

Malaysia – Japan Environment Week

Optimizing Energy Efficiency with Building Automation Systems

Keiji Hashimoto

Azbil Malaysia Sdn.Bhd.

Managing Director

15th, Oct.2025



azbil Group Global Network



Azbil Malaysia Corporate Data



- ❑ **Established** **August 1999**
- ❑ **Location**
 - **Head office** Lot19.07, Level 19, Tower 2, Faber Tower, Jalan Desa Bahagia, Taman Desa, 58100 Kuala Lumpur, Malaysia
 - **Penang office**
G-12-B & G-12A-B, NB Plaza 3000 Jalan Baru, 13700 Prai, Penang
 - **Johor Bahru Office**
No132, Jalan Sierra Perdana 4/1, Taman Sierra Perdana , 81750 Masai, Johor Darul Takzim, Malaysia
- ❑ **Total Staff** **80**

Managing Director
Keiji Hashimoto



HQ office
Taman Desa, Faber Tower



Branch Location
Penang, Johor Bharu and Kemaman





Malaysia is



Disaster-Safe Country



Azbil

Contribute to

Algae industry In Malaysia

Building service life is long and is as long as several decades



Here Malaysia



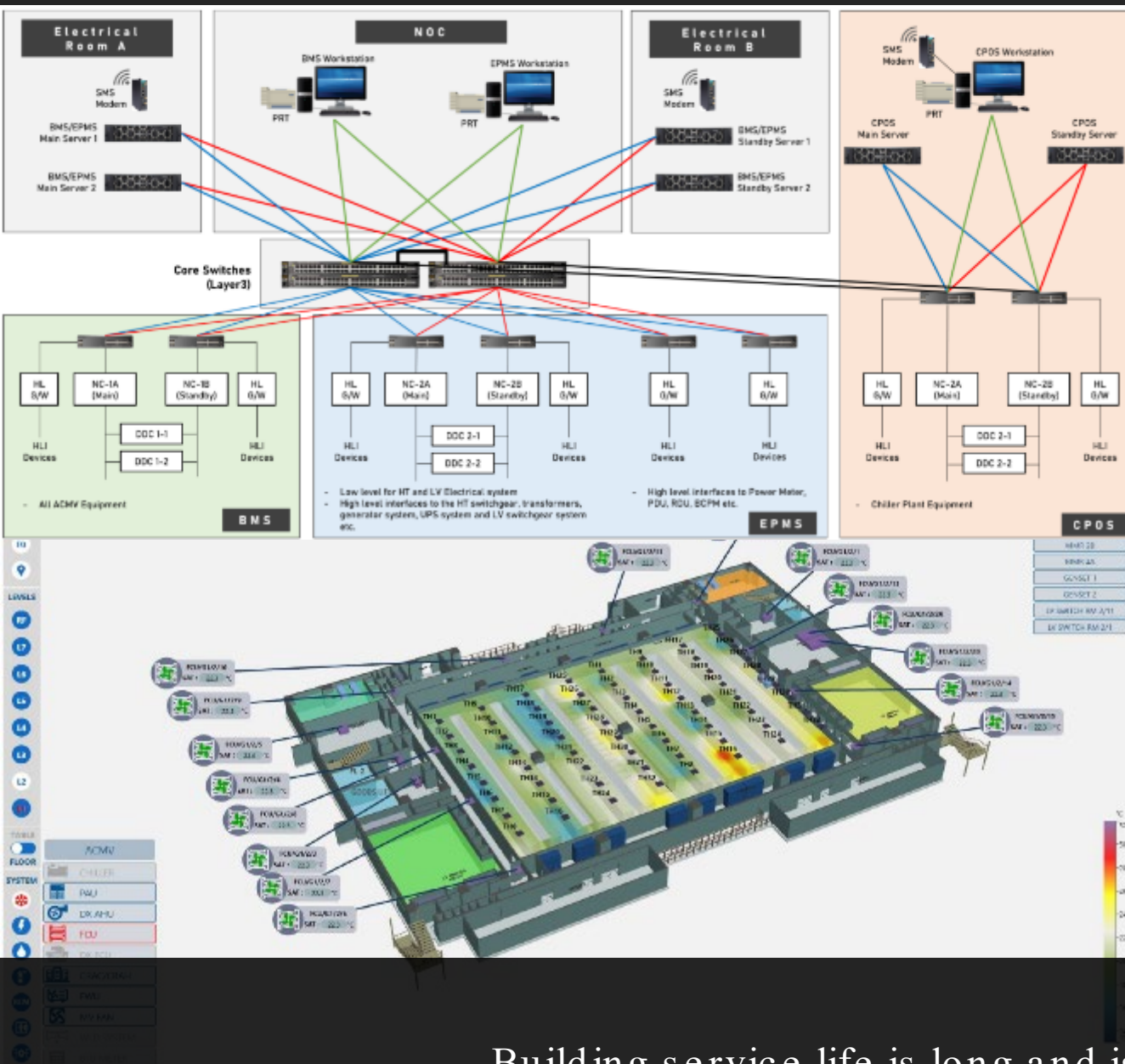
Data Center Construction is Booming

Azbil

Contribute to

Datacenter

Energy Optimization



Building service life is long and is as long as several decades



This boom is causing worries about electricity shortages.



Azbil

Contribute to

LNG Vessel change to FSU



Building service life is long and is as long as several decades

Initiatives to Achieve the SDGs: Preserving the Earth's Environment and Solving Energy-related Problems through "Cooperative Creation"

Azbil contribute to environment

Effective Reduction of CO₂ at Customers' Sites
TOTAL **2.84** million metric tons of CO₂/year



Automation effects



Energy management effects



ENEOPT™

Maintenance and services effects



Fiscal year 2030 (ended March 2031)

**Effective reduction of CO₂
at customers' sites**

3.4 million metric tons of CO₂

※The CO₂ emissions coefficient for electricity in 2030 is our estimate based on the Japanese government's 2019 basic energy plan.

*1 The effective reduction is the estimated difference between customers' adoption and non-adoption of azbil Group products, services, and solutions. The method of estimation was reviewed by an independent external party.



Kuala Lumpur has many Buildings

A photograph of a modern building with a large glass facade, reflecting the surrounding city skyline. The building is on the left side of the frame, and the city skyline is visible in the background on the right. The sky is clear and blue.

Today's topic is
**Building
Automation**

Building service life is long and is as long as several decades

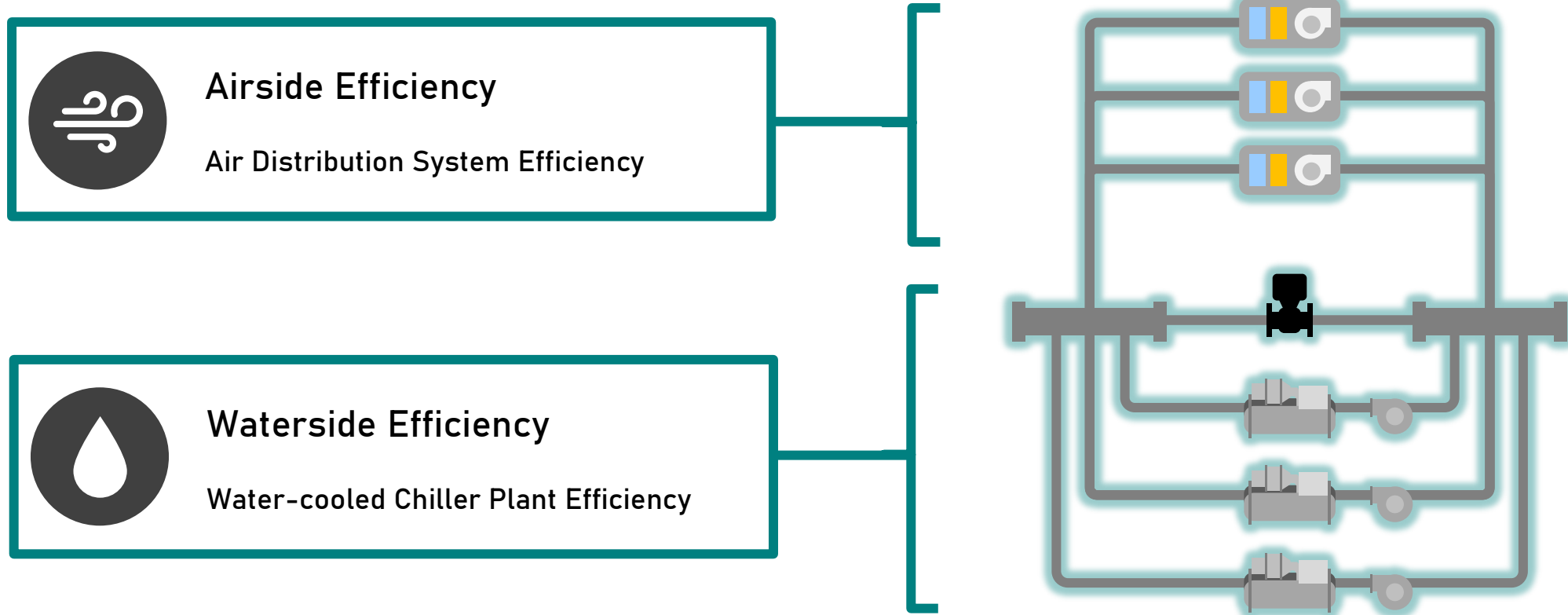
The background of the slide is a photograph of a modern glass skyscraper. The building's facade is composed of large glass panels framed by a metal grid, reflecting the surrounding city skyline. The sky is a pale, hazy blue. In the foreground, the dark, silhouetted structure of another building is visible, creating a sense of depth.

Building Automation

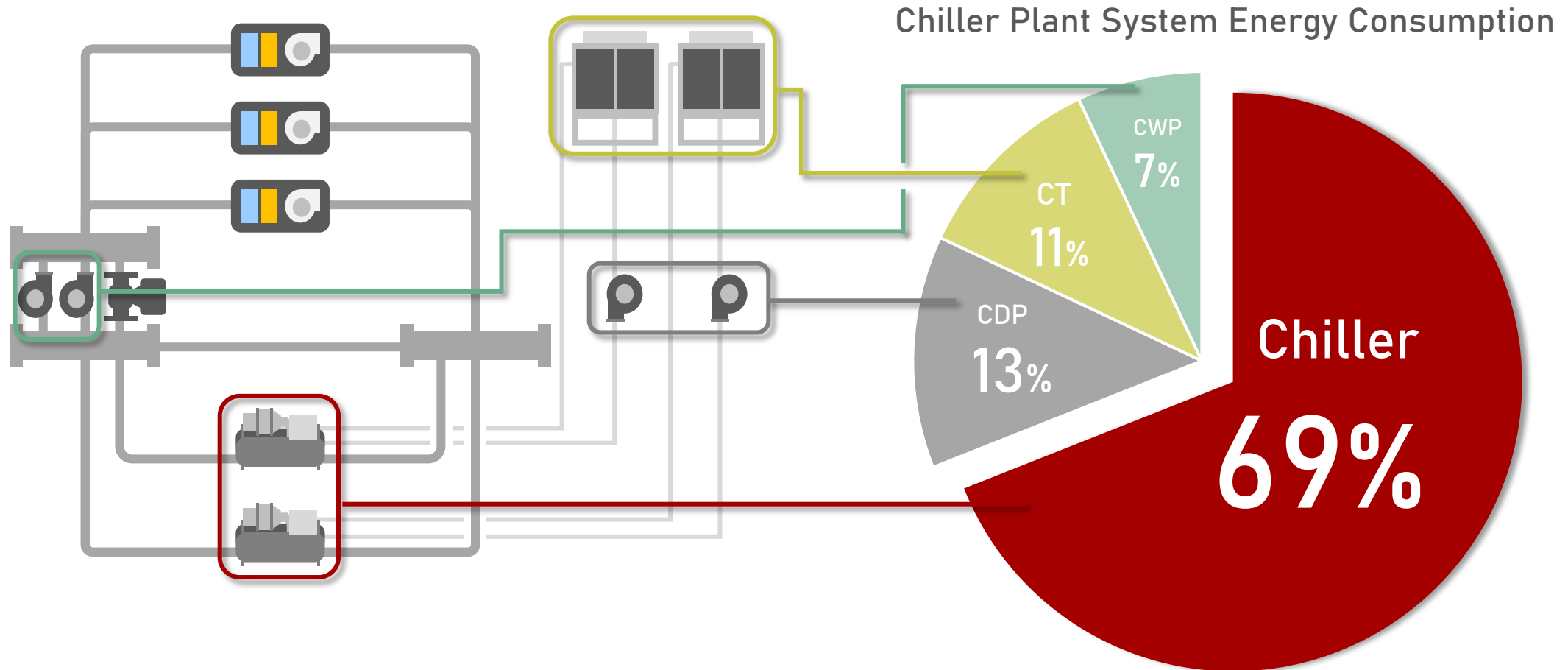
Can contribute to
ZEB
(Zero Energy Building)

Building service life is long and is as long as several decades

Azbil Solution for Building



Always Considers
TOTAL AIR-CONDITIONING SYSTEM EFFICIENCY

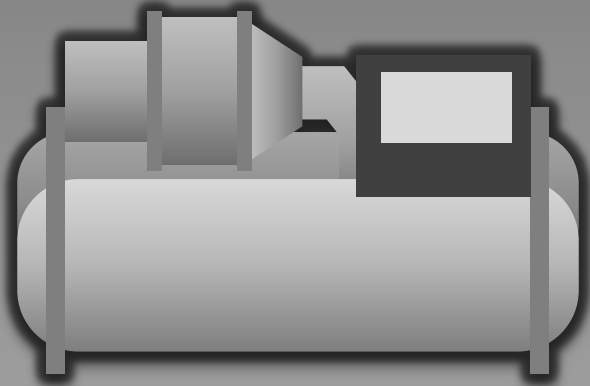


Chiller Plant optimization control is essential.

Azbil's Solutions

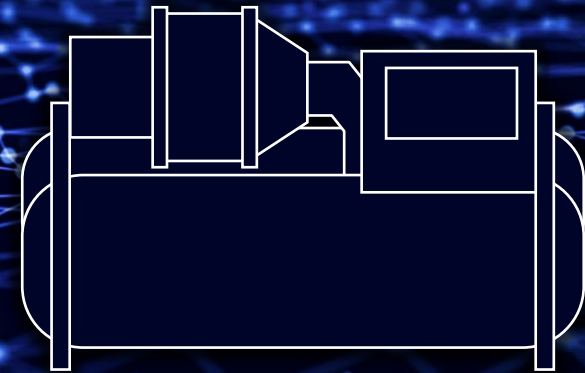
Chiller Plant

Real Chiller Plant in Physical World



CHILLER PLANT DIGITAL TWIN

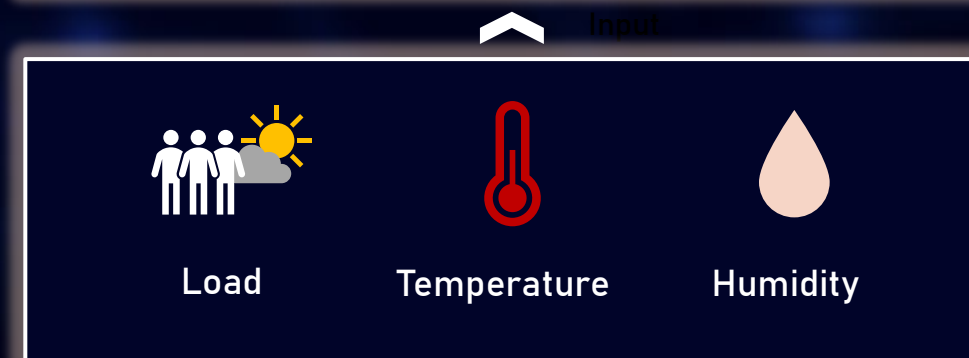
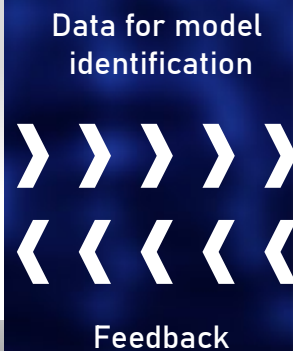
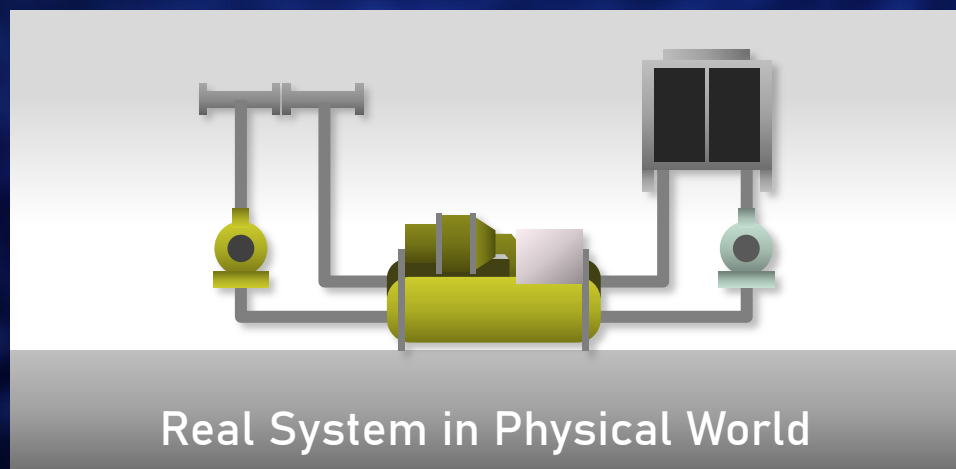
Digital Twin Model in Cyber World

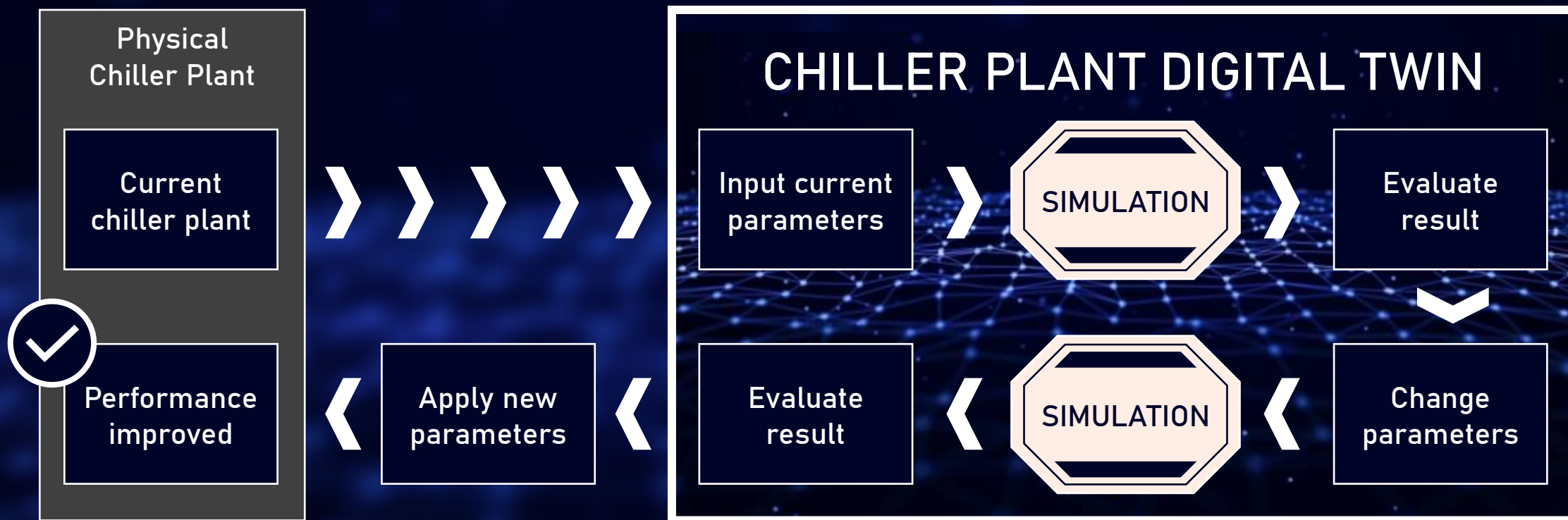


Metaverse of Chiller Plant

Creates the Digital Copy of chiller plant in the Cyber World by utilizing information in the Physical World

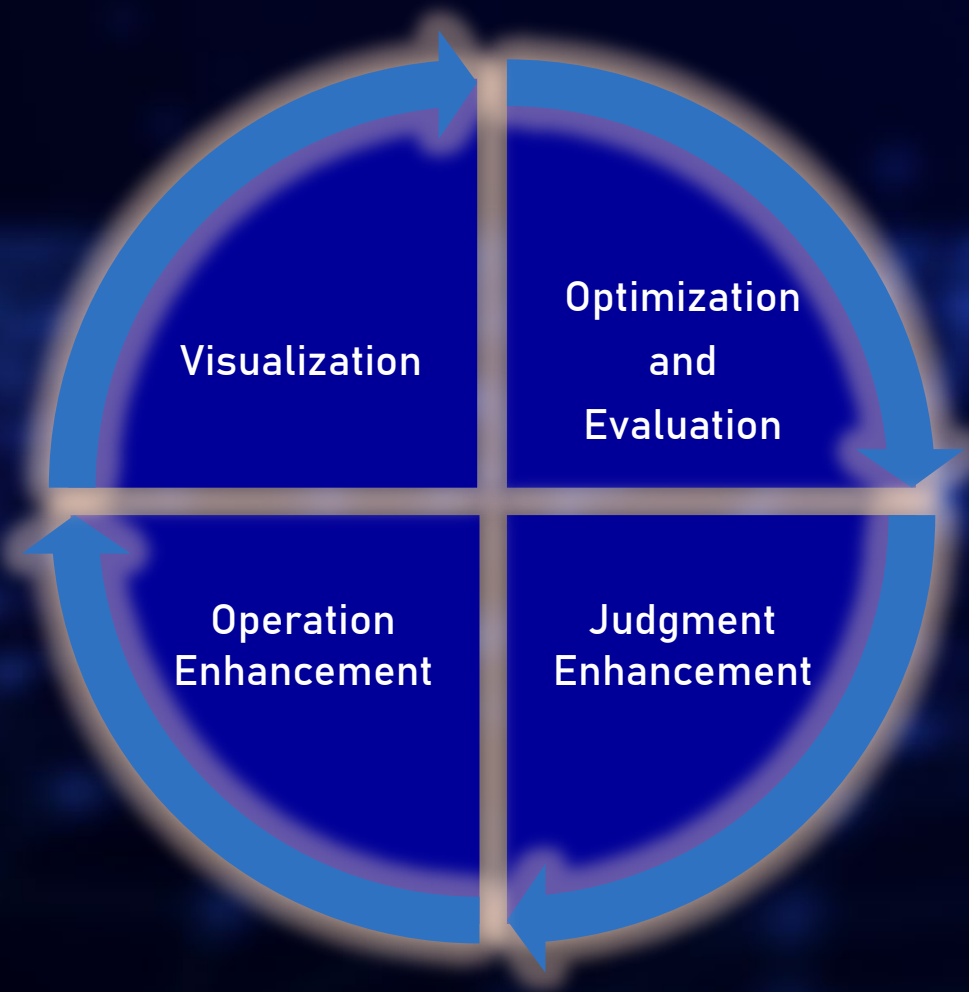
CHILLER PLANT DIGITAL TWIN





Improves Current Chiller Plant Performance

Chiller Plant Digital Twin improves your chiller plant performance without risks and costs



Visualization

Identify current usage status
with various Dash Boards

Optimization and Evaluation

Trial & Error in the cyber space
Energy optimization

Judgement Enhancement

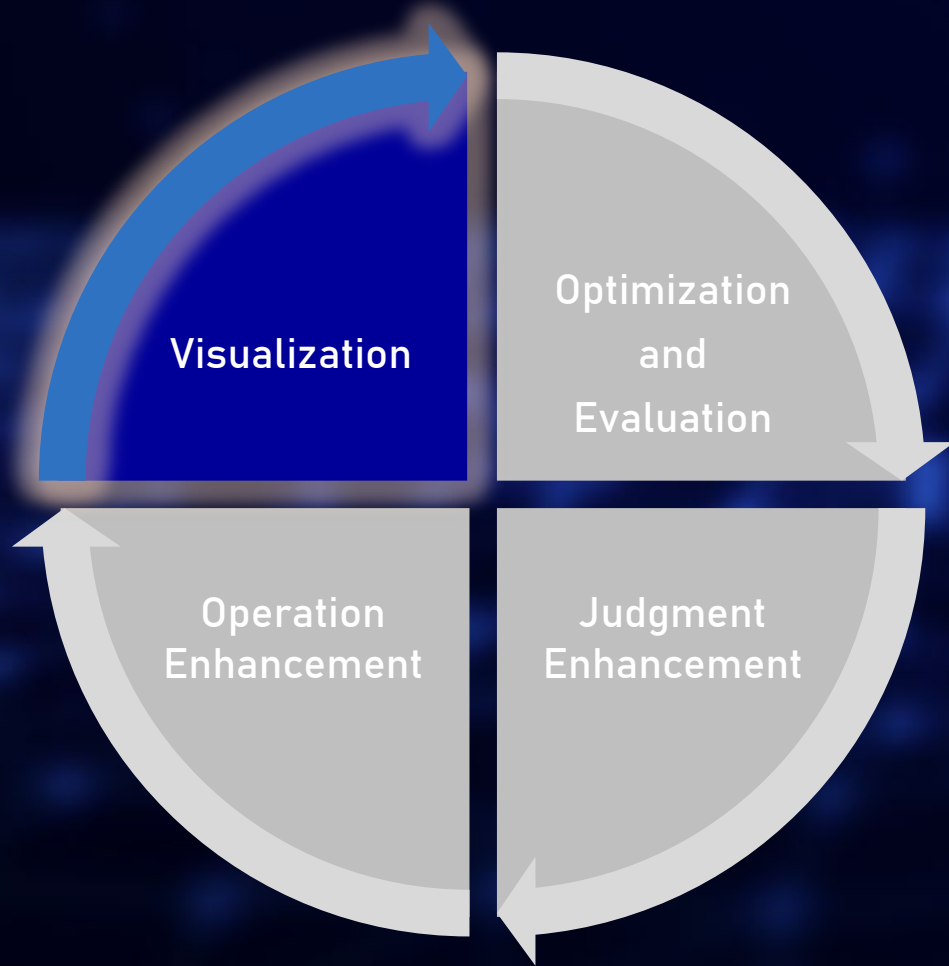
Operational fault detection
Comparison with ideal status

Operation Enhancement

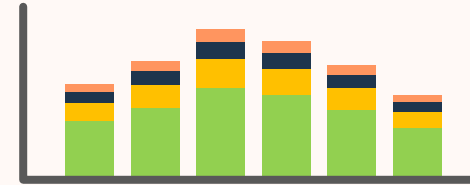
Actionable insights
Operational Advice

Visualization

Identify current usage status with various Dash Boards



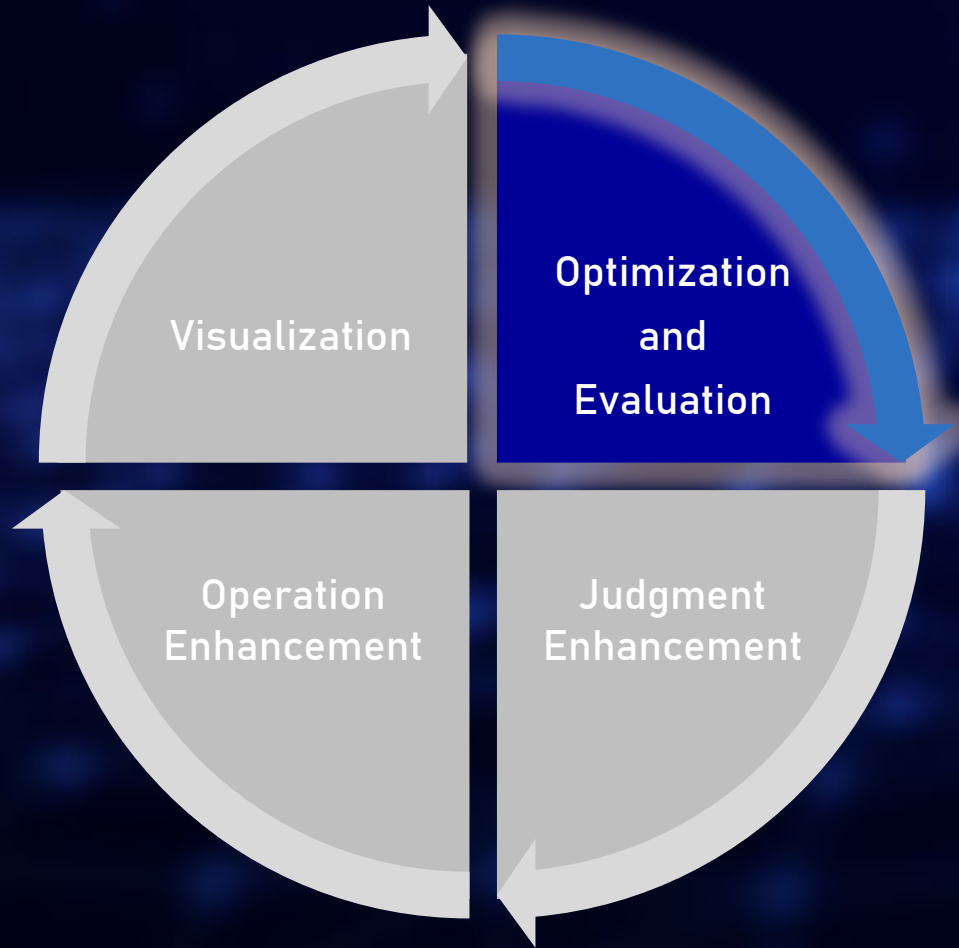
Estimated
Energy
Consumption



Simulated Result



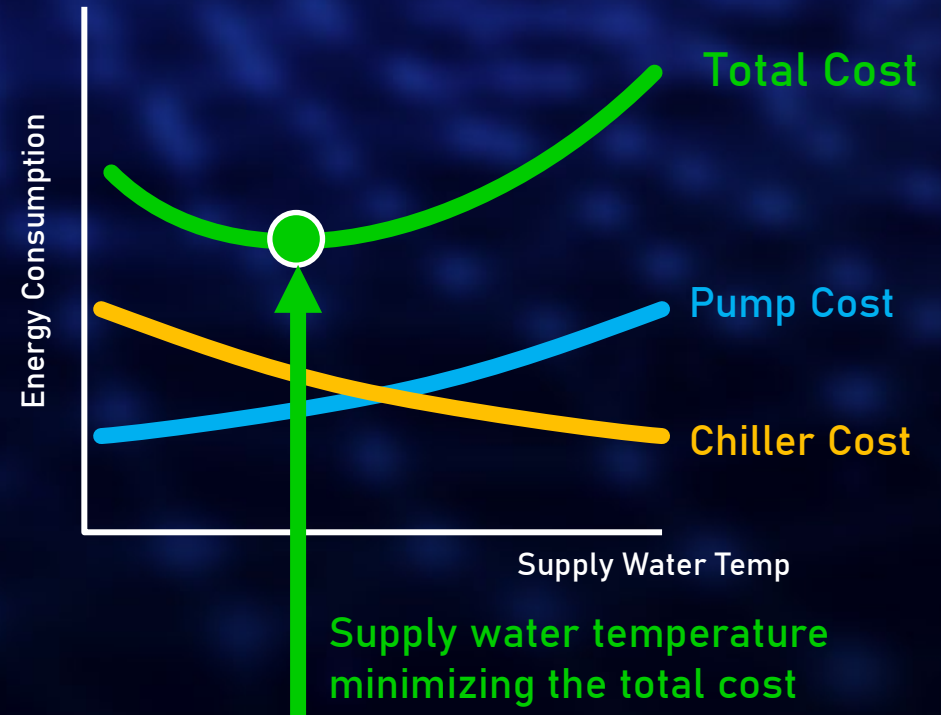
DIGITAL TWIN

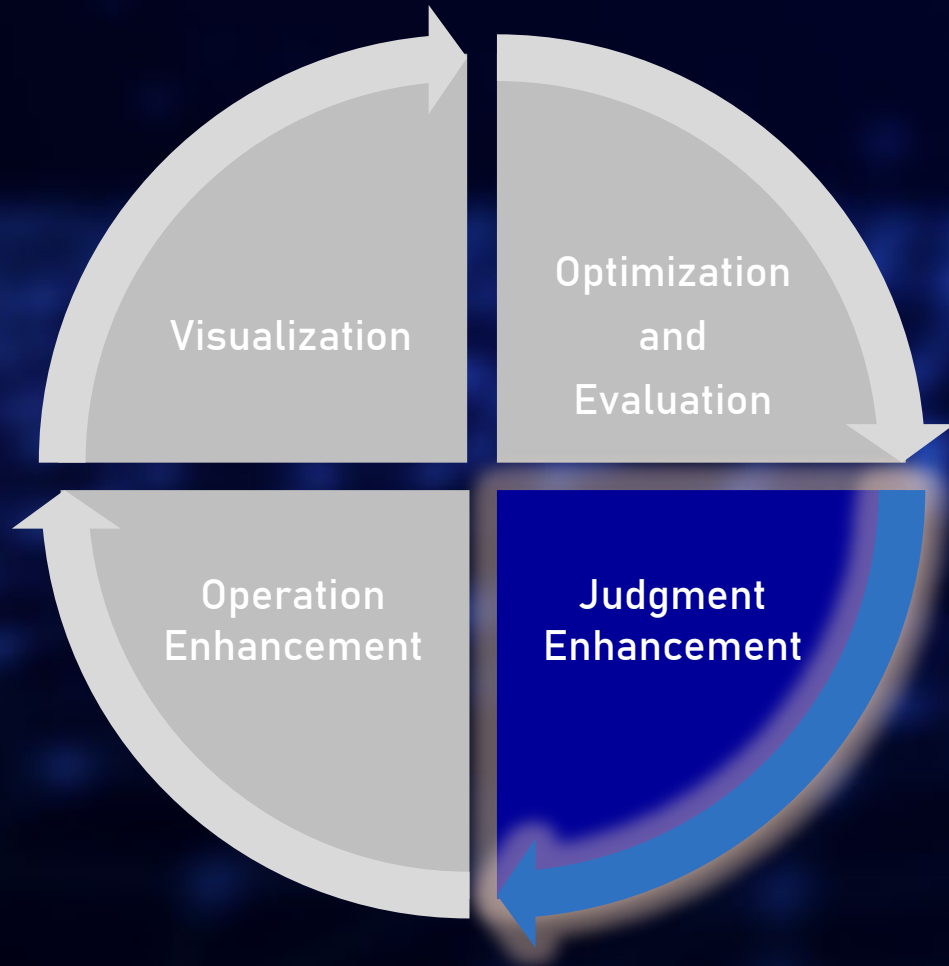


Optimization and Evaluation

Simulate energy consumption with no optimization measures in what-if scenarios

Compare with actual optimization result to show the effectiveness of optimization program



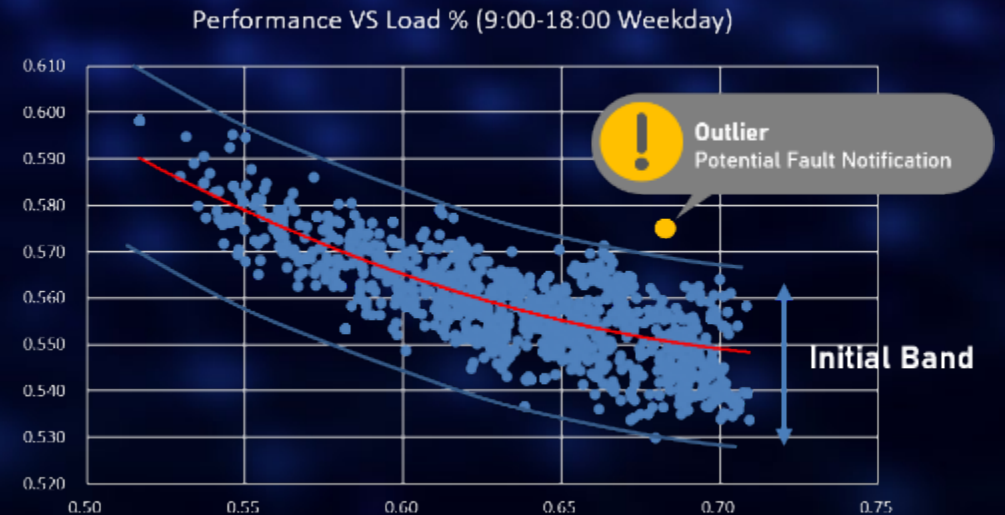


Judgement Enhancement

Operational fault detection + Root Cause Analysis
Comparison with ideal status

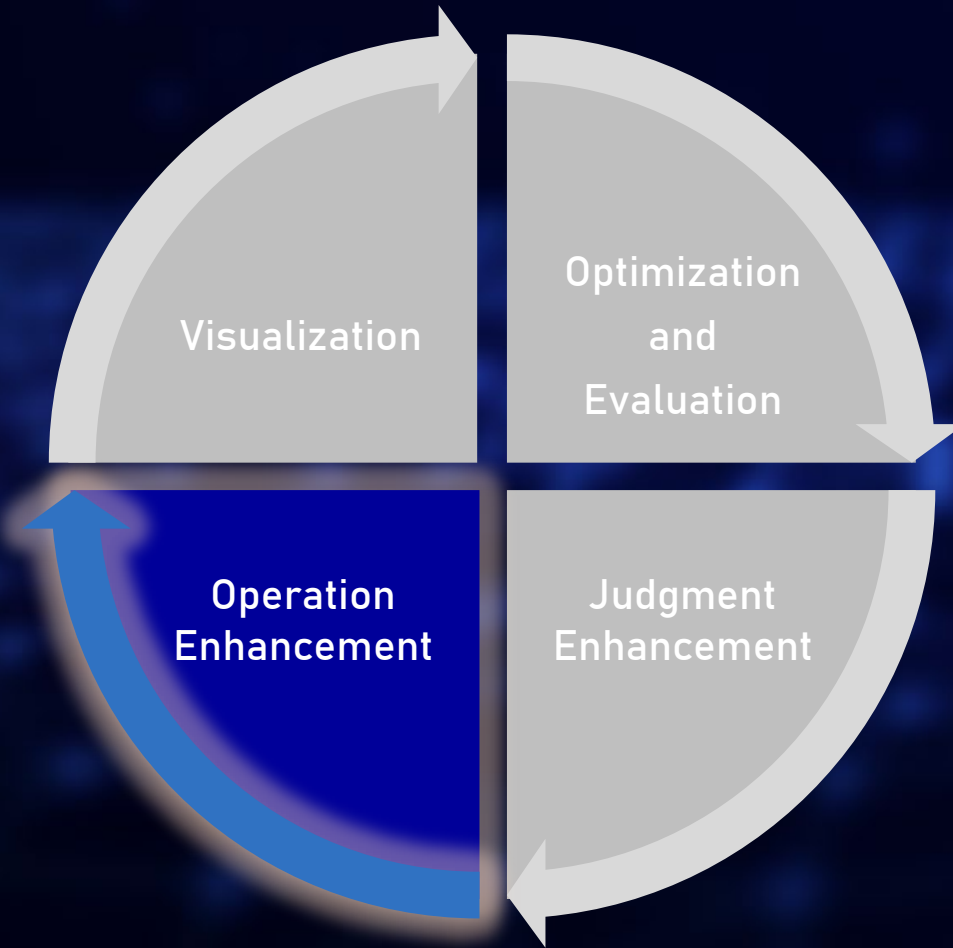
Provide steps to navigate operator for rectification
Show wastage amount if fault is not rectified

➔ Early Detection



Operation Enhancement

Built-in analytics automatically pick up
Recommended Enhancement measures



Recommendation

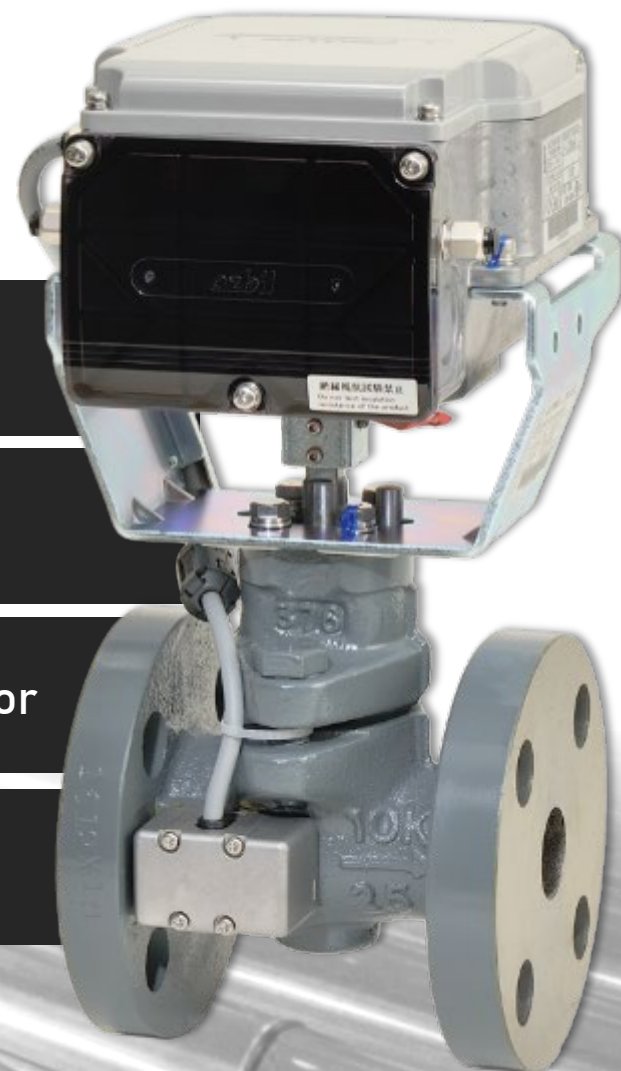
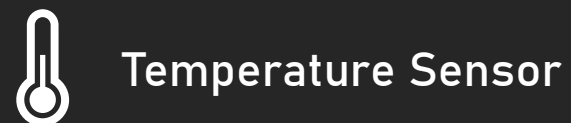
Guide operator to improve operations by
assessing actual equipment performance
Indicate saving amount of each measure

Deterioration Analysis

Compare original performance with current
performance to verify the deterioration rate
Notify operator to provide recommendation of
servicing equipment

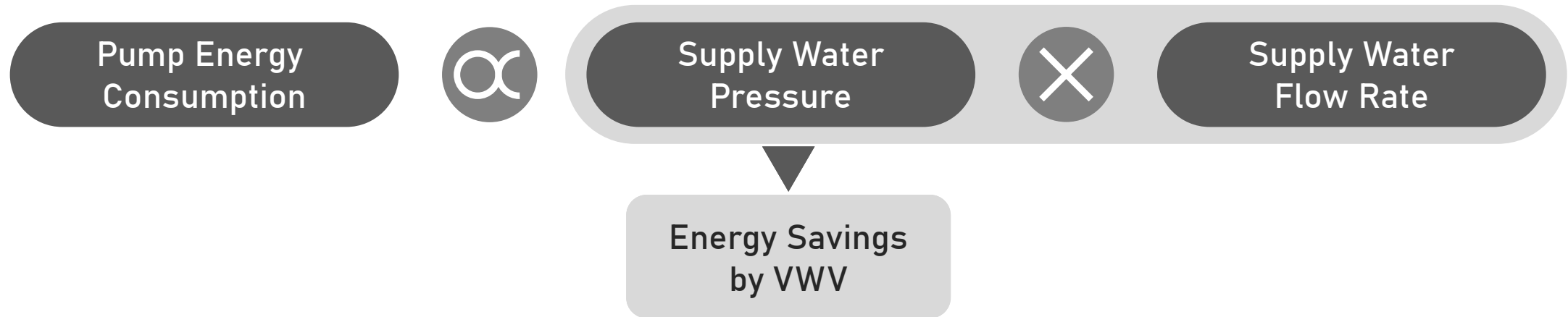
azbil

ACTIVAL+™



Water Side Optimization Control

VWV Control



Controls not only Flow, But Also Pressure

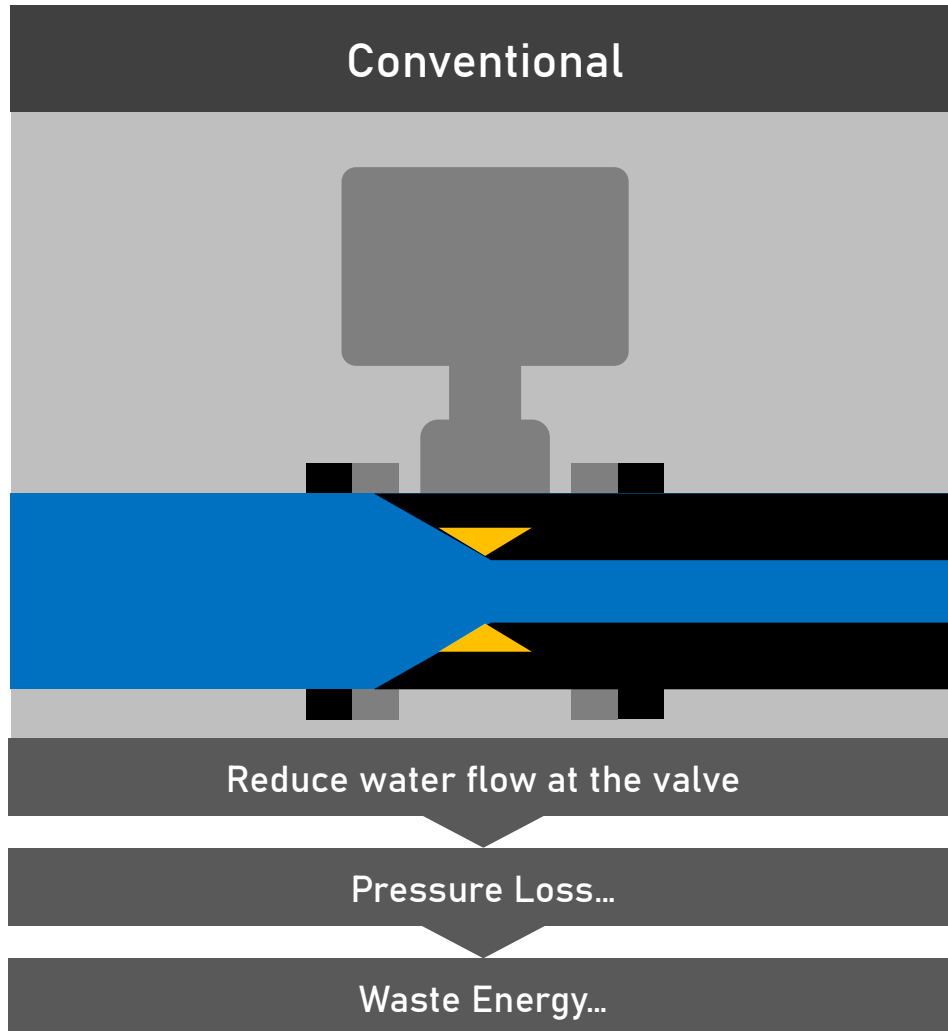
ACTIVAL+ with Optimization Program

Variable Water Volume Control

Dynamic ΔP of Chilled and Hot Water Pressure

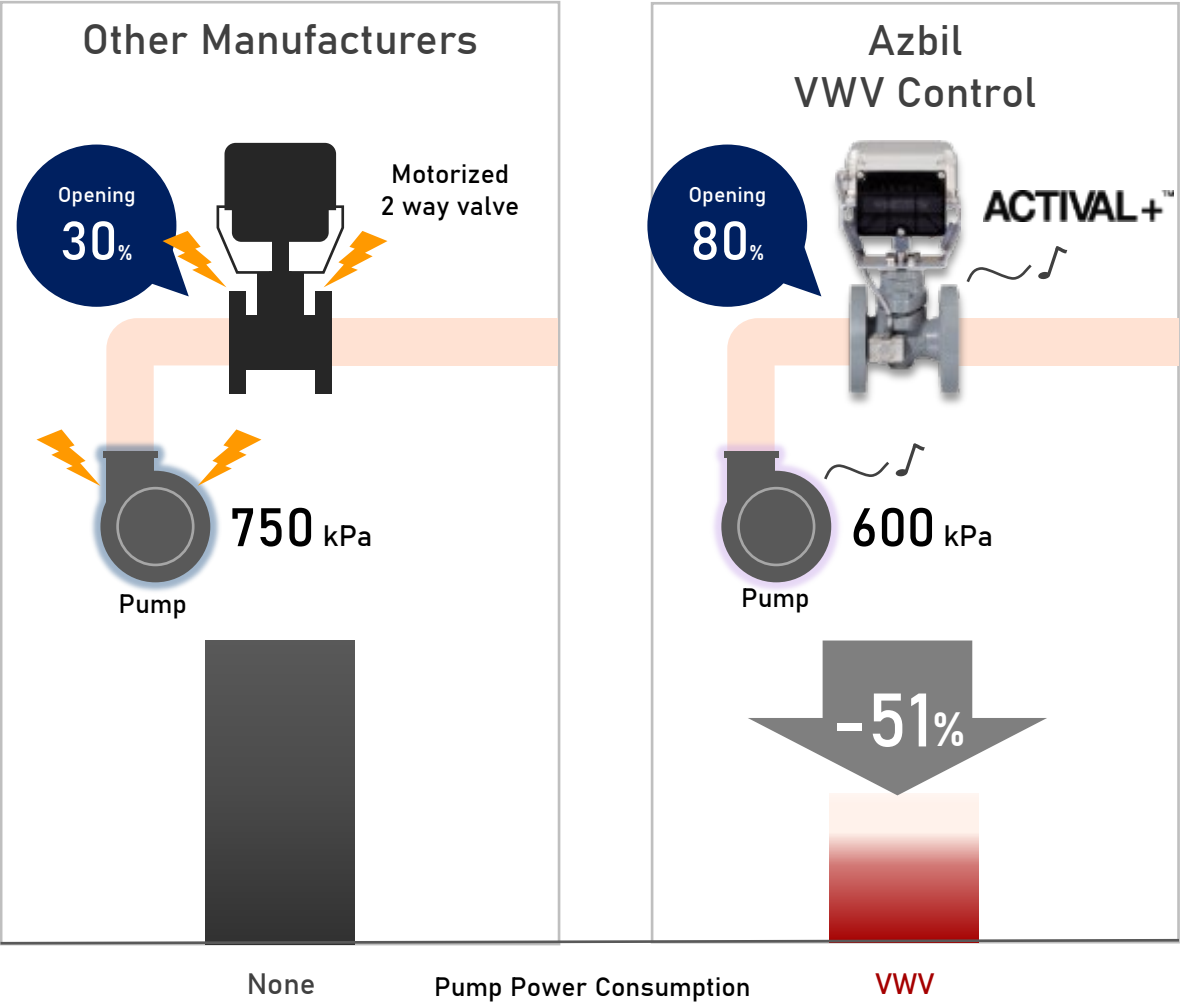
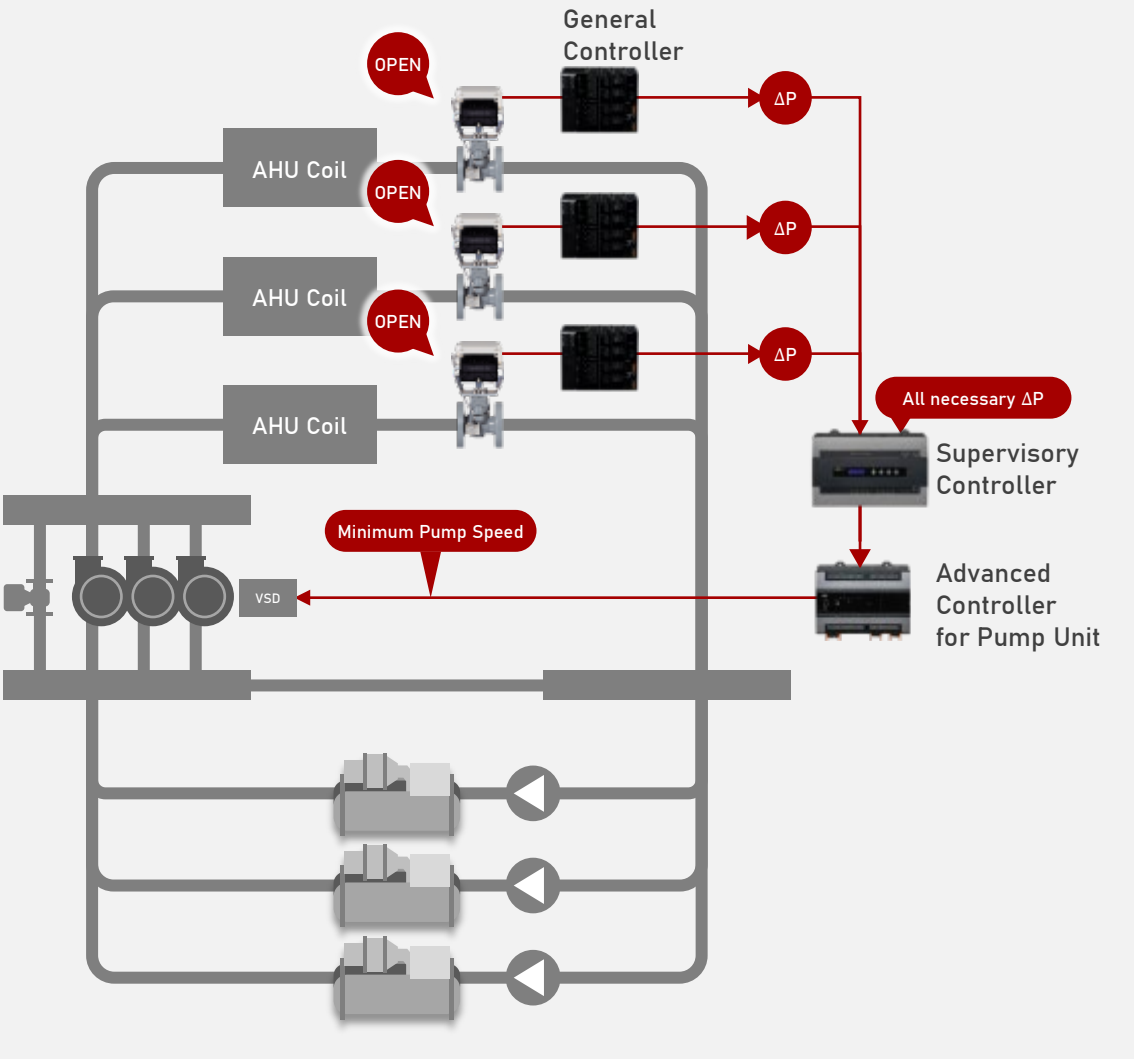
Water Side Optimization Control

VWV Control

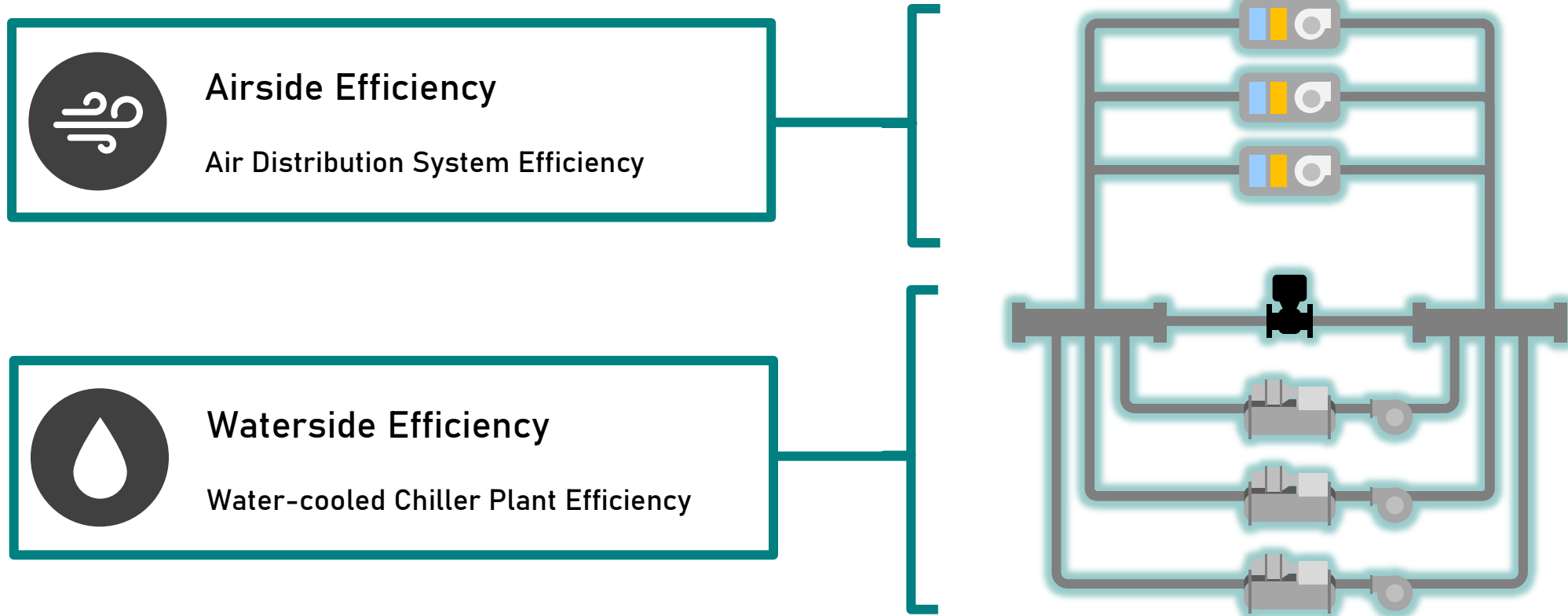


Water Side Optimization Control

VWV Control

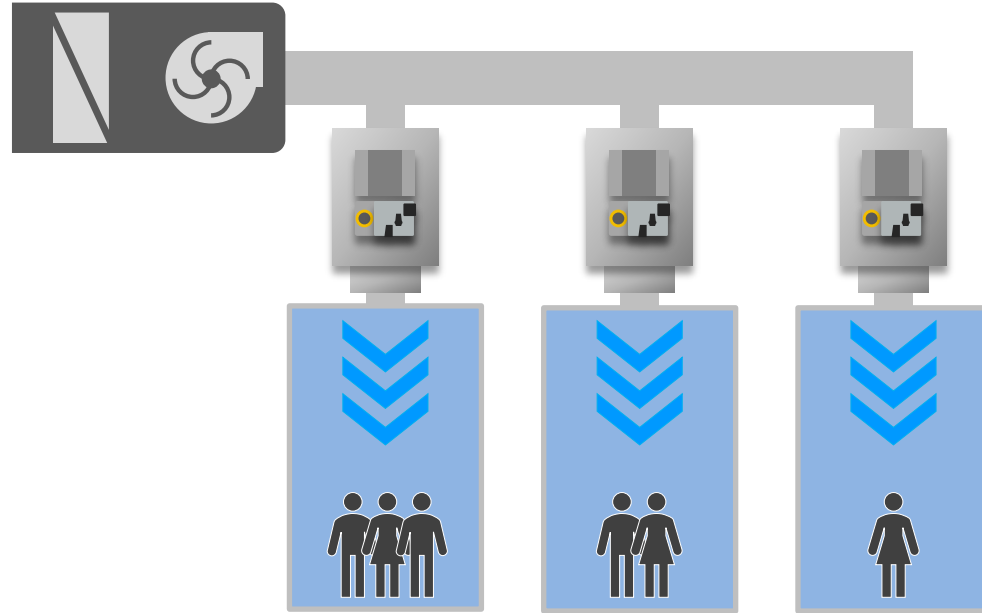


Azbil Solution for Building

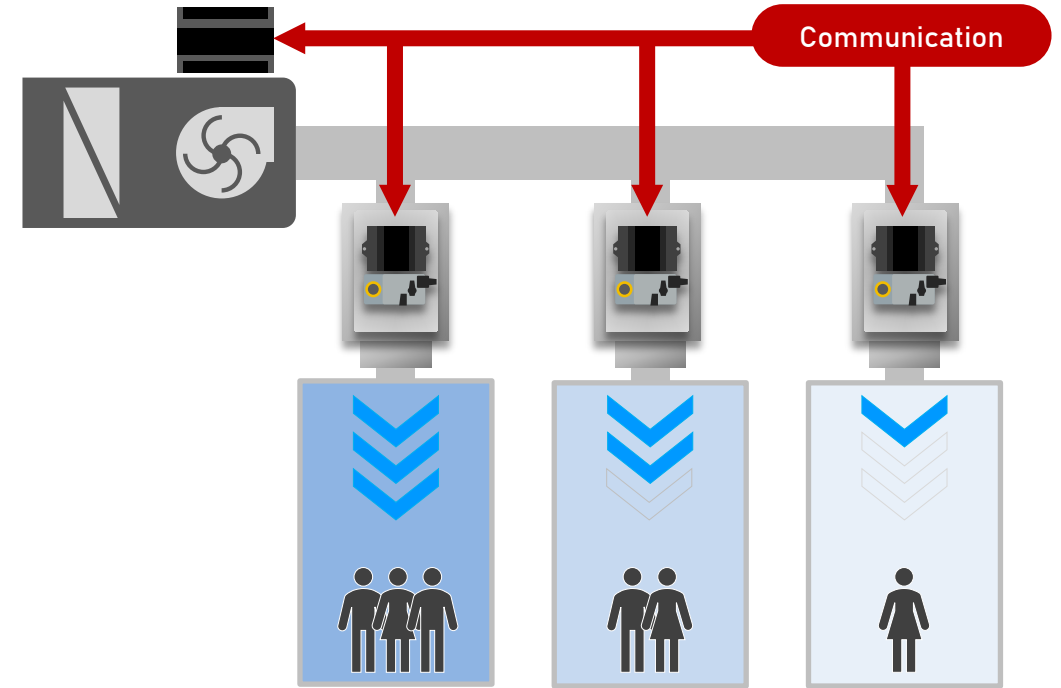


Always Considers
TOTAL AIR-CONDITIONING SYSTEM EFFICIENCY

Conventional VAV



Azbil VAV

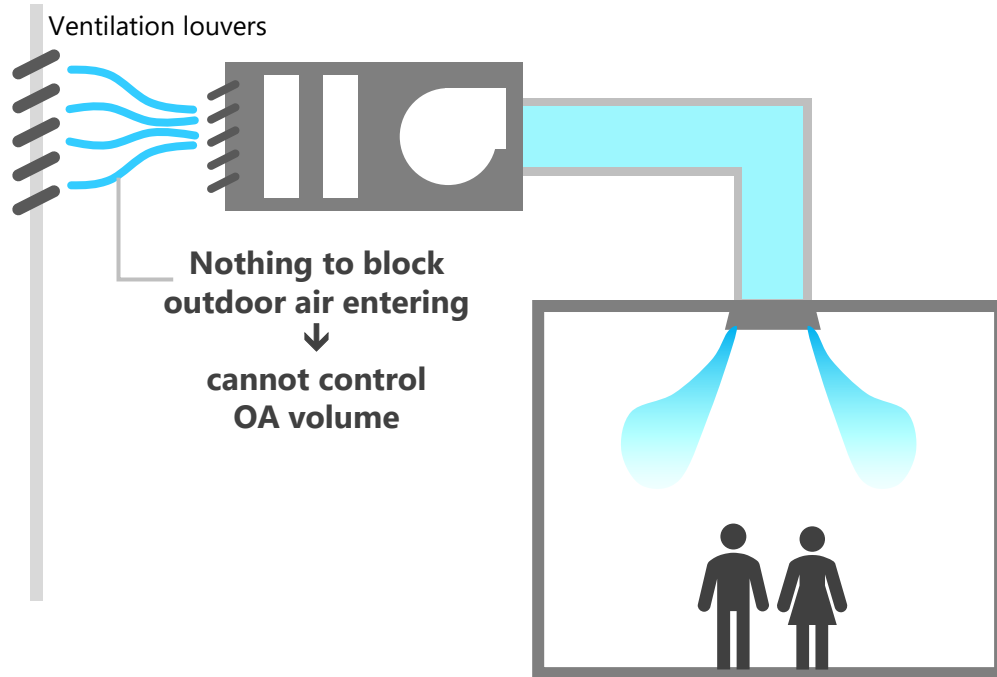


Comfort and Energy Savings for your workplace

Azbil's cutting-edge VAV Control provides maximum comfort for office users

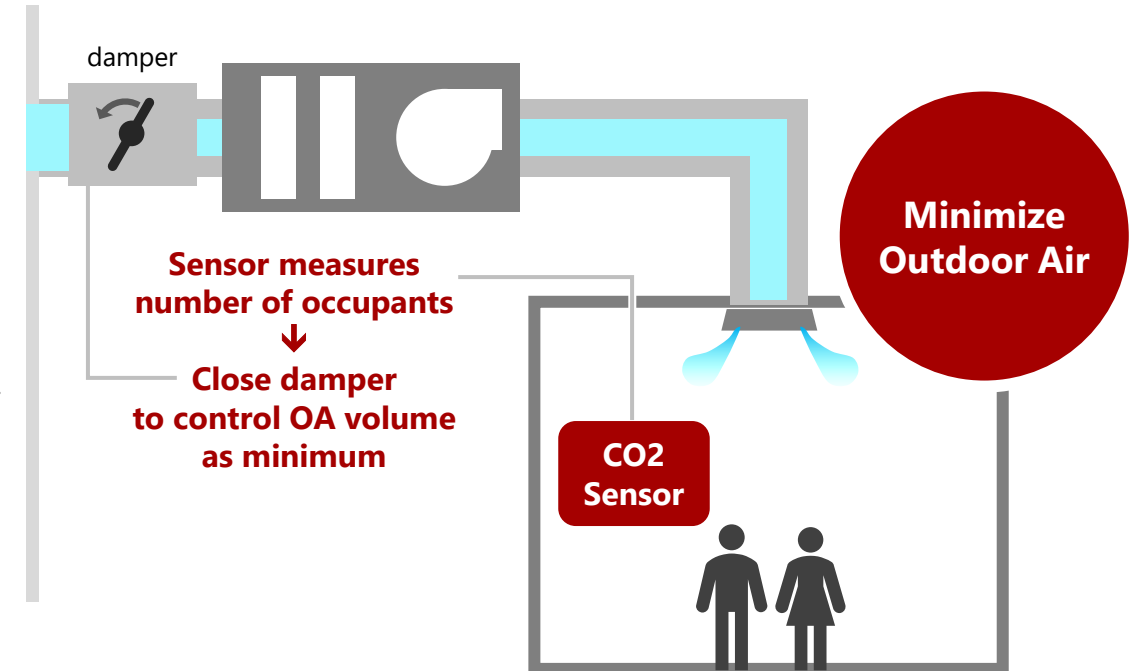
Air Side Optimization Control

Before



AHU **cannot** control OA volume
Losing opportunity for saving energy

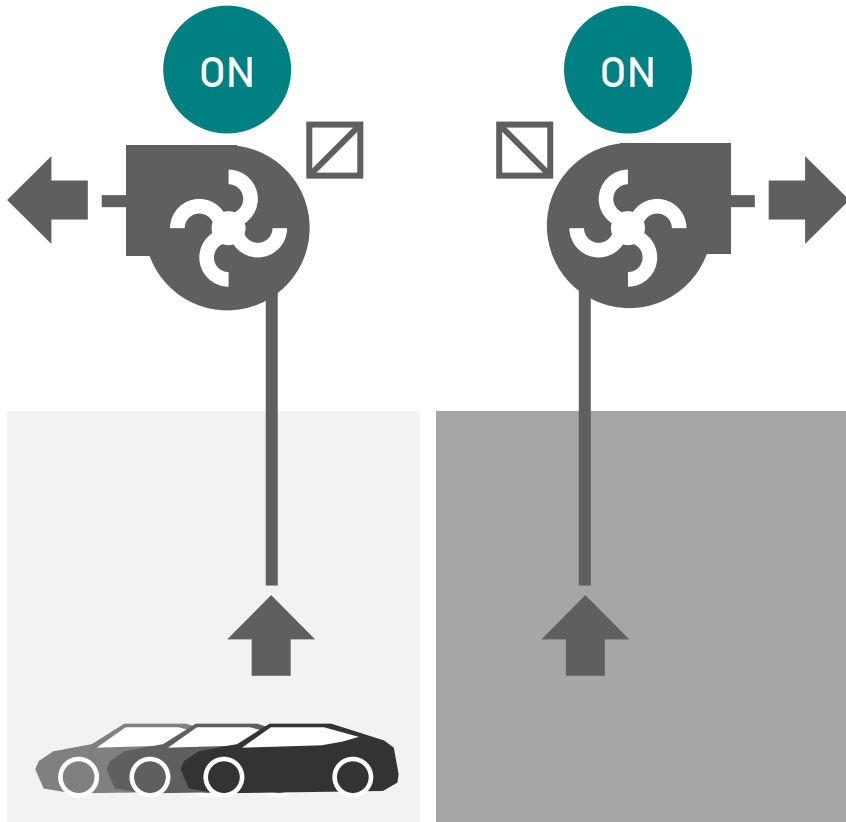
After



Minimizing OA volume results
reduced chilled water in use
Saving energy consumption

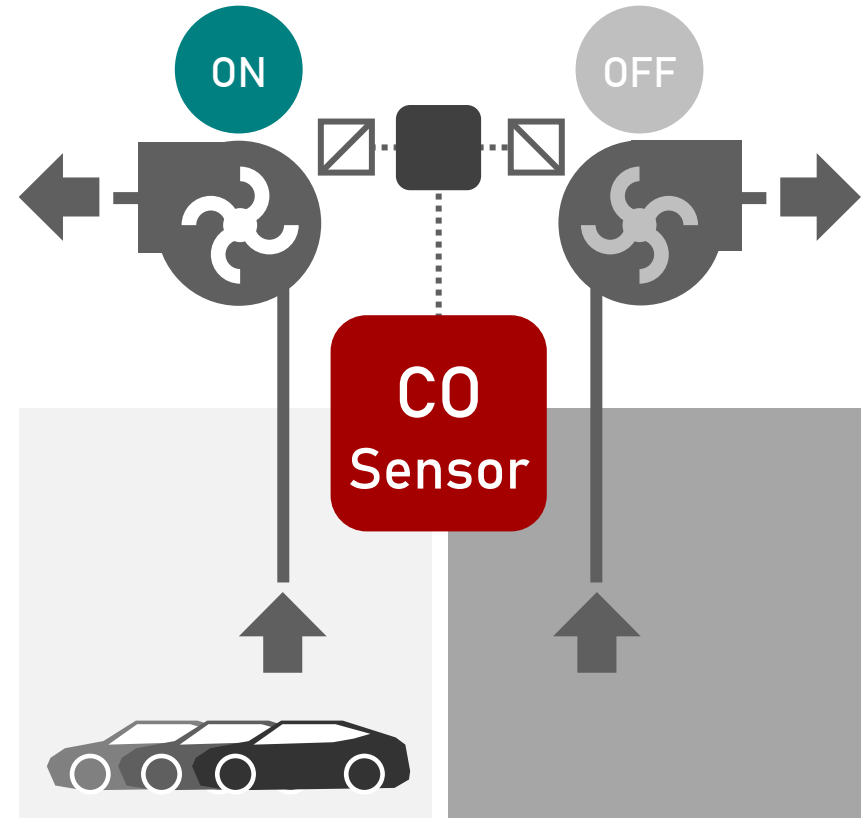
Air Side Optimization Control

Before

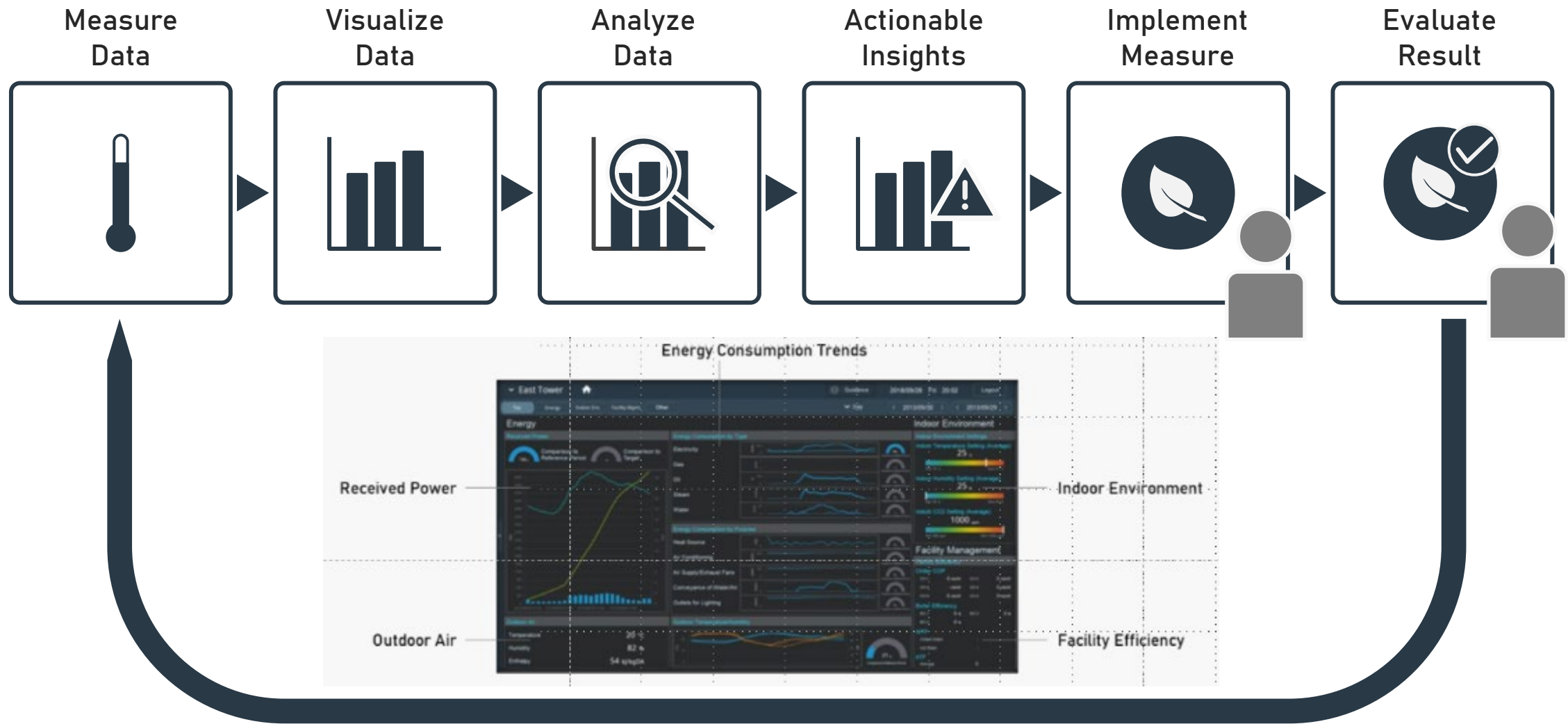


All ventilation fans run
All the time

After



CO Sensor detects cars
Ventilation controlled!



Cycle to Save Energy

BMS helps facility manager to take actions for energy saving

Summary

ZEB(Zero Energy Building) need Energy Saving

The logo for Azbil, featuring the word "azbil" in a white, lowercase, sans-serif font inside a large red circle.

Energy-Saving
Solution Provider

Optimize chiller plant operations using digital twin.

A horizontal progress bar with three segments: a short black segment on the left, a medium grey segment in the middle, and a long light beige segment on the right.

VWV control using Actival + makes a significant contribution to reducing chiller system energy consumption.

A horizontal progress bar with three segments: a short black segment on the left, a medium grey segment in the middle, and a long light beige segment on the right.

Proper use of the BMS is key to success the energy-saving cycle.

A horizontal progress bar with three segments: a short black segment on the left, a medium grey segment in the middle, and a long light beige segment on the right.

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THANK YOU

