WELCOME

Seminar on Digitalization of Refrigeration and Heat Pump Systems

4 July 2024, Teknologisk Institut

Digital services and flexibility analysis

Operation monitoring

Predictive maintenance

Modelling and scalability

Overview of digital services and flexibility analysis

09.40 -10.00	Results from the IEA IoT Annex 56 project about digital services for IoT connected heat pumps Jonas Lundsted Poulsen, Danish Technological Institute (DTI)
10.00 - 10.20	Model predictive control and demand side flexibility through heat pumps Jan Bendtsen, Aalborg University (AAU)
10.20 - 10.40	Heat pumps providing flexibility services - the role of model-based tools Wiebke Meesenburg, DTU Construct

Coffee break

Operation monitoring

11.10 - 11.30	More than 10 years with own cloud monitoring system - before and now Stig Petersen, LS Control
11.30 - 11.50	A cloud-assisted framework for real-time monitoring of refrigeration and heat pump systems Johan hardt Løbner, Danish Technological Institute (DTI)
11.50 - 12.10	A digital twin for evaluating evaporation pressure fluctuations in supermarket refrigeration systems Andreas Schulte, TU Braunschweig

Lunch

Predictive maintenance

13.00 -13.20	Automatic fault detection and diagnosis in refrigeration systems, a data-driven approach Zahrasadat Soltani, Bitzer
13.20 - 13.40	Fault detection in ultra-low temperature freezers Francesco D'Ettorre, Danish Technological Institute (DTI)
13.40 - 14.00	Towards optimal predictive maintenance in large-scale heat pumps through digital twins José Joaquín Aguilera Prado, Danish Technological Institute (DTI)

Coffee break

Modelling and scalability

14.30 - 14.50	Fast heat pump simulation model deployable anywhere Emil Navntoft Pedersen, Danish Technological Institute, (DTI)
14.50 - 15.10	Versatile simulation models of heat pump and refrigeration systems with Dymola Pierre-Jean Delêtre, Danish Technological Institute (DTI)
15.10 - 15.30	Scaling digital services for heat pump systems Lasse Nyberg Thomsen, Numerous / Energy Machines
15.30	Seminar closing

Organization and acknowledgements

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