

Emerging innovation from supply chain & services

- The grid tech view

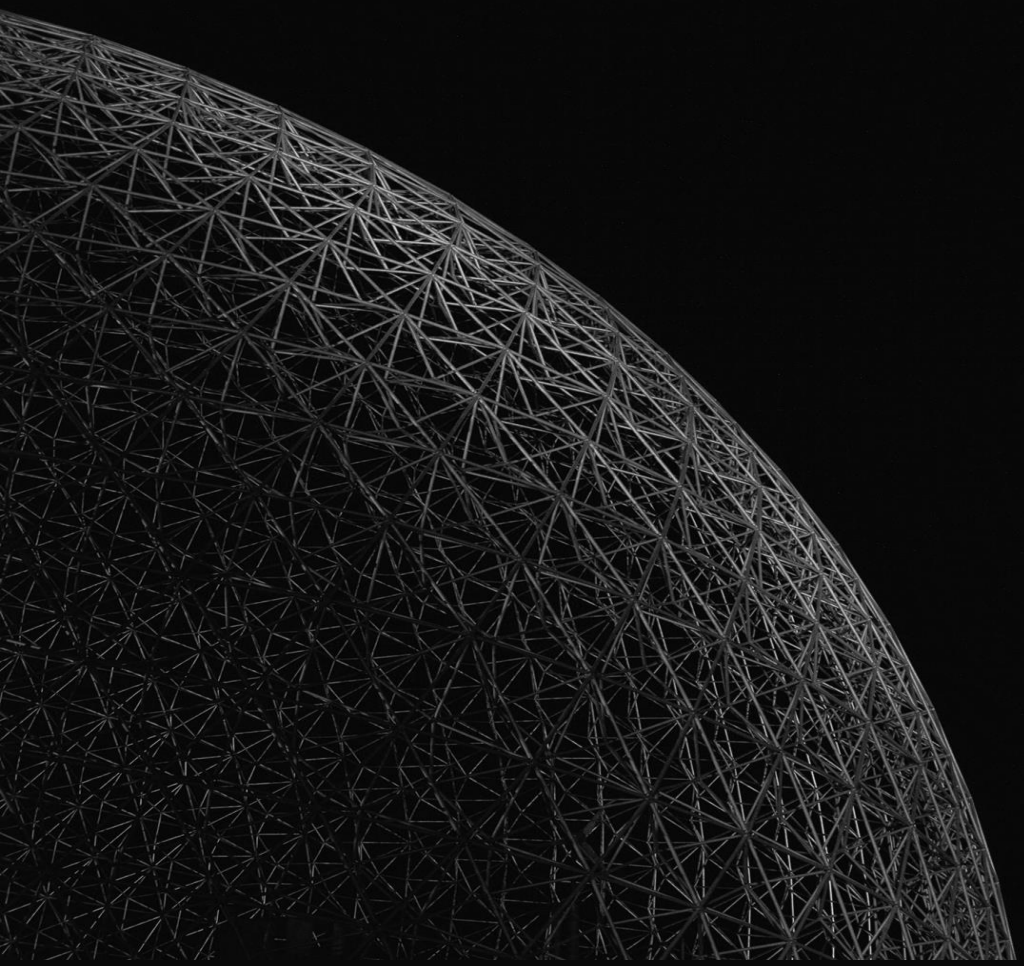
Luca Mezőssy-Dona
Co-founder @IONATE

The grid can be a bottleneck

Runs on aging infrastructure

Too rigid for renewables

Needs way more capacity



The grid can be a bottleneck – or an enabler of progress.

Runs on aging infrastructure → **Resilient**

Too rigid for renewables → **Flexible**

Needs way more capacity → **Efficient**

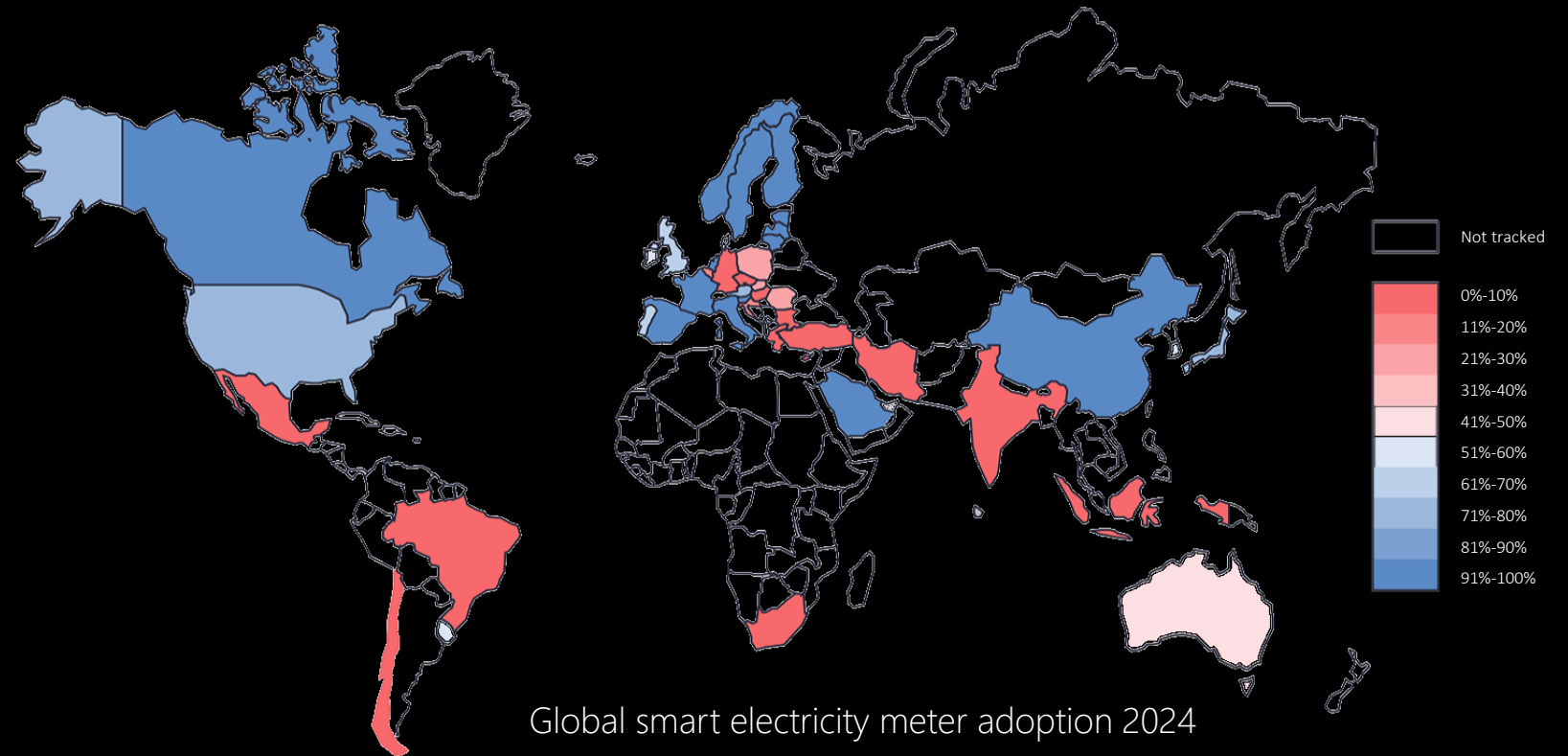
...we need to smarten up the grid.

We need more digitalisation.

Fault identification

Forecasting

Predictive O&M



We need dynamic control of key attributes.

Stability

Voltage

EVs, heatpumps, rooftop solar

Quality

Power Quality

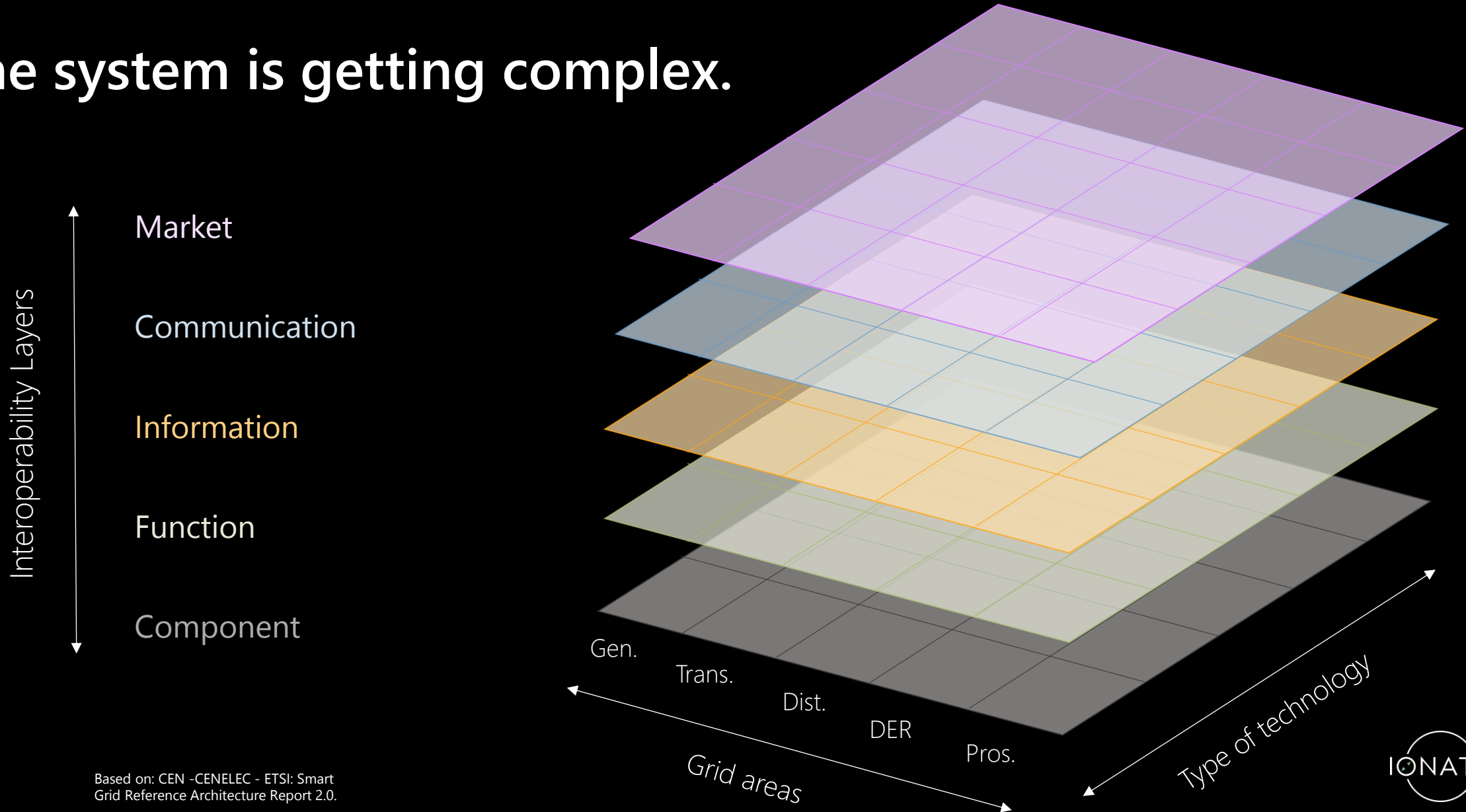
Nonlinear loads, noisy supply

Efficiency

Power factor

Local reactive power supply

The system is getting complex.



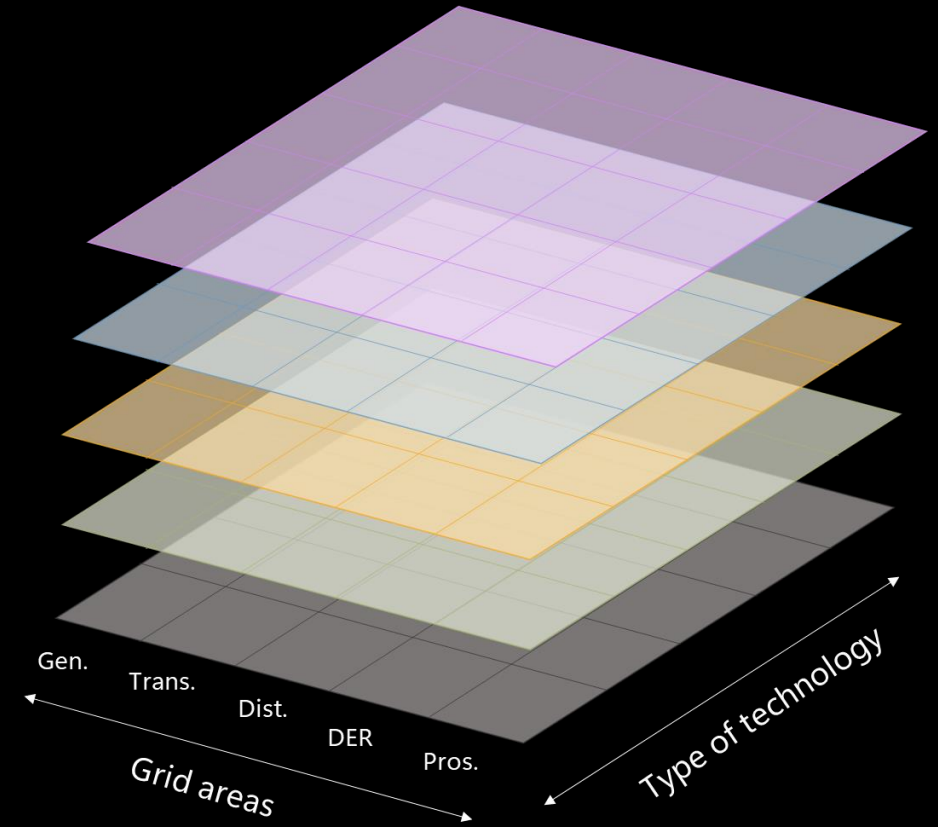
Based on: CEN - CENELEC - ETSI: Smart Grid Reference Architecture Report 2.0.

Reaction times will matter most.

Decentralize to minimise latency

Standardize comms and data to optimise for speed of computation

Simplify hardware asset base for easier system control sim



Tech trends towards a smart grid.

Nodal point upgrades

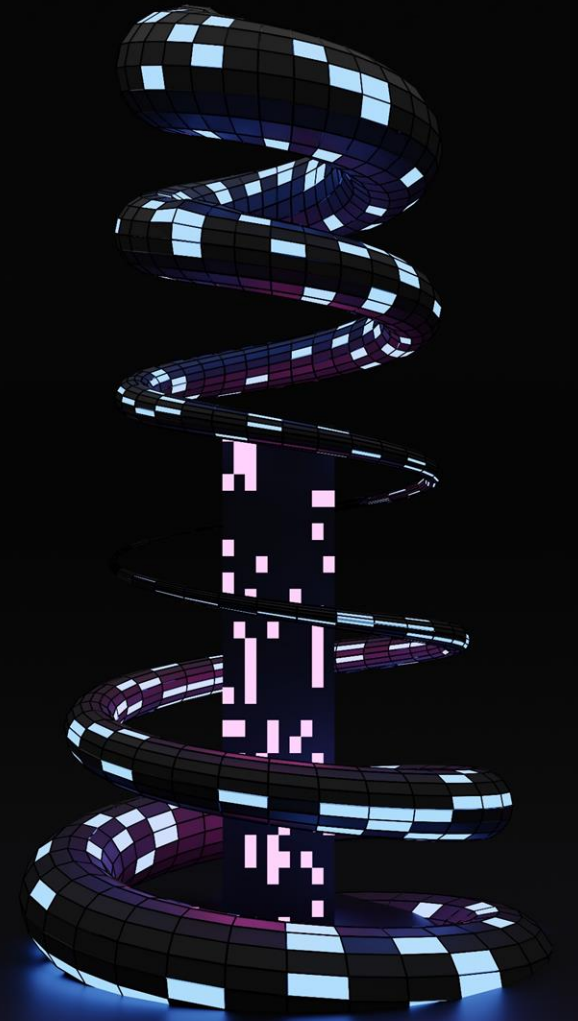
e.g., smart substations

Integration

e.g., hybridised battery-solar

Decentralization

e.g., big prosumer microgrids





2023 Start-up award

CIRED 2023 International Conference & Exhibition on Electricity Distribution

Best Startup, as chosen by the CIRED committee.



"ground-breaking innovation"



"impact which is pretty much unheard of"

Get in touch:

luca@ionate.energy

