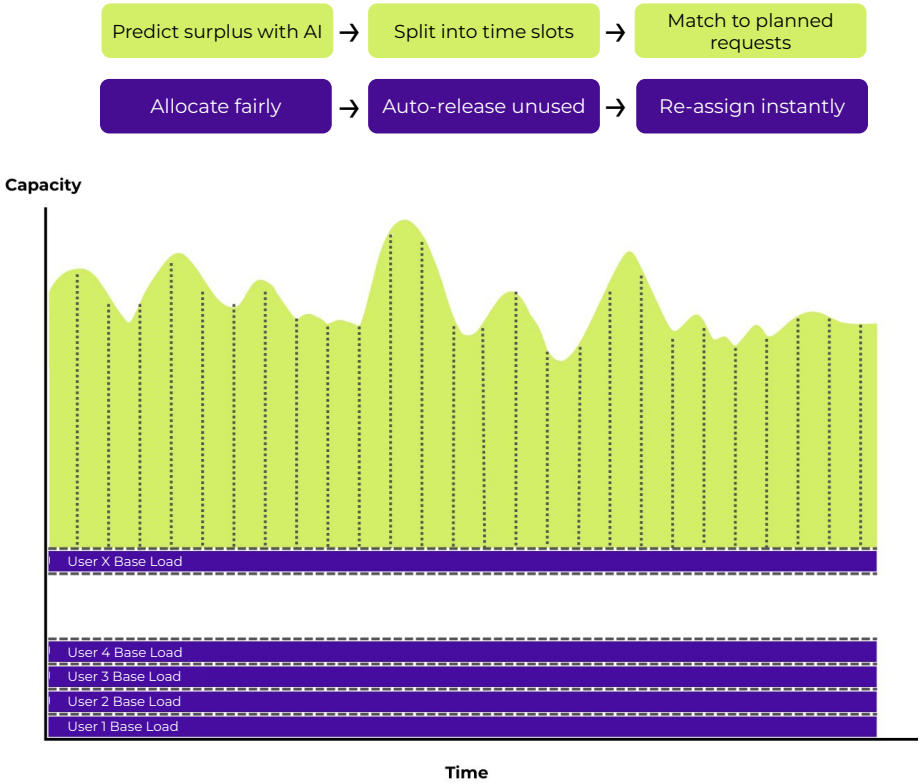
The key point is that capacity technically available on the grid remains unused due to contractual limitations.

For example, when one user requires high energy during a night shift, that demand cannot be met even if another user's capacity sits unused during the day, even that night.

This leads to:

- **Inefficient investments**
- **Unmet needs** on the user side

Capacity Sharing System



Flexible Pool & Reservation Engine

What it is: Reservation-driven capacity sharing that secures base loads and allocates surplus in real time.

Visual cues:

- **Green** band: Total accessible flexible capacity.
- **Purple** band: Guaranteed base load per user.

How it works: Users schedule capacity against planned needs; unused slices auto-release and can be re-assigned temporarily to where they create the most value.

Utilization ↑
New connections are enabled without grid expansion

Proof from the Market: Our Users Tell Our Story

“We are testing solutions from ABB and Euto Energy.”
- Sander Jansen, Product Owner, Alliander

Source: LF Energy Summit Presentation

A leading DSO's Product Owner explains the critical need for virtualized substations to solve their core challenges.

🎥 Watch the Presentation

🔗 View on LinkedIn

“The technology behind the system: Euto”
- Cleantech Park Arnhem Official Announcement


Capacity sharing system: smart balancing instead of grid reinforcement

Throughout the Netherlands, grid congestion is the biggest [illegible] energy transition. Businesses seeking to grow or become more sust[illegible] are facing obstacles because new connections are impossible. At Cleante[illegible] Park Arnhem, [illegible]ve broken this deadlock with a unique capacity-sharing system: a co[illegible]mart software, real-time monitoring, and scheduled appointments between users.

From administrative problem to technical system.
"The core is that we no longer think in terms of fixed connections, but in terms of shared capacity," says Simon Bark, project leader for energy and construction projects at Schipper Bosch, owner of Cleantech Park Arnhem. "Where the grid elsewhere is supposedly 'full,' we show that there's still plenty of capacity - provided you organize

Source: Official Website & LinkedIn

Announcing our live system that makes grid capacity 'visible, plannable, and shareable' to maximize utilization.

🔗 Read the Article

🔗 View on LinkedIn

“Euto is the brain of the smart grid”
- Martin Verweij, Technical Manager, Pampus Island

Source: Official Social Media Channels

A deep-dive into how our AI-Powered Microgrid Controller enables a fully self-sufficient, carbon-neutral island.

🎥 Watch the Video

🔗 View our LinkedIn Post