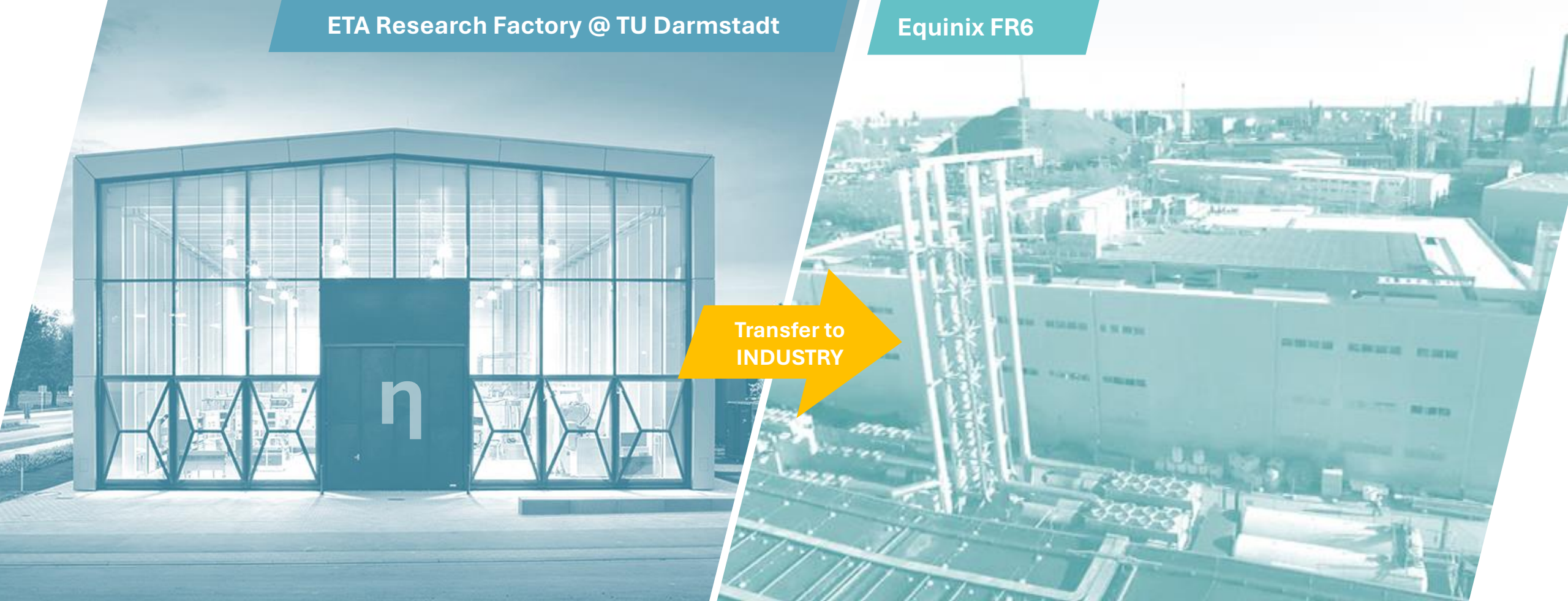


AI Copilot for Next-Level Industrial Energy Intelligence

Reducing Energy Costs, CO2 Emissions, Downtime Risks and improving Productivity



etalytics
energy intelligence



10+ Years of Research & Industry Experience to Solve the Puzzle

We combined Energy Science, Engineering and Computer Science / AI and applied it on Large-Scale Industrial Energy Systems.

Why energy systems are often operated inefficiently

Holistic optimization needs the perfect and predictive orchestration of all energy converters involved

Complex Topologies

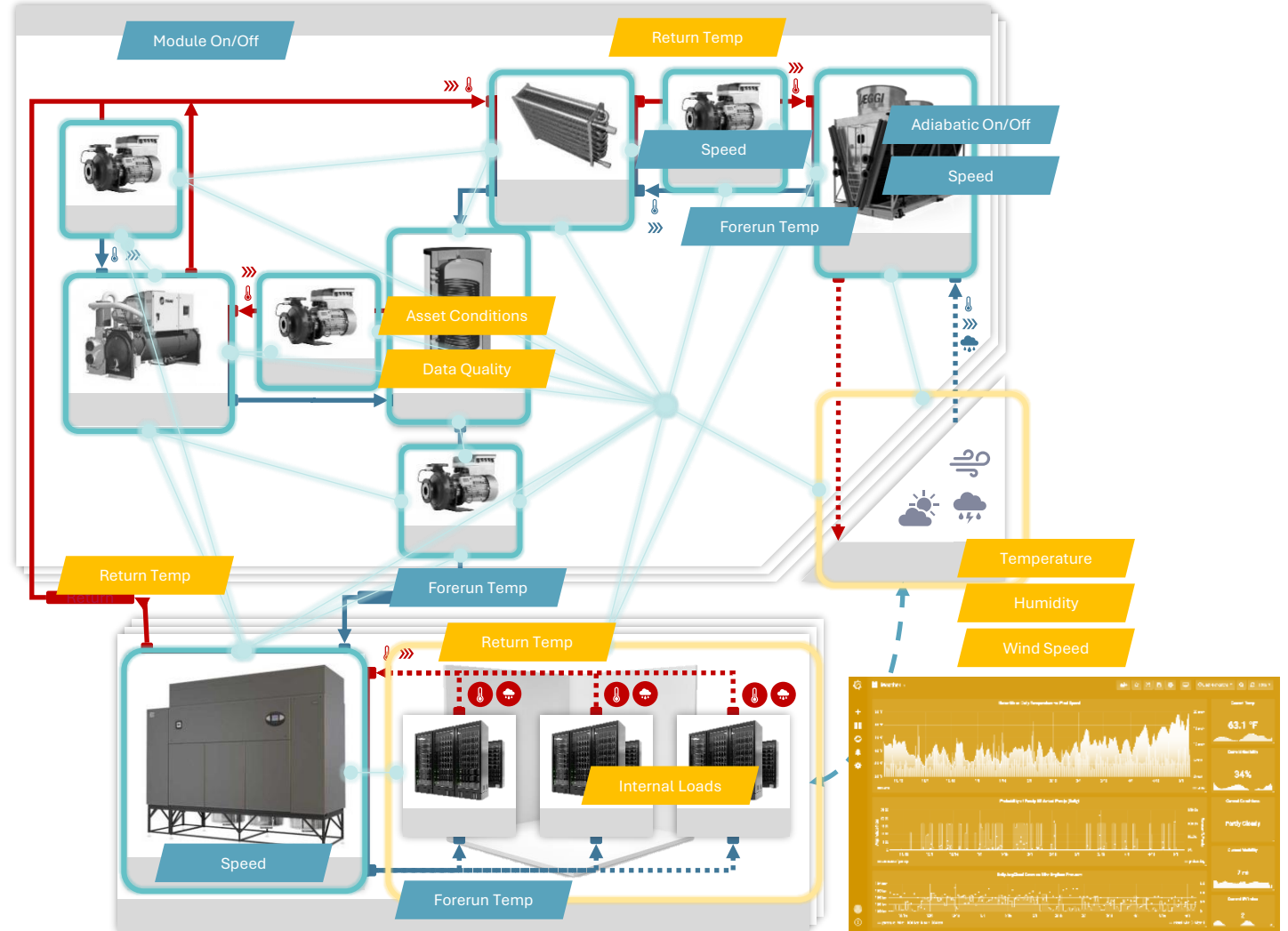
Huge Control Space

Diverse Interdependences

Dynamic Influences

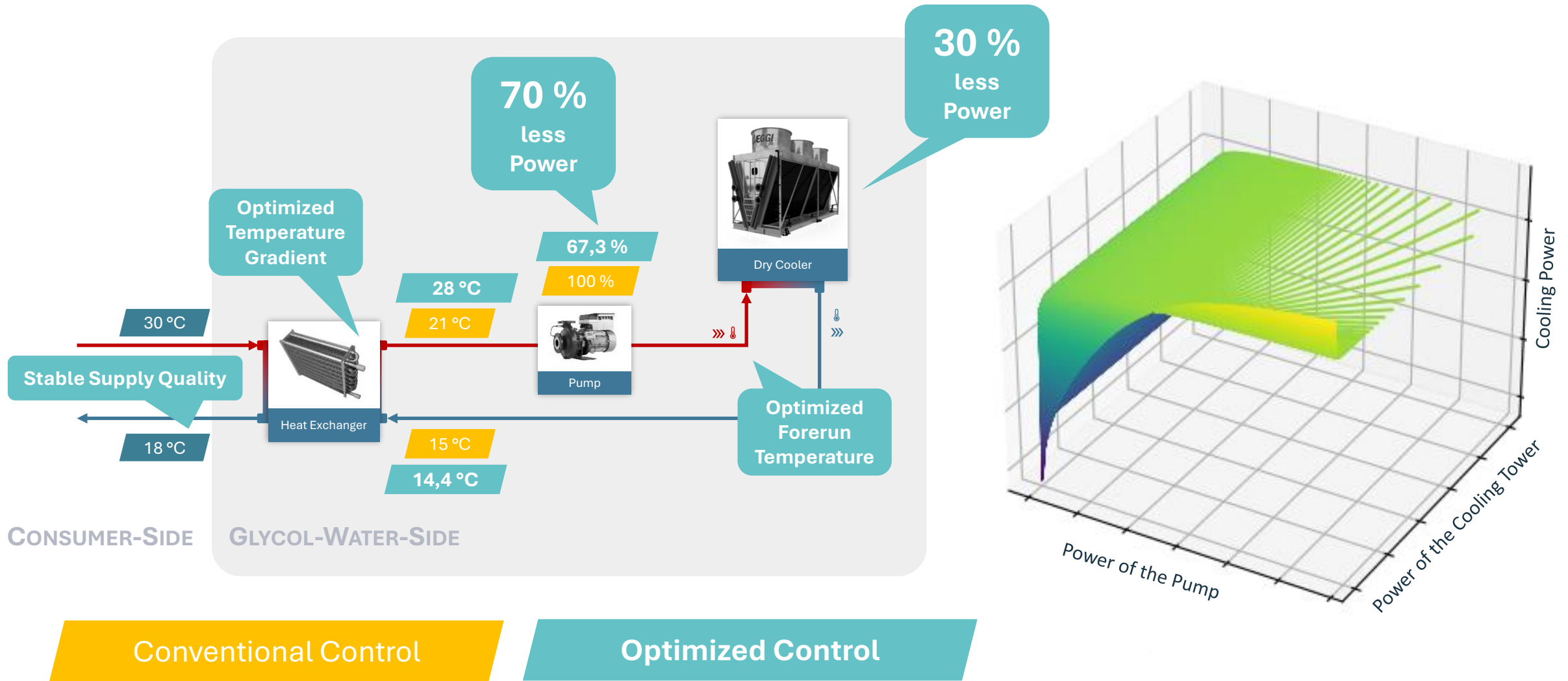
In a **Critical Infrastructure Environment**

Central Question
HOW TO RUN THIS ROBUST & EFFICIENT?



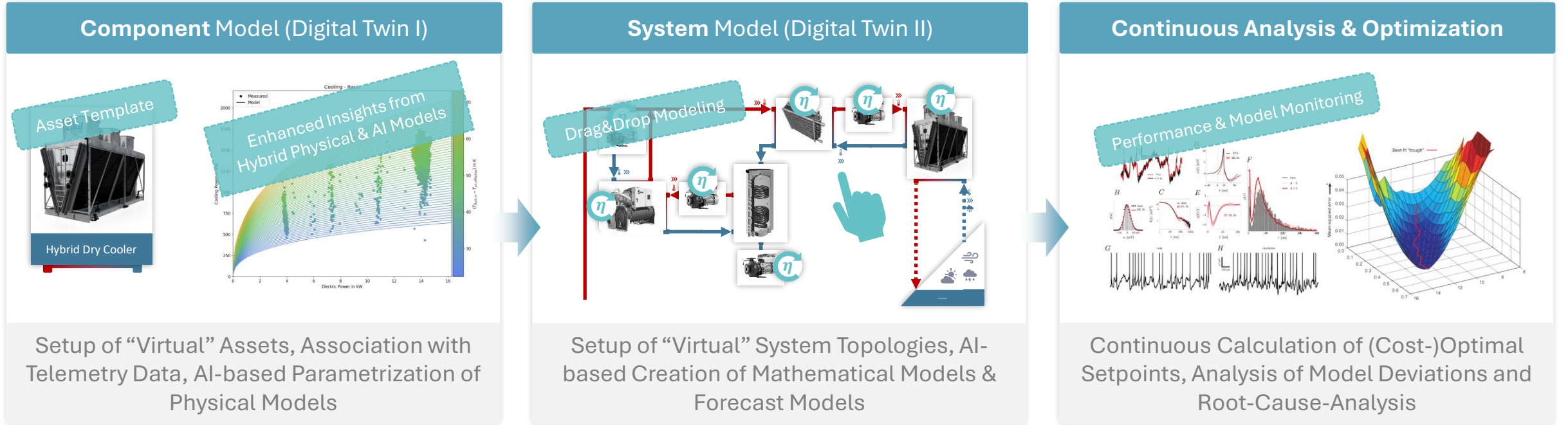
A Simplified Example of Optimization Potentials

We overcome conventional limits by dynamically and cost-optimized adjustment of setpoints, taking into account all real-time influences.



AI-driven Analysis & Control is Indispensable for Future Industrial Sites

We combine AI and physical models for Optimization from reducing energy consumption to enhancing overall operations.



Reduced energy & water consumption due to predictive holistic control

Increased temperature stability due to predictive control and early troubleshooting

Decreased operation staff requirements due to data- and AI-driven insights

Decreased risks due to data- and AI-driven insights and early fault detection and troubleshooting

Better retrofit decisions due to model-based scenario analysis and simulations

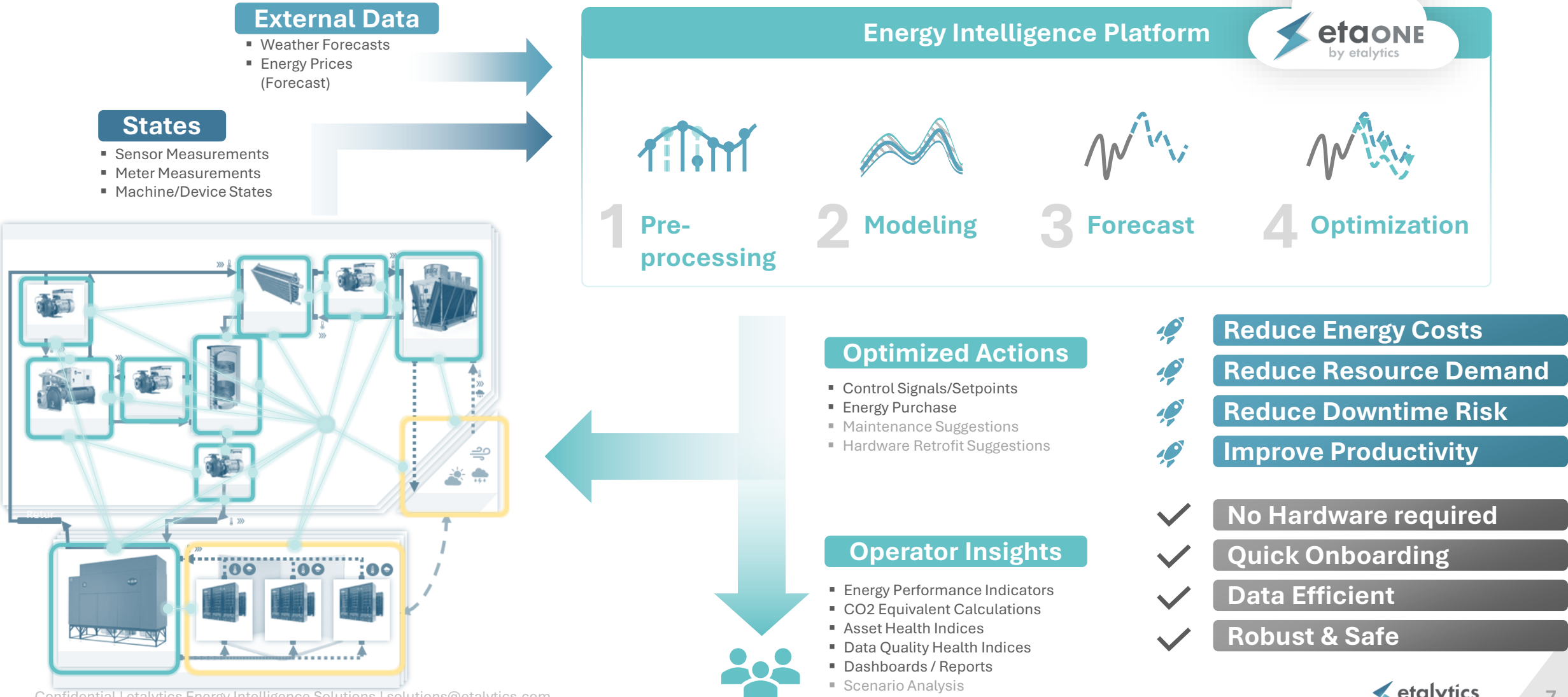
Enter etaONE® energy intelligence platform to solve the problem



<https://youtu.be/b7HP-sZYpLo>

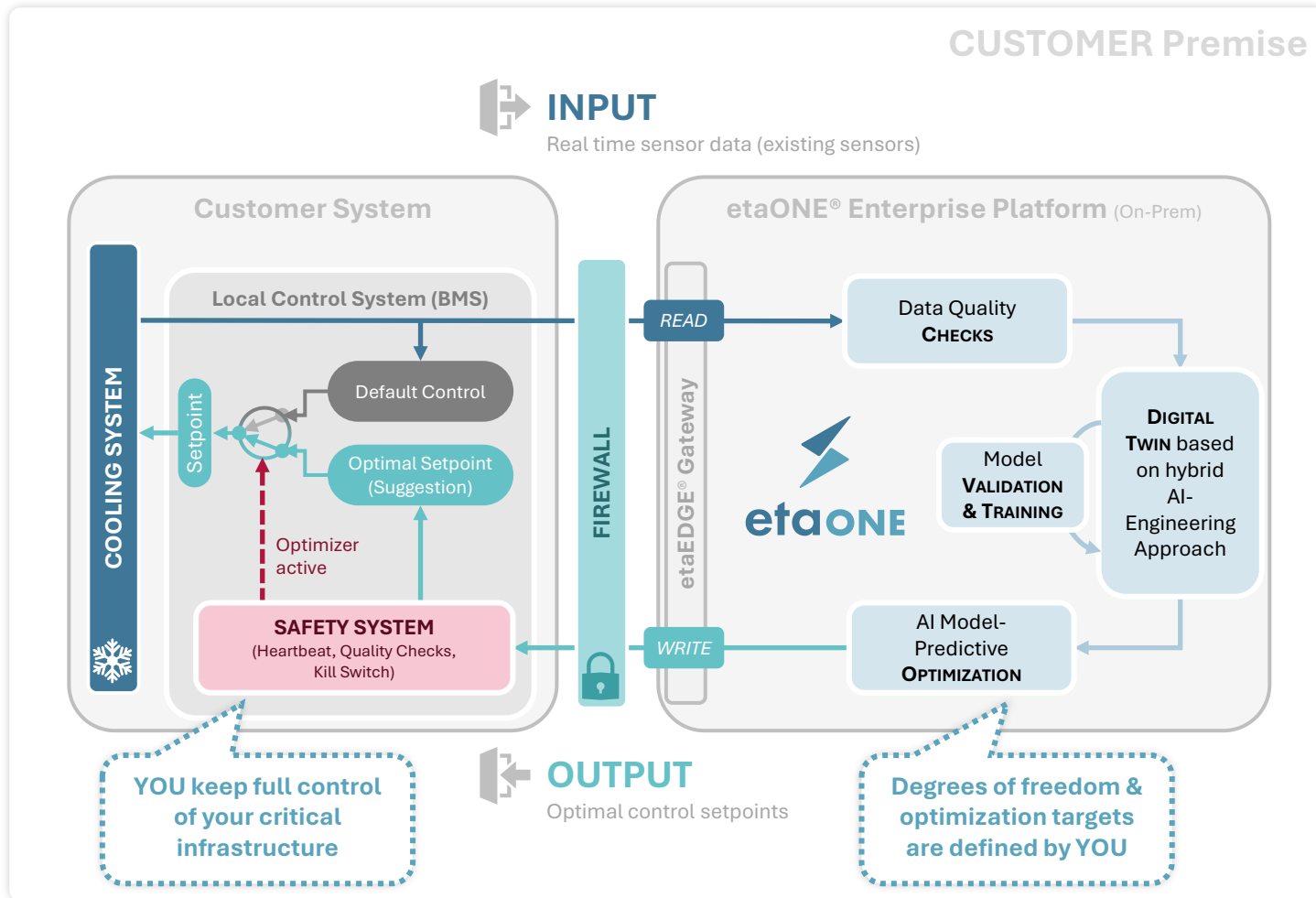
AI-driven Energy Optimization Achieves Unmatched Efficiency with Operational Simplicity

We combine engineering and AI into next-level energy intelligence software solutions



The On-Prem AI Copilot Addon to your Existing Control Infrastructure

A solution that is secure, robust, maintainable and scalable. Your critical data never leaves the site.



✓ SEAMLESS INTEGRATION

No on-site modifications needed as we leverage existing sensor data.

✓ CUSTOMER CONTROL ASSURANCE

Operations exclusively through your BMS ensure your control over critical data.

✓ BMS COMPATIBILITY

Flexible integration with diverse BMS platforms ensures seamless connectivity via standard industry protocols (e.g. OPC-UA, REST, MQTT, ...)

✓ IT & OPERATION SECURITY

We follow best practices for operation fallback concepts and IT security measures according to ISO 27.001.

Industry-leader Equinix Cut Energy Costs by 49% via etaONE

What our customers love most? Our SaaS solution costs just a fraction of the savings it generates.



EQUINIX



EQUINIX FR6, Frankfurt

OPTIMIZATION RESULTS



49,3 %

Energy Savings (in scope)



>900 MWh/a

Energy Reduction



240 tCO₂/a

Co2 Emission Reduction



< 1 years

Amortization Period

6.600
m² IT-SPACE

3.000
CABINETS

2017
YEAR OF
CONSTRUCTION

... Roll-out to additional sites in progress.

“With the help of etalytics' expertise, we are implementing AI-based operational optimization of the cooling systems at the Frankfurt site based on the etaONE platform. **We are thus supporting a highly innovative approach that can serve as a blueprint for an entire industry.**”



JENS-PETER FEIDNER
Managing Director, Equinix Germany

“And A.I. itself can help: At a data center in Frankfurt, Equinix has used the technology **to moderate cooling loads and adjust energy use in concert with changing weather, making a data center 9 percent more efficient.**”

NEW YORK TIMES

February 2024

We Love Optimizing Data Center Cooling. But We Do More ...

Our solutions create impact across industries for energy-efficient, CO2-neutral HVAC and electric systems.

- ⚡ Electric
- ❄️ Cooling
- 🌡️ Heating
- ☪️ Ventilation
- Applications in Industry Verticals

Industry Leaders currently powered by etalytics

Equinix
NTT
Digital Realty

DATA CENTERS

VW
Audi

AUTOMOTIVE

GRÜNENTHAL
MERCK

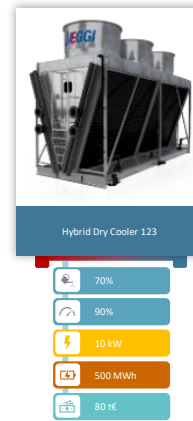
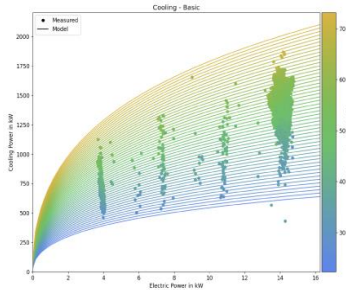
CHEMICAL / HEALTH

Enhancing Operations with Digital Twins

We combine AI and physical models for Optimization from reducing energy consumption to enhancing overall operations.

Maximum Transparency

Operation dynamics of energy converters are **identified** and continuously analyzed, leading to **early troubleshooting**.



Reduced Water Consumption

Continuous optimization of the **adiabatic system** results in optimized water consumption, leading to significant **water savings**.

Lower Energy Demand

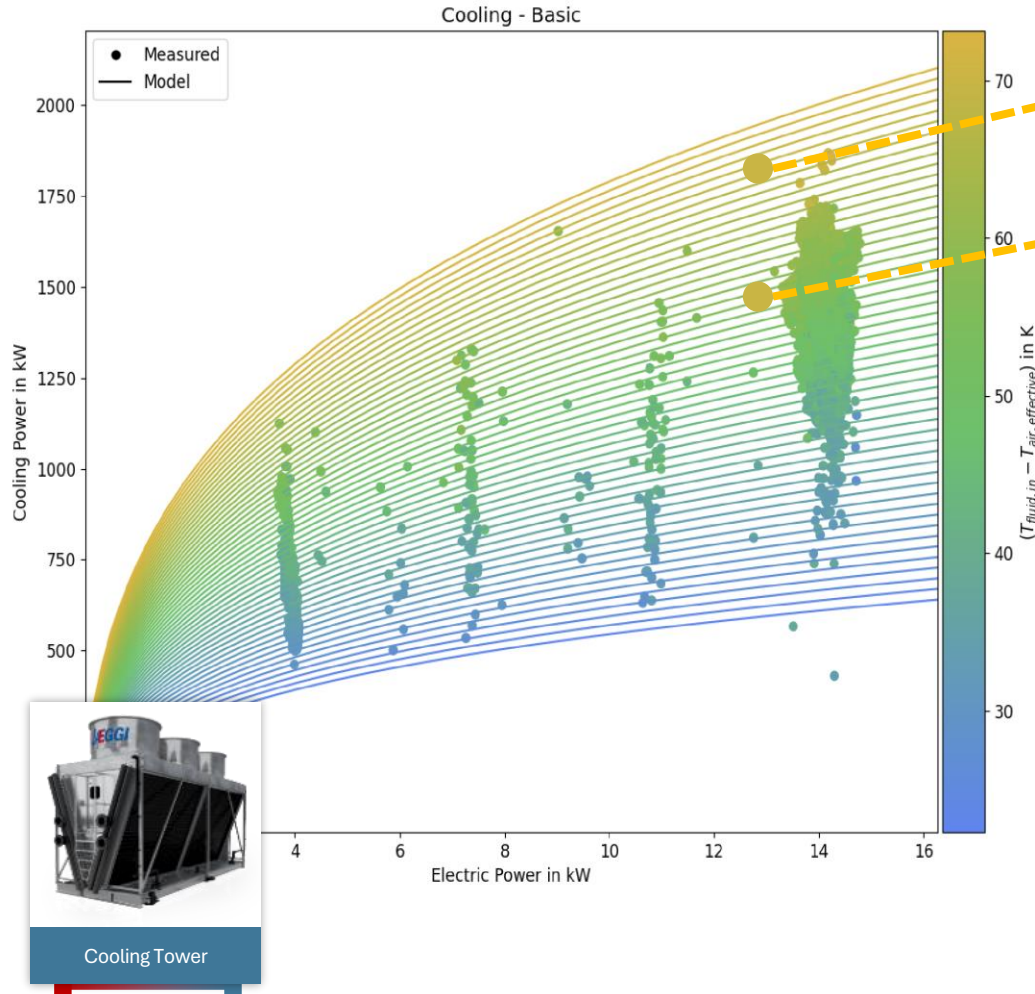
Energy demand is decreased via **continuous predictive control optimization**.

Improved Quality of Supply

Temperature level for cooling and heating supply is **more stable** with **predictive control mechanisms**

Enhancing Operations with Digital Twins

We combine AI and physical models for Optimization from reducing energy consumption to enhancing overall operations.



Anticipated by Model

≠

Measured in Operation

Physical Models enable enhanced insights compared to data-only analysis

Condition Monitoring

Operation dynamics are used for **anomaly detection** and for identifying **faulty system behavior**

Scenario & RetroFit Analysis

RetroFit measures of the modeled system and **scenarios** with **varying energy prices, demand or environmental temperature** can be **simulated**

More Than AI Control Optimization

ONE platform. MAX efficiency. Our etaONE Energy Intelligence Ecosystem gives Enterprises unparalleled Insights and Optimization Capabilities.



AI Made in Germany

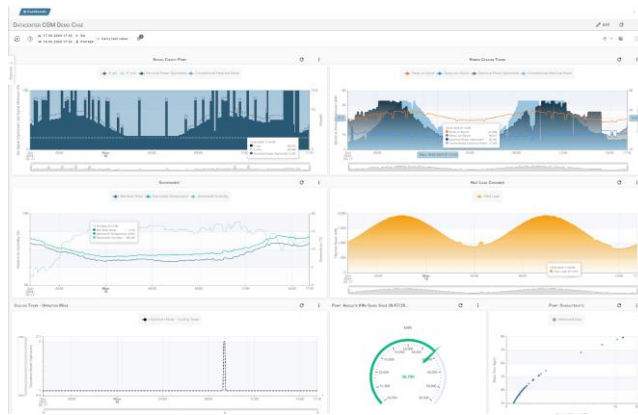


Comprehensive Platform Features to Drive Efficiency and Optimization

Connect, visualize, and automate your system's performance with our flexible, data-driven tools. Tailor each feature to your unique operational needs.

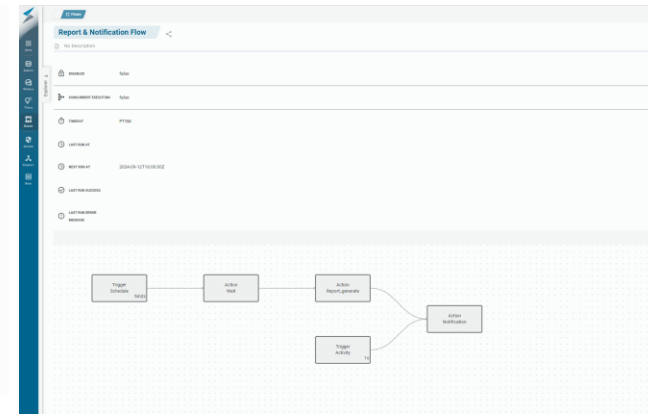
Connect all Your Datapoints

with flexible interfaces for OPC-UA, Modbus TCP, BacNET, MQTT, REST APIs and more



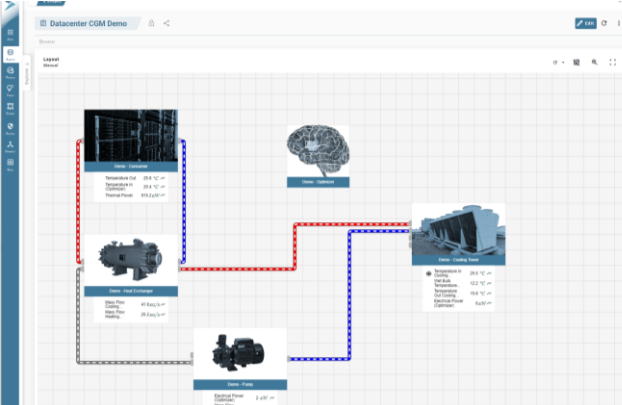
System Performance Tracking & Optimization

with Live Telemetry Data and AI Engine Integration



Insightful Data Visualizations

to analyze the system behavior and optimization performance



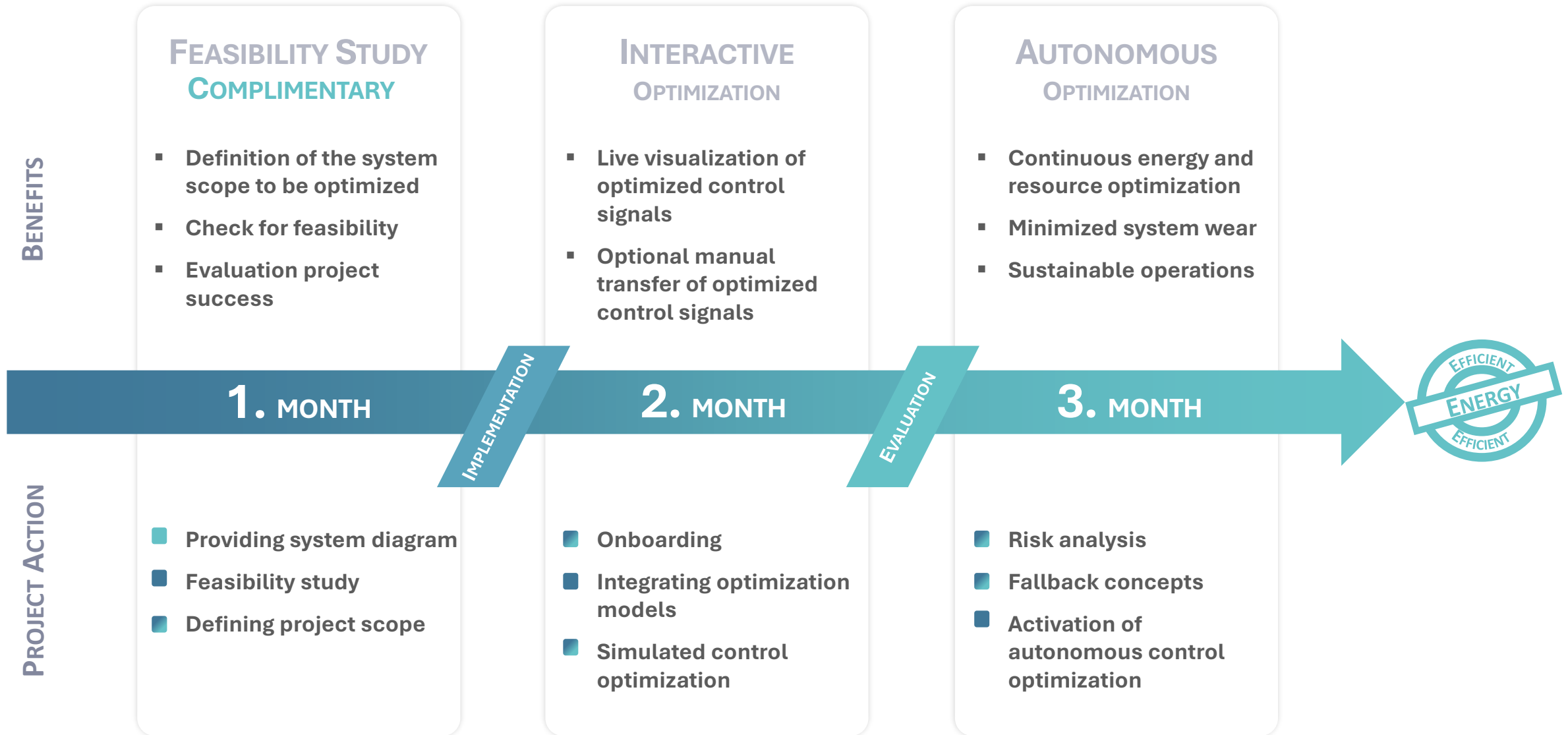
Automatic Assessments & (Work)flows

for Automations, Reporting and Alerting

And a lot more... We adjust to your needs. Tell us your feature requests.

3 Phases to Optimized Energy System Control

- We work for you
- Your contribution
- We work together





**Request your Free
Feasibility Study Now!**

Are you AI-Ready?

Assess if your industrial site is ready to implement our AI-Control Optimization and Energy Intelligence solution and determine your savings potentials.



Sensor Availability

Electrical power, temperatures, mass flows and asset states are recorded via sensors.



BMS Connectivity

The BMS has the connectivity to be read and written via standard industry protocols (e.g. OPC-UA, REST, Modbus TCP, BacNET, MQTT).



System Modeling and Optimization

The system is built from a series of standard technologies for which models and several years of practical experience already exist.

 <https://etalytics.com/book-demo/>

 solutions@etalytics.com

Thank you for watching!

Any questions?



etalytics GmbH

Alicja Niekrawietz

Technical Account & Growth Manager

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www.etalytics.com

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