

CHECKLIST:

IS YOUR COOLING INFRASTRUCTURE READY FOR AI-DRIVEN OPTIMIZATION?



IS YOUR COOLING INFRASTRUCTURE READY FOR AI-BASED OPTIMIZATION?

This checklist helps you systematically assess whether AI-driven optimization of your cooling infrastructure is technically feasible and economically viable.

The questions reflect what high-performing, future-ready data centers are already implementing today — and the requirements increasingly set by regulators, customers, and operators alike: from data availability and transparency to operational processes and controllability, as well as efficiency potential and scalability.



SECTION A – GENERAL OPERATING DATA

1. IT CONNECTION CAPACITY AT THE LOCATION

1. IT connection capacity at the location

- < 1 MW
- 2–5 MW
- 5–10 MW
- > 10 MW

2. POWER USAGE EFFECTIVENESS (PUE)

Please select the applicable category (average PUE)

- < 1,1
- 1,1 - 1,2
- 1,3 – 1,4
- 1,4 – 1,5
- > 1,5

3. WHO IS RESPONSIBLE FOR OPERATIONS?

Please select the applicable category.

- Own operation
- External service provider
- Tenant / Hyperscaler is responsible for operational management
- Other model (please specify):

SECTION A – GENERAL OPERATING DATA

4. TYPE OF COOLING SYSTEM (AIR-COOLED CHILLER, DX UNITS, ETC.)

(Multiple selections possible)

- Central refrigeration**
 - Air-cooled chillers
 - Hybrid chiller systems
 - Water-cooled chillers
- Free cooling**
- None**

(Multiple selections possible)

- 2. Room & rack cooling**
 - CRAC units
 - CRAH units
 - Direct expansion systems (DX units)
 - In-row cooling
 - Direct-liquid to chip cooling

SECTION B – DATA & SYSTEMS (REQUIREMENTS)

5. WHICH SYSTEMS ARE IN USE?

(Multiple selections possible)

- BMS (z. B. Siemens, Schneider, ABB) []
- DCIM []
- Energy meters & sensors []
- None of the above []

If BMS is used: Which system?

Please select or add

- Siemens Desigo CC []
- Schneider Electric EcoStruxure Building Operation (EBO) []
- ABB []
- Johnson Controls (Metasys) []
- Honeywell []
- Other BMS (please specify): []

6. STATUS OF BUILDING AUTOMATION

(Multiple selections possible)

- No building automation
(manual or local control)
- Building automation with read access
(monitoring without active control)
- Building automation with write access
(active, automated control possible)

7. AVAILABLE SENSOR TECHNOLOGY

(Multiple selections possible)

- Key temperatures
(e.g., flow/return, room and outside temperatures)
- System conditions
(e.g., on/off, speed, faults)
- Volume flows & thermal outputs
(e.g., heat and cooling quantities)
- Electrical power
(e.g., total consumption, system loads)

SECTION C – OPERATIONS & RESILIENCE

8. HOW ARE MALFUNCTIONS OR INEFFICIENT OPERATING CONDITIONS DETECTED?

Please select the statement that best describes your current approach.

- Proactive – before an error occurs
(e.g., through monitoring, early warning systems,
or predictive analytics)

- Reactive – as soon as an error occurs
e.g., through alarms in the BMS, abnormalities in operation, or complaints
- Delayed – after analyzing the effects
(e.g., through energy data evaluation, manual inspections, or follow-up)

9. HOW IS THE MAINTENANCE OF YOUR EQUIPMENT MAINLY ORGANIZED?

Please select the primary approach.

- Fixed maintenance cycles
(Regular, time-based maintenance regardless of the condition of the equipment)
- Data-based maintenance
(Maintenance requirements are determined by sensors, operating data, or AI analyses)
- Experience-based maintenance
(Situational, based on employee assessment or when problems are identified)

9A. WHO IS RESPONSIBLE FOR MAINTENANCE?

Please select the primary approach.

- In-house (own operating team)
- External service provider / maintenance partner
- Combined model (in-house + external partner)

10. WHAT CRITERIA DO YOU USE TO SELECT NEW COMPONENTS (E.G., CHILLERS, RECOOLERS, DRY COOLERS, PUMPS, HEAT EXCHANGERS)?

Please select the primary approach.

- Product library / Standard portfolio
(Selection from specified component catalogs)
- Data-based analysis & optimization potential
(Decisions based on operating data, efficiency comparisons, or simulations, e.g., using digital twins)
- Experience-based knowledge of specialist personnel
(manufacturer recommendations, empirical values, or personal preferences)

11. HOW ARE SETPOINTS DETERMINED IN PLANT OPERATION?

Please select the primary approach.

- Data-based
(Target values based on analyses or optimization procedures)
- Experience-based (trial and error)
(Manual adjustment during operation)
- System specification (optional)

SECTION D – REGULATION

12. WHICH STANDARDS OR LEGAL REQUIREMENTS ARE RELEVANT?

(Multiple selections possible)

- ISO 50001 – Energy management ▬
- Energy Efficiency Act (EnEfG) ▬

13. HOW ARE ENERGY AND SUSTAINABILITY INDICATORS REPORTED?

Please select the primary approach.

-
- Manually (e.g., Excel, E-Mail) ▬
 - Semi-automated
(exports from individual systems without an end-to-end process) ▬
 - Centralized & system-supported
(BMS, EMS, or data warehouse) ▬
 - Auditable & standardized
(BMS, EMS, or data warehouse) ▬



NEXT STEP: SEND US YOUR COMPLETED CHECKLIST

Email your completed questionnaire to our sales team and receive a concise AI Cooling Readiness Snapshot including.

- Your current readiness level
- Key efficiency gaps
- Realistic savings potential
- Clear next-step recommendations

→ Send your completed checklist to:
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