ACE: AI Cooling Efficiency

OctaiPipe's ACE Solution transforms data centres into more efficient, sustainable and competitive assets.

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REDUCE YOUR DATA CENTRE
COSTS AND EMISSIONS WITH
OCTAIPIPE'S ACE SOLUTION.

Scenario

Data Centres have become the beating heart of digital transformation. In recent years, the increase in data traffic, streaming, AI applications, and the Internet of Things have led to an exponential growth in the energy needs of data centres, which have reached the level of consumption of small cities.

In this context, cooling represents one of the most critical items: up to 40% of the total energy is used just to keep the servers at the right temperature. In Europe, new regulations (such as the EU Energy Efficiency Directive 2023/1791) require detailed reporting and increasingly stringent sustainability targets.

Companies are therefore faced with a crucial challenge: containing energy costs, ensuring optimal performance, and complying with ESG and regulatory requirements.

The Solution: OctaiPipe's AI Cooling Efficiency Solution (ACE)

Italtel has partnered with OctaiPipe to deliver its ACE solution to data centres world wide. OctaiPipe offers an AI and machine learning-based platform designed to reduce data centre energy consumption through intelligent optimization of cooling systems. The solution creates a true digital twin of the data centre, a virtual model that reproduces the energy and thermal behavior of the real infrastructure. Thanks to this approach, OctaiPipe's AI is able to:

- Monitor the operation of cooling systems in real time;
- Suggest (or automatically implement) continuous and targeted changes to set points;
- Reduce energy waste without ever compromising safety or operational performance

It's like having 24-hour digital energy consultant who works for you and constantly improves with experience.

Benefits for Data Centres

REDUCE ENERGY COSTS BY UP TO 30%.

TANGIBLE RESULTS WITHIN THE FIRST 90 DAYS.

COMPLIANCE WITH EUROPEAN REGULATIONS ON EFFICIENCY AND ESG.

IMPROVED ATTRACTIVENESS TO HYPERSCALER AND CORPORATE CUSTOMERS.

SEAMLESS INTEGRATION WITH EXISTING SYSTEMS (BMS, DCIM).

NO NEED FOR DEDICATED SENSORS

GRADUAL AND SAFE AUTOMATION, ALWAYS UNDER CONTROL.

How OctaiPipe's Data Centre Cooling Optimisation Solution works, and it's partnership with Italtel

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ANALYSE, MODEL AND
OPTIMISE YOUR DATA
CENTRE WITH AI

Italtel's partnership with OctaiPipe brings OctaiPipe's ACE solution to the heart of the data centre. It doesn't just monitor, it constantly learns from the actual behaviour of the infrastructure and is able to suggest or apply targeted adjusments that reduce energy waste without ever compromising operational performance.

6 Key Modules

01
Digital Twin

The system builds a digital twin of the Data Centre that reproduces consumption and thermal dynamics, allowing scenarios to be tested and interventions to be simulated without affecting actual operations.

CHALLENGE:
DEEPLY UNDERSTAND COOLING
DYNAMICS.

02
AI Optimizer

Thanks to machine learning, it analyzes parameters such as temperature, humidity, and air flow in real time, identifying more efficient combinations and translating them into savings opportunities invisible to the human eye.

CHALLENGE:
FIND THE OPTIMAL SETTINGS AMONG
THOUSANDS OF VARIABLES.

03
Advisor

The generated recommendations are presented in simple, explainable language, so practitioners understand why a certain intervention is recommended and what benefits it will bring.

CHALLENGE:
MAKING AI DECISIONS
UNDERSTANDABLE AND RELIABLE.

04
Guardian

Each proposed adjustment is verified against safety thresholds, SLAs, and operating conditions, ensuring that performance is never compromised.

CHALLENGE:
ENSURING BUSINESS CONTINUITY.

05
Progressive Automation

Low-risk adjustments can be implemented automatically, while more delicate ones remain under the supervision of engineers. A gradual approach that combines efficiency and trust.

CHALLENGE:
INTRODUCE AUTOMATION WITHOUT
LOSING CONTROL.

06
ESG Reporting

Thanks to machine learning, it analyzes parameters such as temperature, humidity, and air flow in real time, identifying more efficient combinations and translating them into savings opportunities invisible to the human eye.

CHALLENGE:
DEMONSTRATE PROGRESS TOWARDS
SUSTAINABILITY GOALS.

KPIs and Concrete Results from the first Italtel Deployment of the OctaiPipe ACE Solution

ENERGY EFFICIENCY

+10%

ACHIEVED IN A REGIONAL DATA CENTRE
IN ITALY (PALERMO)

SAVE ON COOLING COSTS

10-30%

DEPENDING ON THE LEVEL
OF AUTOMATION ADOPTED

RAPID ROI

5%

5% SAVINGS IN THE FIRST 3 MONTHS
OF THE PILOT

REAL-WORLD CASE STUDY

€250,000

A 2MW SITE IN ITALY GENERATES ESTIMATED ANNUAL
SAVINGS OF OVER €250,000 IN ENERGY COSTS ALONE.

Data Centres are choosing ACE by OctaiPipe

The solution has been adopted by Italian
and European co-locators, who have
achieved significant savings and improved
their competitive positioning, attracting
sustainability-conscious enterprise and
hyperscaler customers.

Request a demo