

ENERGY ADVICE

Technology Development and Advisory company



AI FOR REFRIGERATION

CHALLENGE

Common practice to maintain the industrial refrigeration system is setting of a constant evaporation temperature & pressure without considering actual refrigeration demand. This results in lower COP and ERR

SOLUTION

EA-SAS Cooling is AI based Digital Twin Cloud Solution designed to reduce electricity consumption through continuous system monitoring and automatic adjustment of evaporation temperature & pressure set points

AI based automated refrigeration system control

- evaporation temperature & pressure control
- complex refrigeration system management
- control according to electricity market price

Real-time KPI evaluation of

- entire refrigeration process
- compressor station efficiency
- energy consumption

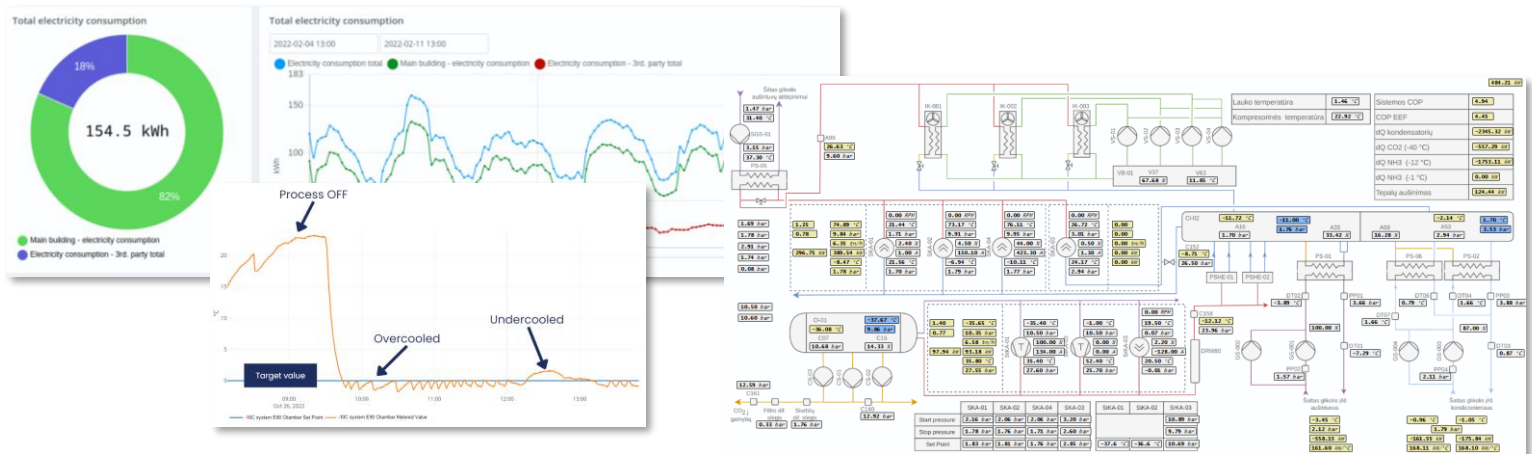
SAVINGS UP TO 30%

ROI < 1 YEAR

REDUCED EMISSIONS

ADDRESSES GREEN DEAL*

*European Green Deal and European Climate Law



KEY BENEFITS

Reduced Electricity Consumption

AI continuously adjusts system control set points, thus reducing electricity consumption up to 30%

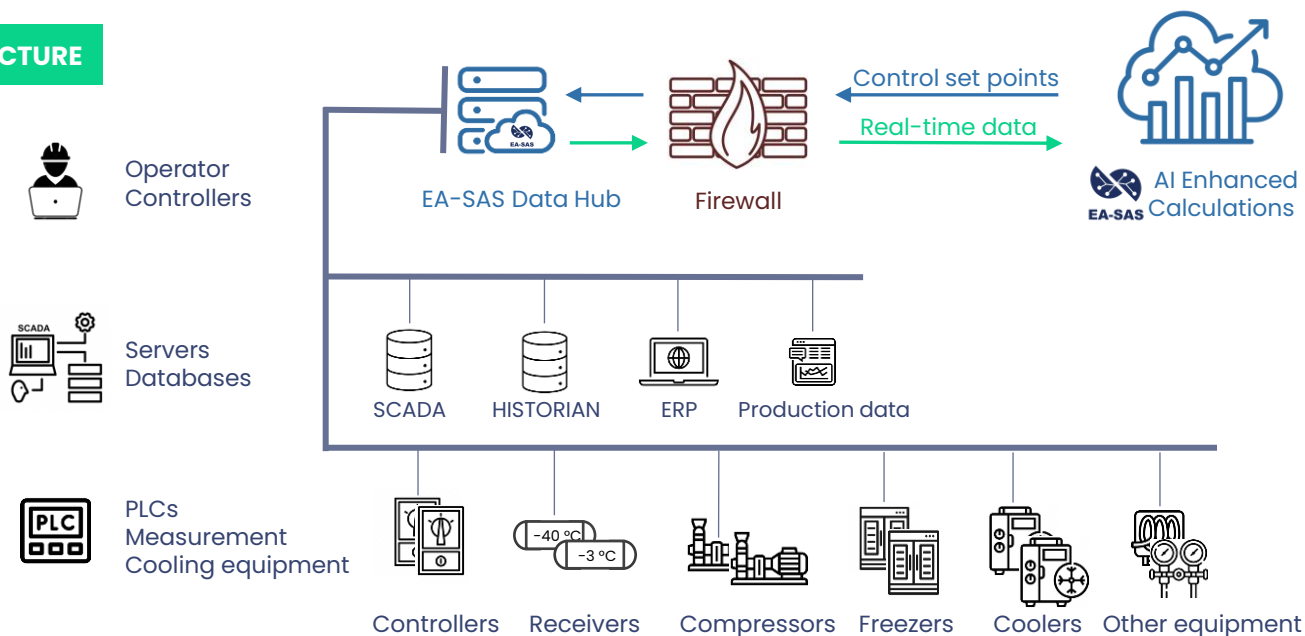
Extended Durability

Advanced process control reduces wear and increases lifespan of mechanical system components

AI ENHANCED REFRIGERATION SYSTEM CONTROL BASED ON PRODUCTION DATA



ARCHITECTURE



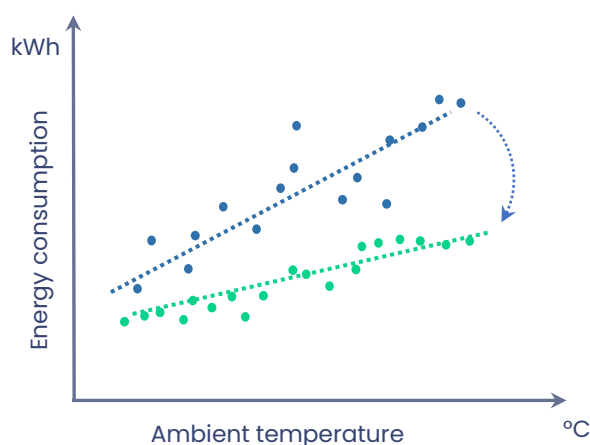
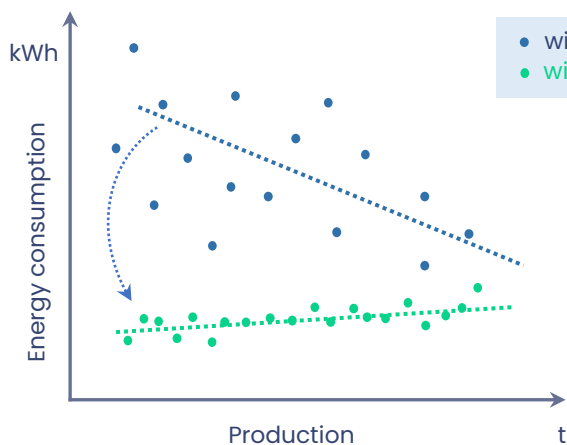
REDUCED ELECTRICITY CONSUMPTION • STABILIZED PROCESS • PREDICTIVE MAINTENANCE

CHALLENGE

The cooling demand of multiple freezers fluctuates in accordance with production volume, necessitating constant adjustments to the evaporation temperature and pressure set points. This process is too complex for manual oversight and exceeds the capabilities of traditional automation systems

SOLUTION

EA-SAS Cooling Digital Twin collects real-time data from unlimited quantity of data sources, including smart meters, SCADA, PLC's, ERP and other databases assuring optimal refrigeration system control



KEY BENEFITS

Assured Production Quality

AI maintains a stable refrigeration environment and ensures the consistent quality of production batches

Reduced Operational Complexity

AI controls evaporation temperature and pressure thus ensuring efficient operation without supervision