



AI-driven flexible and resilient microgrids in civil and defense use

... helping to **decrease energy cost**, **CO₂ footprint**, reach **ESG targets** and generate **new energy revenues**

...driving **decarbonization**, increased **flexibility** and **resiliency** of the power grids

Peter Simko, CEO PowereX

ITAPA , 21st September 2023



Aligning ESG factors with technology enablers and financial determinants, we unlock significant benefits

Context and benefits



Selected ESG imperatives

- Reduce carbon emission
- Minimize environmental impact and optimize resource management
- Promote sustainability and ESG principles.
- Address sustainable development goals (SDGs)



Energy security and grid resilience

- Protect grid from unplanned outages
- Distribute energy generation
- Distribute grid stabilization assets



Technological enablers

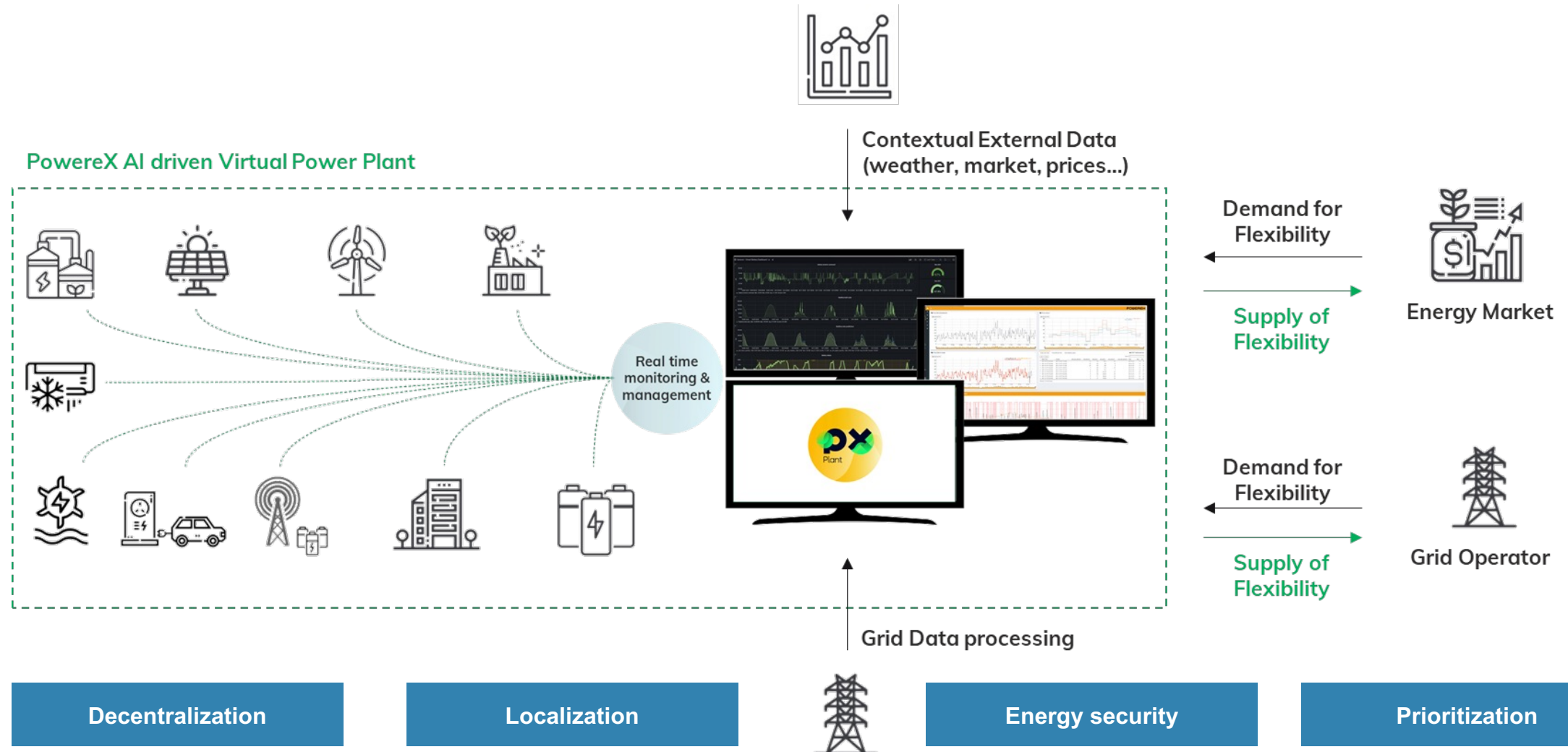
- AI-based energy real time management
- AI optimization for financial objectives and grid stability
- Enhanced system stability and responsiveness
- Holistic view of energy generation and consumption



Financial determinants

- High electricity prices and energy efficiency
- Cost reduction
- Increasing cost of capital
- Unused revenue generation opportunities
- Favorable financing options, incl. incentives and subsidies

Powerex releases the underutilized behind-the-meter energy potential on the energy market



Our diverse **growing & green** managed **Virtual Power Plant** portfolio



BATTERY STORAGE ASSETS - LI-ION AND REDOX FLOW



SOLAR ROOFTOP INSTALLATIONS



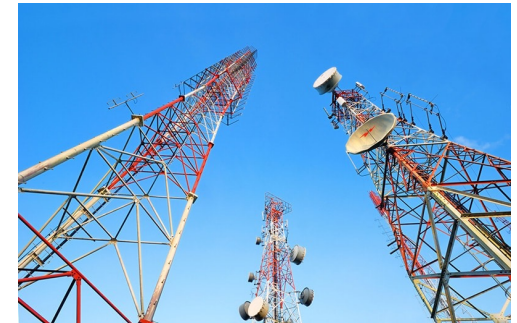
EV CHARGING INFRASTRUCTURE



SMALL HYDRO POWER PLANTS



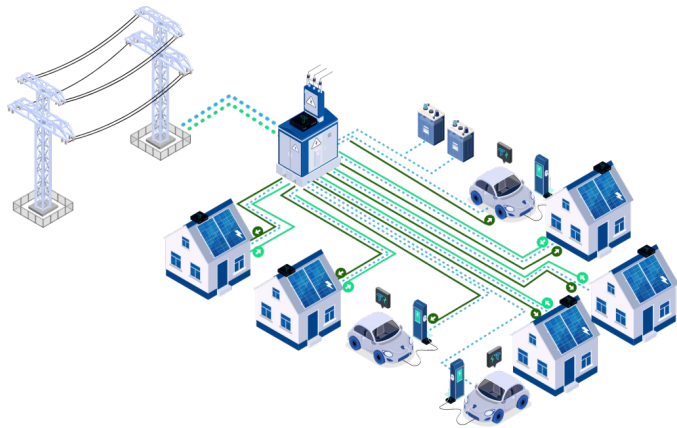
BIOGAS UNITS



DISTRIBUTED BATTERY SITES

On-grid vs Off-grid vs Hybrid energy systems

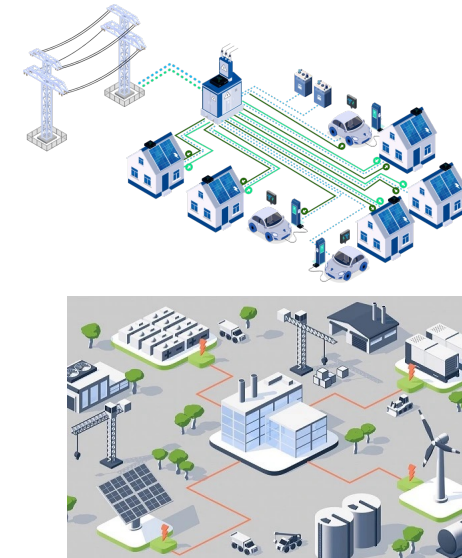
On-Grid



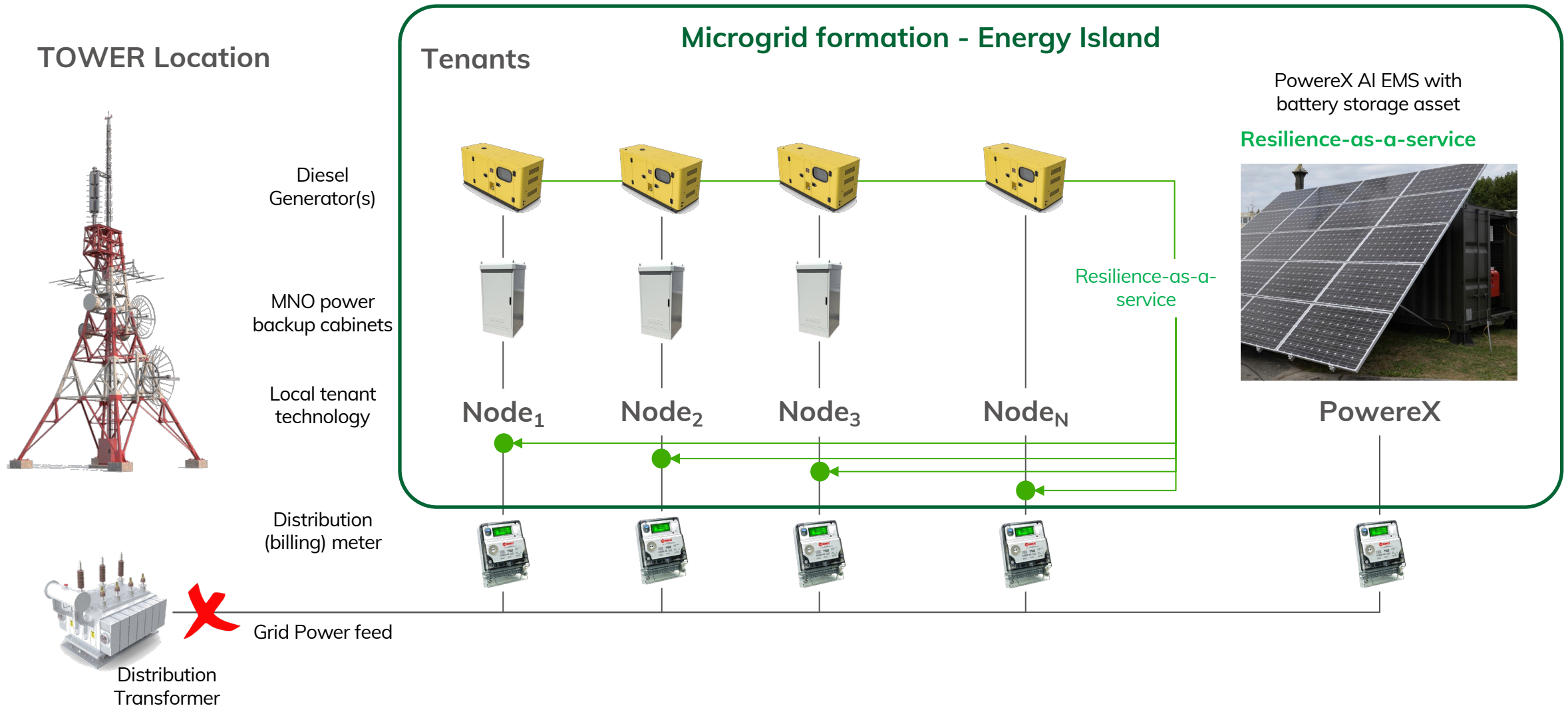
Off-Grid



Hybrid



Local energy resilience services – microgrid formation and prioritization in the event of power supply failure



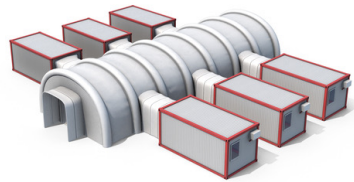
How does the AI optimization work? In short...



Local energy resilience – real time microgrid formation and prioritization - power supply failure

Military installation

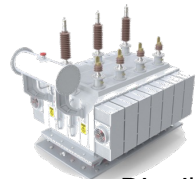
Field hospital / Base camp



Diesel Generator(s)



Prioritized energy supply Nodes



Distribution Transformer



Distribution (billing) meter

Grid Power feed

Backup infrastructure



Microgrid formation - Energy Island

Node₁

Node₂

Node₃

Node_N

AI driven Intelligent Power Management Distribution

Powerex AI EMS with battery storage asset

Resilience-as-a-service



Powerex



We look forward to our cooperation!



Powerex

Námestie 1. Maja 18
811 06 Bratislava, Slovakia

T: +421 917 131 338

<https://powerex.io>

hello@powerex.io

Peter Simko

CEO

+421 917 131 338

peter.simko@powerex.io