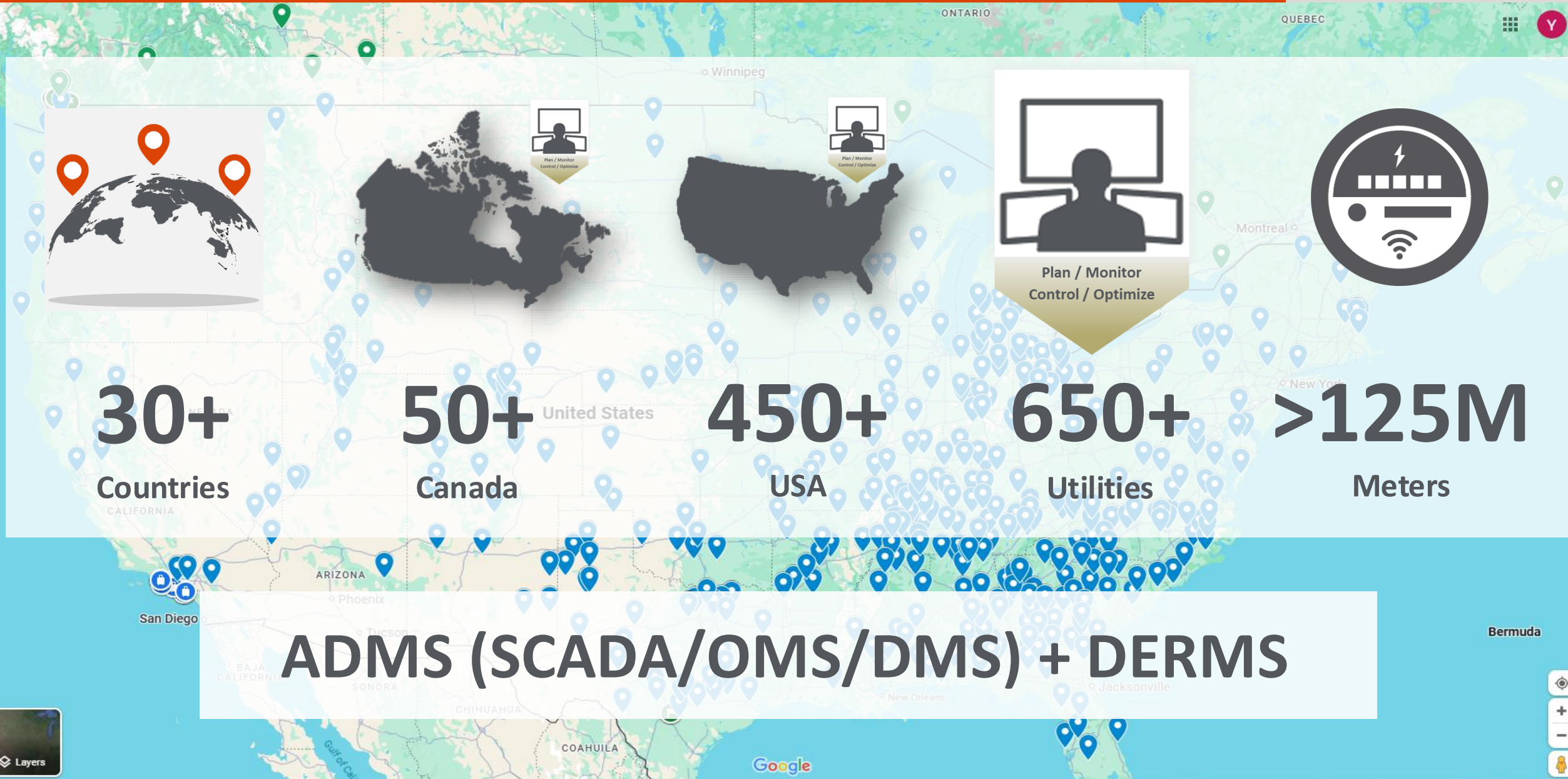


Survallent.

Grid Controls & Communications Perspectives

Young Ngo, CTO
October 31, 2024



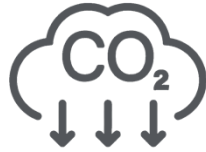


Understand, Manage, Optimize

Survalent.



Grid
Modernization



Decarbonization



Demand-Side
Flexibility



Energy
Electrification

WEATHER



SECURITY



PEOPLE



DIGITAL
TRANSFORMATION



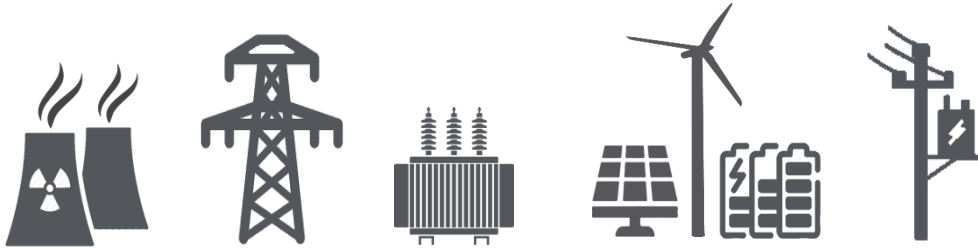
SMART CITY/TRANSPORT



IoT



Plan
Monitor
Control
Optimize

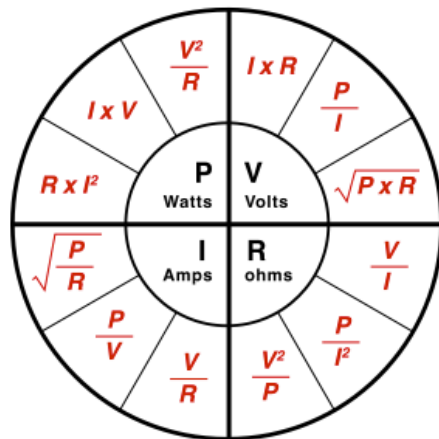


Utiliverse™



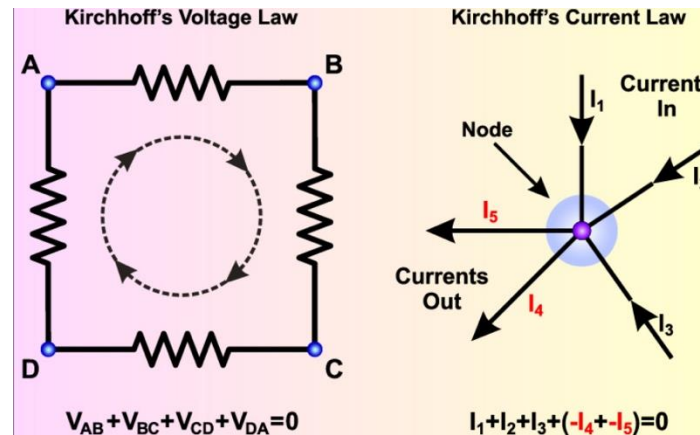
Laws of Physics & Systems Theory

Ohm's Law



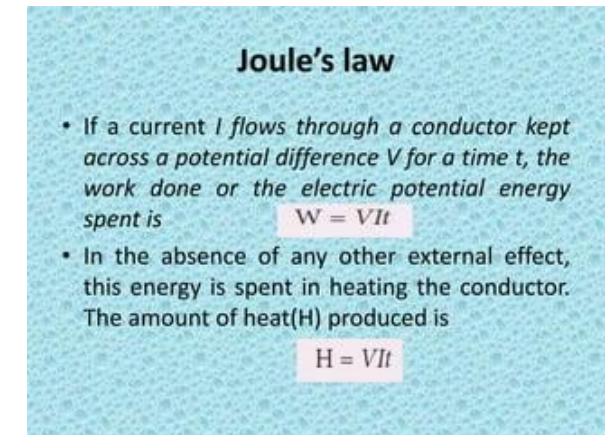
Grid behavior under different voltage and current conditions. **Grid operation within safe voltage and current limits.**

Kirchhoff's Laws



Fundamental for network analysis, fault detection, and load distribution. **Ensure that power is distributed effectively and that the grid remains stable.**

Joule's Law



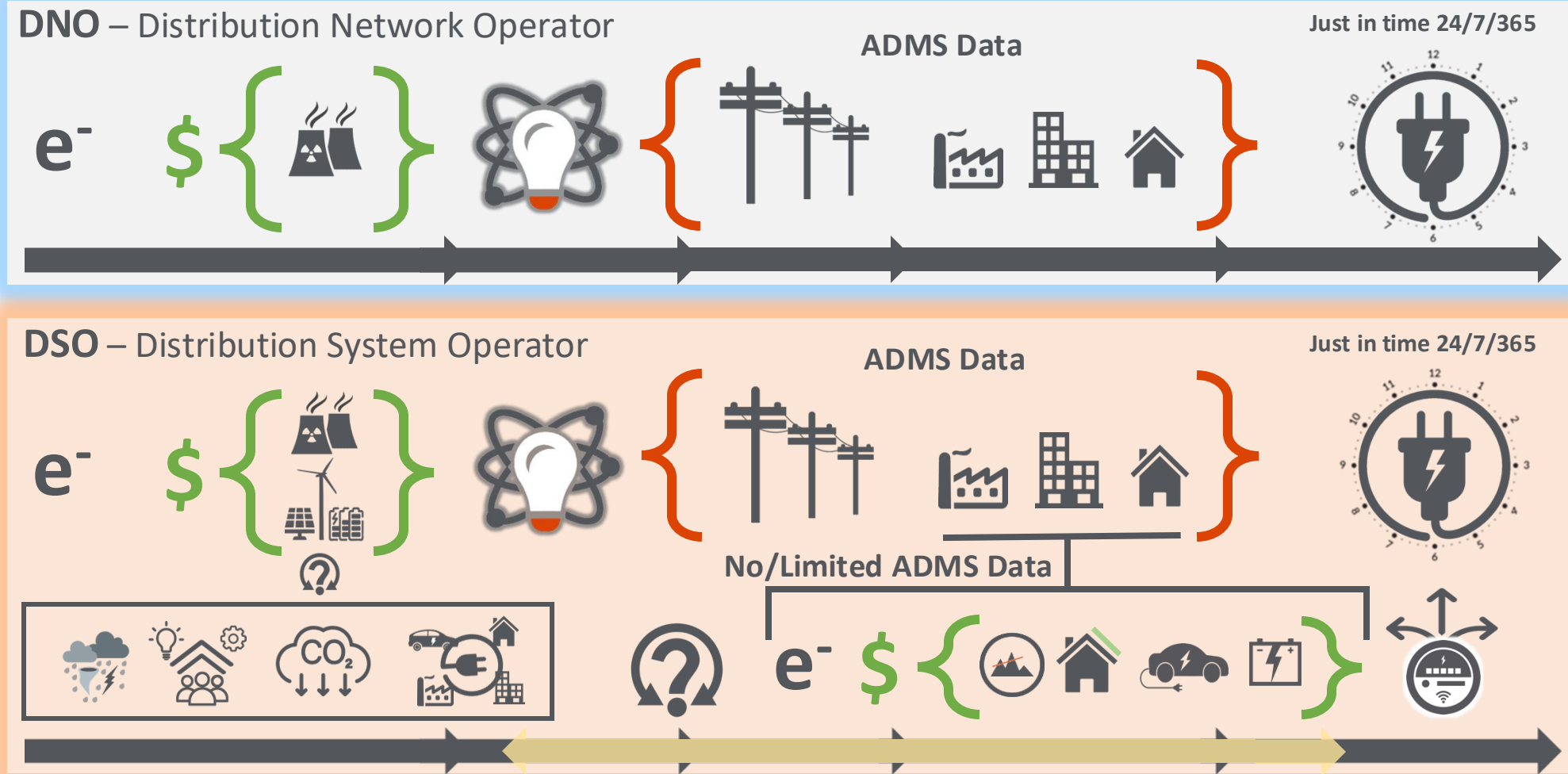
Assessing **thermal loads, predicting and preventing component failures due to overheating.**

Control Theory Principles: feedback loops, PID, dynamic systems modeling

Communication - Cyber-Physical Systems Principles: interconnected, physical/digital

DNO to DSO – Laws of Physic

Survalent.



*Maintaining system **reliability and resiliency** while delivering **the electricity** to consumers in alignment with **its financial and operational objectives***



Adapt...Transform...Evolve

UtiliverseTM

