Hall 4A

Chillventa Specialist Forums 2024
Chillventa Fachforen 2024
CONNECTING EXPERTS.

Revolutionizing Defrosting: The Role of Artificial Intelligence in Modern Food Technology

Higeco

MONITORING ANYTIME ANYWHERE

Samuele Benfatti

Artificial Intelligence Engineer

aida@higeco.com

Hall 5 / Booth Number 208

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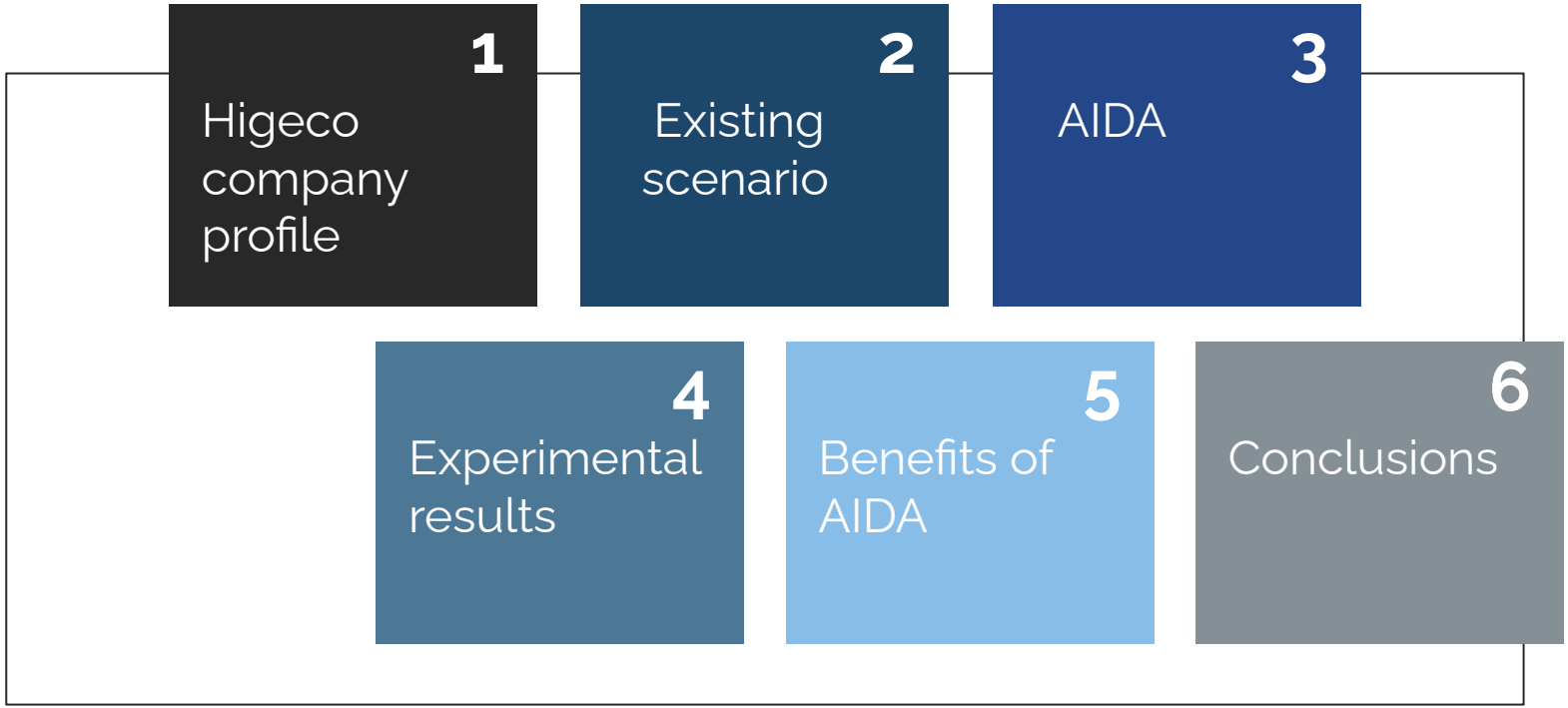
Agenda: Defrosting walk through with AI



1 Higeco company profile

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SIMPLIFY INNOVATE EXCEL

Higeco, founding member of the Higeco Group, is an Italian company with 16 years of experience in **industrial remote control and monitoring.**

www.higeco.com

MADE in ITALY

Higeco is the technological hub of the Higeco Group. We create hardware products and monitoring cloud-based software

9000+
Monitoring devies

100
White Label CLOUD portals

2008
Company establishment

2 Existing scenario

Limits of time-based defrosting
Challenges

SIMPLIFY

Ice buildup

- Reduced heat exchange
- Increased costs
- Needs to be periodically removed

Time-based defrost

- Inefficient energy usage
- Potential for excessive ice buildup
- Wear & Tear

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Technical challenges

Appliance variability

- Walk-in, cabinets, etc.
- External environment
- Noise interference

Lack of standardized controlling solution

- Wide plethora of controllers
- Cost of ad-hoc sensors
- Legacy devices

3 AIDA

Our solution: AIDA

AIDA: Artificial Intelligence Defrost Assistant

- Adaptive to changing conditions
- Continuous optimization
- Only requires cell and evaporator temperatures
- Patent pending

What is AIDA

AIDA runs on the edge through Higeco dataloggers

Steps:

- Data acquisition
- Filtering
- Prediction
- Feedback and Learning

4 Experimental results

Experimental results

Dataset available on every primary market vendors

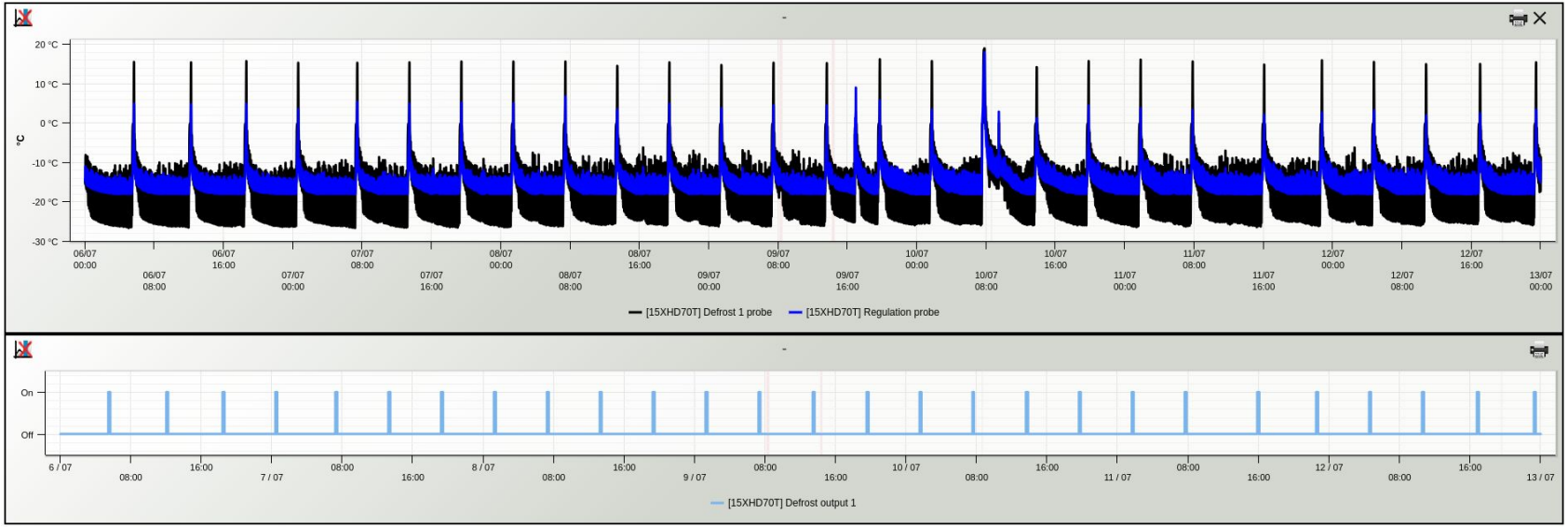
- Several appliance typologies tested
- AIDA dynamically adapts to environment
- 14% to 68% reduction in time spent defrosting
- Smoother operation

Before AIDA

EXCEL

Timescale: one week

— Evaporator temperature — Cell temperature — Defrost request



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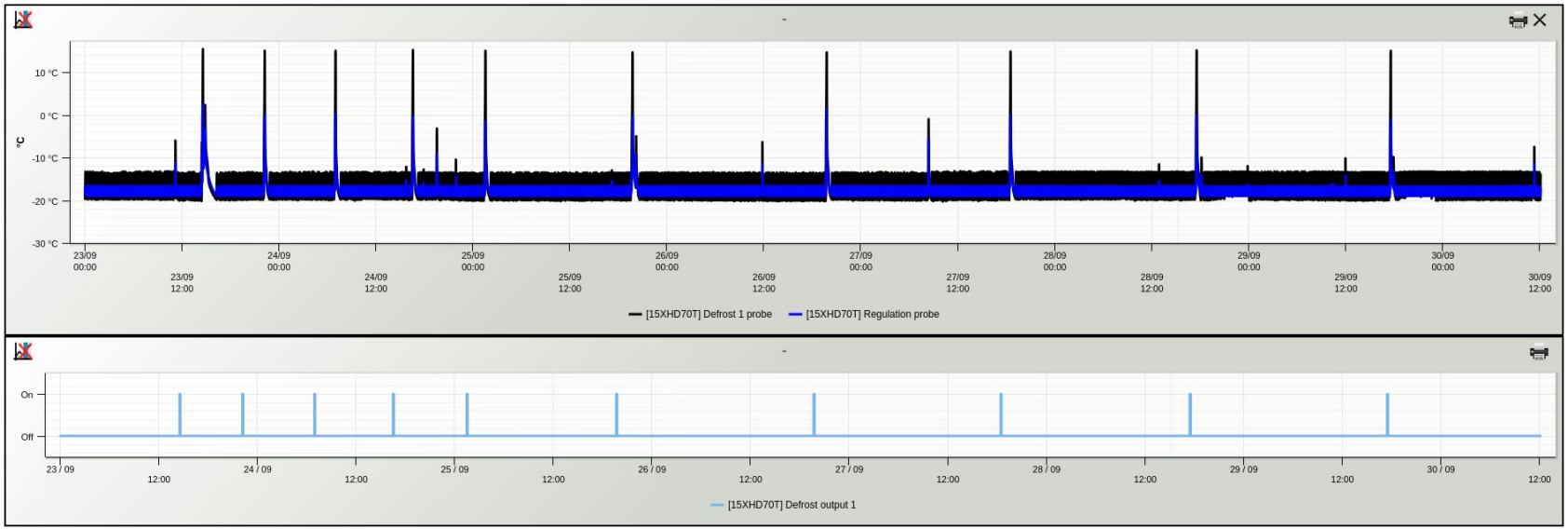
After AIDA

EXCEL

Timescale: one week

— Evaporator temperature — Cell temperature — Defrost request



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5 Benefits of AIDA

Bring it home!

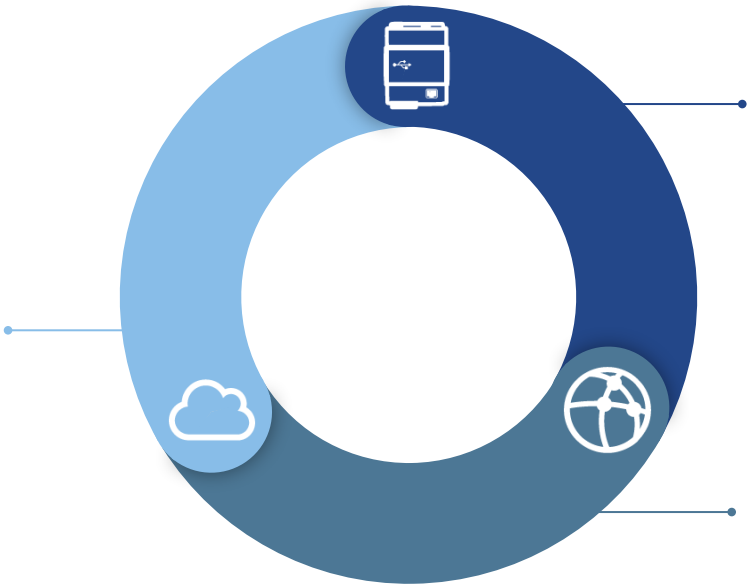
- Seamless retrofit
- Optimize cooling capacity
- Maintain food quality
- Reduce energy consumption
- Extend appliance lifespan

6 Conclusions

Higeco AIDA software

Cloud enabled

Custom dashboards, data collection, remote control, alarms, configurable reports



How to

It runs on proprietary hardware by Higeco

Save money

Driven by an AI algorithm to optimize defrosting and save money while improving food conservation

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