



Energy Intelligence Solutions for Analysis & Optimization of Energy Systems

Darmstadt, 08.02.2023
Dr.-Ing. Niklas Panten



PRESSURE TO ACT

Increasing Energy & CO2 Costs | Environmental Awareness

POTENTIALS

Data-Driven Analysis | AI/ML Insights & Optimization | Sector Coupling

CO2 NEUTRALITY

Energy Transparency | Maximum Efficiency | Renewable Supply

Industry Needs

Energy Efficiency. Energy Flexibility. Energy Intelligence.

The Cascading Problem

Why complex supply systems waste energy, CO2 emissions and money.

Status Quo

Decentralized unit control



Static tuning of control parameters



Simple control designed for robustness

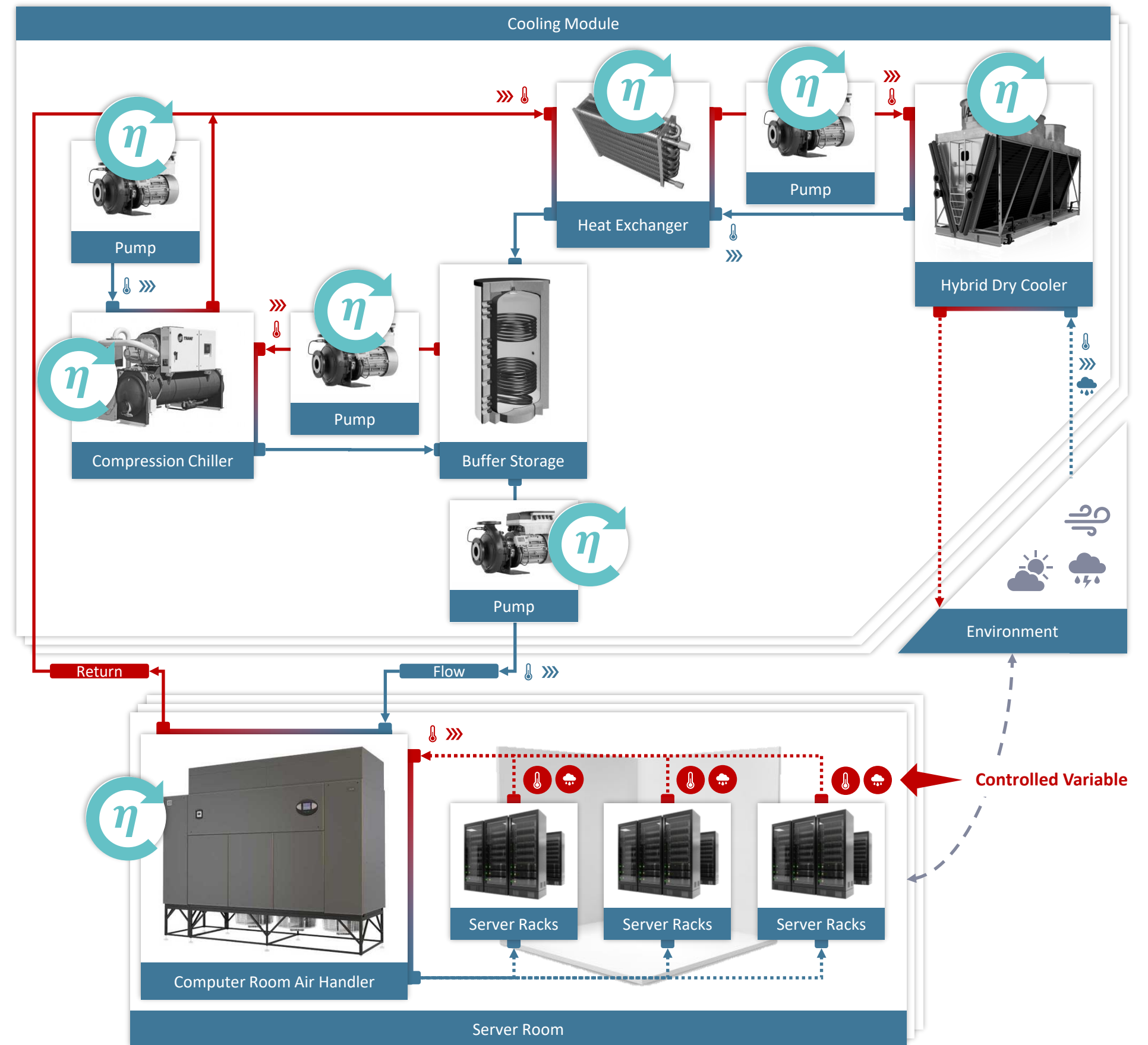


Optimization Problem

Units affect each other

Dynamic, stochastic and multidimensional operation and solution space

Need for **robustness** AND **efficiency** in the overall system





TECHNISCHE
UNIVERSITÄT
DARMSTADT

From Research to Practice

We are spin-off company of the **ETA Research Factory** at the Campus Lichtwiese of the Technische Universität Darmstadt.

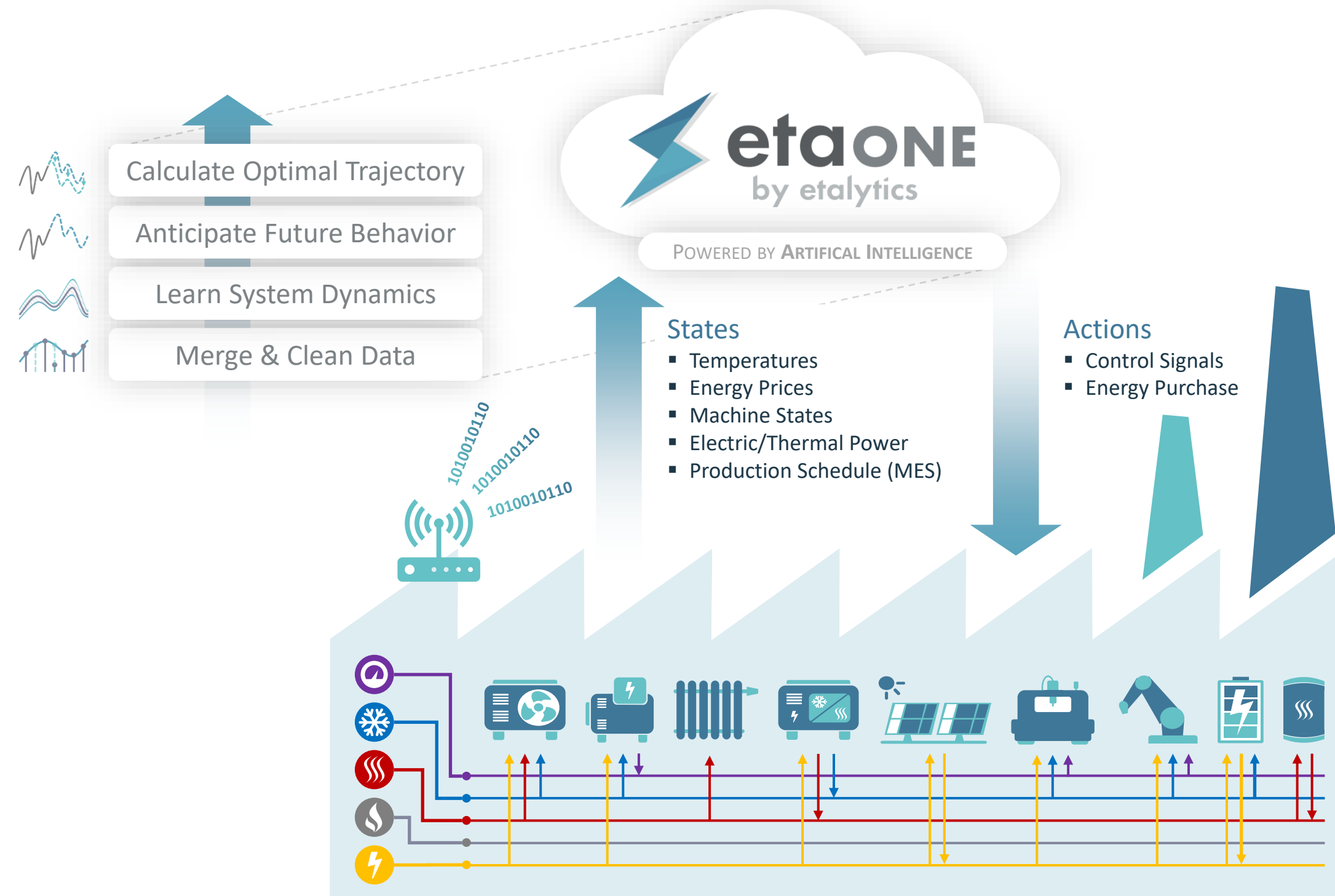
Innovative, effective solutions for industrial

- Energy Efficiency,
- Energy Flexibility,
- Ressource Efficiency.



GET GREEN NOW

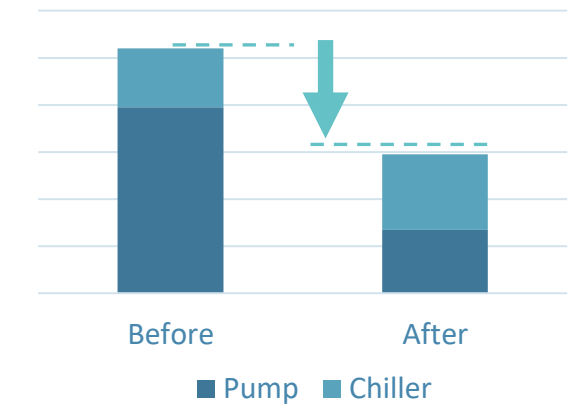
Analyze, Predict and Optimize Energy System Behavior.



- Maximum efficiencies from energy sources to sinks
- Demand-oriented Supply
- Avoiding peak loads for electricity or gas purchases
- Reduction of switch-on costs
- Improved Supply Quality

SUCCESS STORY (INDUSTRY CASE)

Annual Energy Costs



47,3%
Energy Savings



96 tEUR/a
Energy Cost Reduction



240 tCO2e/a
CO2 Emission Reduction



0,6 years
Payback Period



**One Platform.
Maximum Efficiency.**



is the solution for digitalization and AI-driven optimization of your energy systems. It provides all necessary tools for data-driven analysis and optimization – robust, flexible, secure and easy to implement.



Energy Efficiency Excellence

„The need for high-performance data centres continues to grow significantly in the wake of digitization. Thus, it is essential that we ensure that operations are as environmentally friendly and efficient as possible. 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

Awards

- Main Prize BMWi Founders Competition „Digital Innovations“ + Special Price „Digitalization in Production“ (2019)
- Main Prize Climate Protection Competition of the City of Frankfurt (2019/2020)
- Hessian State Prize for Energy in the category "Electricity"
- German Innovation Award for Climate and Environment (IKU)



Network

- „EXIST“ Founders Scholarship (2020)
- DBU Green Startup Program
- ESA Business Incubator
- HEAG Startup Fund
- 5-HT Digital Hub Chemistry & Health
- Active Research Projects (DELTA, KI4ETA, DiNaPro, Endi-QM)

„Companies can save energy and significantly reduce the consumption of resources with the help of the etaONE platform. Harmful emissions are reduced and the urban climate is improved.“



Prof. Dr. Klaus-Michael Ahrend

Vorstand, HEAG Holding AG

Thank you for watching!

Any questions?



etalytics GmbH

Dr.-Ing. Niklas Panten

CEO & Co-Founder

niklas.panten@etalytics.com

www.etalytics.com

end