High-Temperature
Heat Pump Symposium
Copenhagen 21-22.1.2026

Organizers

DANISH TECHNOLOGICAL INSTITUTE

DTU

SINTEF

Partner

ehpa

Media Partner

CHPA
中国节能协会热泵专业委员会
China Heat Pump Alliance

EXHIBITORS

ALFA LAVAL
ago Ein Unternehmen der RheinEnergie
ANEO
Atlas Copco
CS TECHCOM ApS
fetu ROTICULATE
DANISH TECHNOLOGICAL INSTITUTE
SPH
Danfoss
Heatlift
EXERGY
Bitzer
Everllence
UPHEAT
enerin ENERGY ENGINEERING
Lübbers
PILLER Blowers & Compressors
WSE TURBO
clean energy ahead TURBODEN
SABROE
GEA Engineering for a better world.
EPCON EVAPORATION TECHNOLOGY
FUTRAHEAT
HEATEN
KARMAN
olvondo TECHNOLOGY
WE INNOVATE AIR
oilon
SynchroStor
VAHTERUS
TLK ENERGY

Program of the 5th HTHP Symposium

Wednesday, 21st of January, Overview

High-Temperature Heat Pump Symposium Copenhagen

Time	Auditorium 15 (582 seats)	Auditorium 10 (310 seats)	Auditorium 11 (310 seats)	Auditorium 12 (310 seats)	Foyer
08:30 – 09:30	**Registration & Coffee**				**Posters, Networking & Exhibition**
09:30 – 11:00	**Welcome & Keynotes** Session 1-1				
11:00 – 11:30	**Coffee Break**				
11:30 – 12:30	**Panel Discussion I** Session 1-2A	**Compressor developments** Session 1-2B	**Heat Exchanger Developments** Session 1-2C	**Advanced system developments** Session 1-2D	
12:30 – 13:40	**Lunch**				
13:40 – 15:00	**Poster Pitches** Session 1-3A	**Compressor developments** Session 1-3B	**Integration Concepts and applications** Session 1-3C	**From R&D to commercial products** Session 1-3D	
15:00 – 15:30	**Coffee Break**				
15:30 – 16:50	**Large-scale HTHP systems and applications** Session 1-4A	**Compressor developments** Session 1-4B	**Medium-scale HTHP systems & applications** Session 1-4C	**Smart integration and operation** Session 1-4D	
16:50 – 18:00	**Poster Session and Networking** Session 1-5A				
18:00 – 19:00	**Transport to Carlsberg Byen and Networking**				
19:30	**Dinner at Madklubben – Home of Carlsberg**				

Please note that the program is subject to change. Revision date: 21st of November 2025

Program of the 5th HTHP Symposium

Thursday, 22nd of January, Overview

High-Temperature Heat Pump Symposium Copenhagen

Time	Auditorium 15 (582 seats)	Auditorium 10 (310 seats)	Auditorium 11 (310 seats)	Auditorium 12 (310 seats)	Foyer
08:00 – 09:00	**Registration & Coffee**				**Posters, Networking & Exhibition**
09:00 – 10:20	**HTHPs for drying applications** Session 2-1A	**Steam generation and compression systems** Session 2-1B	**HTHP Projects – From concept to realization & operation** Session 2-1C	**Reversible & heat–driven systems** Session 2-1D	
10:20 – 10:50	**Coffee Break**				
10:50 – 12:10	**Large-scale systems and applications** Session 2-2A	**Steam generation and compression systems** Session 2-2B	**HTHP Projects – From concept to realization & operation** Session 2-2C	**Development and test of medium-scale systems** Session 2-2D	
12:10 – 13:15	**Lunch**				
13:15 – 14:15	**Panel Discussion II** Session 2-3A	**Steam generation and compression systems** Session 2-3B	**Development, test and application of CO_2 systems** Session 2-3C	**Development and test of medium-scale systems** Session 2-3D	
14:15 – 14:45	**Summing Up** Session 2-4A				
14:45 – 15:15	**Break**				
15:15 – 17:00	**Sector Collaboration Workshops**				
	Textiles Session 2-5A	**Chemicals** Session 2-5B	**Pulp & Paper** Session 2-5C	**t.b.d.** Session 2-5D	

Please note that the program is subject to change. Revision date: 21st of November 2025

Program of the 5th HTHP Symposium

Wednesday, 21st of January, 09:30 – 13:40

High-Temperature Heat Pump Symposium Copenhagen

Time	Auditorium 15 (582 seats)	Auditorium 10 (310 seats)	Auditorium 11 (310 seats)	Auditorium 12 (310 seats)
08:30 – 09:30	**Registration & Coffee**			
09:30 – 11:00	**Welcome Session** Session 1-1 | Session Chair: Benjamin Zühlsdorf (DTI) This session will discuss what's ahead with a focus on how to bring systems into application. Stakeholders with different views on the value chain will share their key takeaways and considerations for future activities. Presenters will be announced shortly.			
11:00 – 11:30	**Coffee Break**			
11:30 – 12:30	**What's driving the market?** Session 1-2A | Session Chair: t.b.d. This session will discuss the main drivers for the industrial heat pump market, and how the uptake can be accelerated even more. Various stakeholders from across the value chain will join to share their view on the topic. Participants will be announced shortly.	**Compressor developments** Session 1-2B | Session Chair: t.b.d. **Compressor Development for High Temperature Heat Pumps**, M. Sundström (SRM) **Oil-Flooded Screw Compressors in High-Temperature and Large-Scale Heat Pumps: Assessing Oil Heat Recovery and Efficiency Impact**, H. Trumpf (TU-Dresden), Y. Xu (TU-Dresden), K. Klotsche (TU-Dresden), C. Thomas (TU-Dresden) **Design principles for a hermetic oil free centrifugal compressor for high temperature heat pumps**, A. Uusitalo (LUT), T. Turunen-Saaresti1 (LUT), J. Narsakka (LUT), J. Nerg (LUT), N. Nevaranta (LUT)	**Heat Exchanger Developments** Session 1-2C | Session Chair: t.b.d. **Design of Heat-Exchangers for High-Temperature Heat Pumps**, J. V. Bael (VITO), S. Vermani (VITO), N. Anand (VITO), C. De Servi (VITO, Delft Uni) **High temperature Industrial heat pumps benefit from new plate heat exchanger technology**, R. Faber (Alfa Laval), T. Ångbäck (Alfa Laval) **Enhanced Heat Transfer Solutions for Efficient and Compact High Temperature Heat Pump Applications,** J. Dietl (Wieland-Werke), J. El Hajal (Wieland-Werke), T. Lang (Wieland-Werke)	**Advanced system developments** Session 1-2D | Session Chair: t.b.d. **Adapted diffusion bonded rotor design of the Rotation Heat Pump for very high temperatures up to 200°C**, E. Babaei (Ecop), A. Längauer (Ecop) **A novel Stirling engine implementation based on a fast liquid piston for ultra high-temperature heat pump applications**, A. Klochko (Airthium), C. Grimaldi (Airthium), G. Lavabre (Airthium), O. Atbir (Airthium), H. Houssein (Airthium) **Superheated Steam from Low-Temperature Waste Heat: A Brief Technical Overview of The Open Oscillatory Approach,** L. Thorgeirsson (Hydram), A. U. B. Ardal (Hydram), R. L. Rosenbæk (Hydram)
12:30 – 13:40	**Lunch**			

Please note that the program is subject to change. Revision date: 21st of November 2025

Program of the 5th HTHP Symposium

Wednesday, 21st of January, 12:30 – 16:50

High-Temperature Heat Pump Symposium Copenhagen

Time	Auditorium 15 (582 seats)	Auditorium 10 (310 seats)	Auditorium 11 (310 seats)	Auditorium 12 (310 seats)
12:30 – 13:40	**Lunch**			
13:40 – 15:00	**Poster pitches** Session 1-3A | Session Chair: t.b.d. This session comprises short pitches of each poster showcased in the poster area. It will thereby give you an effective overview of all posters and inspiration of what posters you might want to visit in the poster session.	**Compressor developments** Session 1-3B | Session Chair: t.b.d. **Maximizing the Potential of Industrial Heat Pumps: Efficient Solutions for Versatile Applications**, C. Beaussart (BITZER) **Compression Technologies for High-Temperature Heat Pumps: Design and Test Challenges**, G. Pisano (DORIN) **Complete Compressor Solutions for High-Temperature Applications and Sustainable Heating**, K. Nourrice (FRASCOLD) **High Temperature heat pumps with Butane in the industry**, T. Hamacher (SPHeat)	**Integration Concepts and applications** Session 1-3C | Session Chair: t.b.d. **Steam Cogeneration Heat Pumps for the Food, Dairy and Meat Industries**, T. G. Walmsley (Waikato Uni) et al. **Electrifying Breweries with Heat Pumps: From Integration Options to Investment Decisions**, R. Padullés (DTU), J. Walden (DTU),M. P. Andersen (DTI), J. K. Jensen (DTU) **Integration concepts for HTHPs in ammine-based carbon capture systems**, S. Pathiraja (DTI), F. D'Ettorre (DTI), A. Zink (DTI), B. Zühlsdorf (DTI) **Data-Driven Assessment of an R600 High-Temperature Heat Pump Integrated with Amine-Based Carbon Capture**, M. Bless (SINTEF), T. Mejdell (SINTEF), et al.	**From R&D to commercial products** Session 1-3D | Session Chair: t.b.d. **Examples of the technology path from prototypes and transfer projects to the market for industrial High-Temperature Heat Pumps**, E. Jende (DLR), P. Stathopoulos (DLR), S. Klöppel (DLR), V. Dalal (DLR), M. Kriese (DLR) **Experimental evaluation of direct steam generation in High-Temperature Heat Pump Test Bench with natural refrigerants**, S. Benkert (Fraunhofer), U. Wittstadt (Fraunhofer), et al. **Transition from the test bench to a commercial R600 High-Temperature Heat Pump**, S. K. Henninger (JCI), S. Benkert (Fraunhofer), U. Wittstadt (Fraunhofer), et al. **Experimental Investigation of Propane/Butane Mixtures for Heating Grids**, M. Wördemann (TU-Dresden), Y. Xu (TU-Dresden), C.Thomas (TU-Dresden), V. Venzik (Viessmann)
15:00 – 15:30	**Coffee Break**			
15:30 – 16:50	**Large-scale HTHP systems and applications** Session 1-4A | Session Chair: t.b.d. **Large-scale cascade heat pumps for steam generation – From concept into application**, Thomas Staude (Everllence) **From Wastewater to Steam: A Real-World Case of Engineering the First 170°C Heat Pump in the Pulp & Paper Sector**, D.Rizzi (Turboden), E. Pingaro (Turboden) **Large-scale heat pumps for steam generation to decarbonize industrial process heating (tbc.)**, M. Cameletti (Exergy) **Turning Industrial Waste Heat into Value – Enabling Carbon-Free Steam with CompriVAP-MVR Technology**, J. Grassauer (GIG Karasek), M. Schmid (GIG Karasek)	**Compressor developments** Session 1-4B | Session Chair: t.b.d. **Greensteam, steam-generating high temperature heat pump development with TurboClaw®-compressor technology**, T. Taylor (Futraheat), R. Cattell (Futraheat) **Near-Isothermal compressors for High-Temperature Heat Pump applications**, A. W. Anderson (HotGreen), G. Ware (HotGreen) **Measured High Performance of Novel Rolling Piston Compressor for High Temperature Heat Pumps (HTHPs)**, I. S. Akmandor (Pars Makina), R. Christodoulaki (CRES), et al. **A Novel Compressor Design Enabling Enhanced Temperature Lift and Efficiency in Single-Stage High-Temperature Heat Pump**, J. Fenton (FeTu), J. Subert (FeTu), A. Pearson (Star Ref)	**Medium-scale HTHP systems and applications** Session 1-4C | Session Chair: t.b.d. **Breaking the 100°C Barrier: Advanced Ammonia Heat Pump System for High-Temperature Industrial Applications** , V. Shah (Copeland) **Piston-Based High-Temperature Heat Pump Technology for Industrial Decarbonization**, A. Bechem (HEATEN) **Ammonia-water heat pumps with solution cycle – perfect for applications with high temperature spreads**, K. Ramming (AGO), M. Zengerle (AGO) **Decarbonizing Industrial Spray Drying with High-Temperature Heat Pumps: Insights from the GEA AddCool® Demonstrator**, R. Bergamini (GEA), D. Martinez-Maradiaga (GEA)	**Smart integration and operation** Session 1-4D | Session Chair: t.b.d. **Benchmarking HTHPs and electric boilers with thermal energy storage: The impact of electricity price dynamics**, W. B. Markussen (DTI), M. H. Christensen (DTI), B. Zühlsdorf (DTI) **From Concept to Practice: Web-Based Tools and Dynamic Simulation for Industrial High-Temperature Heat Pumps**, M. Gräber (TLK), F. Lanzerath (TLK), M. Schmidberger (TLK), et al. **Dispatch optimization of a high-temperature heat pump in a Direct Air Capture process**, R. Sager (RWTH), N. H. Petersen (RWTH), M. Wirsum (RWTH) **Economic Optimization of Industrial Heat Electrification: Integrating Heat Pumps and Phase Change Thermal Storage for Steam Generation**, F. D'Ettorre (DTI), D. R. Nørhave (DTI), W. B. Markussen (DTI), et al.

Please note that the program is subject to change. Revision date: 21st of November 2025

Program of the 5th HTHP Symposium

Thursday, 22nd of January, 09:00 – 13:15

High-Temperature Heat Pump Symposium Copenhagen

Time	Auditorium 15 (582 seats)	Auditorium 10 (310 seats)	Auditorium 11 (310 seats)	Auditorium 12 (310 seats)
09:00 – 10:20	**HTHPs for drying applications** Session 2-1A | Session Chair: t.b.d.	**Steam generation and compression systems** Session 2-1B | Session Chair: t.b.d.	**HTHP Projects – From concept to realization & operation** Session 2-1C | Session Chair: t.b.d.	**Development and test of medium-scale systems** Session 2-1D | Session Chair: t.b.d.
	Optimization of drying processes for integration of heat pumps, M. P. Andersen (DTI), C. Tammone (DTI), H. Madsbøll (DTI), J. L. Poulsen (DTI), B. Zühlsdorf (DTI)	**Steam compressors or Closed-Cycle High Temperature Heat Pump (HTHP)? – Efficiency and Market-Ready Solutions in Comparison**, C. Arpagaus (OST), F. Bless (OST), L. P.M. Brendel (OST), et al.	**From Potential to Performance: Integrating High-Temperature Heat Pumps into Complex Process Industries** , A. Arya (PMI), M. Tukker (JOA)	**Development of modular hydrocarbon-steam high-temperature heat pumps with different compressor technologies (MIGHT-HP)**, P. J. E. Delêtre (DTI), J. Kristófersson (DTI)
	Energy-Efficient Fishmeal Drying Using High-Temperature Heat Pumps and Superheated Steam, O. Flesland (Pelagia), A. Høeg (Enerin), A. Brækken (SINTEF), P. Verma (Swedish Exergy)	**Evaluating Steam-Generating Heat Pumps for Industrial Waste Heat Recovery: Overcoming Technical and Economic barriers in a Chemical Case Study**, N. Pouransari (Syngenta), et al.	**Advancing High-Temperature Heat Pumps in the industrial sector: Challenges, Innovations, and Implementation Pathways**, Tom Marren (Astatine)	**A Natural-Refrigerant Heat Pump Prototype for Steam Generation above 150°C**, M. Ramirez (TNO), G. O. Rodriguez (TNO), R. de Smidt (TNO), U. Timurçin (TNO), S. Spoelstra (TNO)
	From Bricks to Boards: Full-Scale Superheated Steam Dryers with High-Temperature Heat Pumps Commissioned in 2025, C. Nijssen (CEE)	**From Waste Heat to Steam: A Case Study on a Process-Integrated MVR Steam Generating Heat Pump in the Chemical Sector**, O. P. Ruiz (Piller), J. Lim (Piller), J. Choong (Piller)	**From Concept to Installed Reality: Process Integration and Delivery Lessons for Industrial Heat Pumps**, A. Karnik (Ramboll)	**Solution examples for cooling and process heating in industrial applications**, Ivan Rangelov (Danfoss)
	Scalable and Modular Heat-Pump Drying Systems for Industrial Electrification, M. R. Bøgild (Circular Energy), J. Bendsen (Circular Energy), C. Bay (Circular Energy)	**Steam Generating Heat-Pumps complemented by Steam Compressors in the paper industry**, E. Touliankine (Heatlift), O. P. Ruiz (Piller), et al.	**On the impact of fluid property data on safety equipment and performance estimates for high temperature heat pumps**, J. Wronski (Clean Heat), K. Fredslund (Clean Heat)	**Advancing Air-Sourced High-Temperature Heat Pumps for Industrial Steam Decarbonization**, A. Odukomaiya (AtmosZero), N. Roberts (AtmosZero), W. Arthur-Arhin (AtmosZero), et al.
10:20 – 10:50	**Coffee Break**			
10:50 – 12:10	**Large-scale systems and applications** Session 2-2A | Session Chair: t.b.d.	**Steam generation and compression systems** Session 2-2B | Session Chair: t.b.d.	**HTHP Projects – From concept to realization & operation** Session 2-2C | Session Chair: t.b.d.	**Development and test of medium-scale systems** Session 2-2D | Session Chair: t.b.d.
	Traveling in time with Atlas Copco: Design and operational insights from 40 years in large heat pumps, R. Rubycz (Atlas Copco), H. Behnoud (Atlas Copco)	**AHEAD - Pioneering CO_2-Free Steam Without Gas Challenges and Experiences in Producing Chilled Water (6°C), Heating Water (70°C), and Steam (184°C) with Natural Refrigerants**, H. Erös (Takeda), D. Hofbauer (Takeda), et al.	**Development and Integration of Steam Producing High-temperature Heat Pump in the Sugar Industry**, J. L. Poulsen (DTI), E. N. Pedersen (DTI), O. Fredrich (GEA), B. Aerts (Tiense)	**Experimental Study on Optimizing Energy Efficiency in a Steam-Producing Heat Pump System with Waste Heat Recovery**, M. Enge (TU-Dresden), T. Werner Moesch (Combitherm), K. Klotsche (TU-Dresden), C. Thomas (TU-Dresden)
	Testing the world's largest CO_2-based seawater heat pump, Z. Antonini (Everllence)	**Waste heat upcycling from superheated steam dryer by high-efficient HTHP with cycle fluid steam R718**, B. Feuerriegel (Lübbers)	**SPIRIT demo case I: Full-scale on-site demonstration of a cascade industrial heat pump producing steam at 145 °C**, G. O. Rodriguez (TNO), W. de Vries (TNO), M. Ramirez (TNO), et al.	**Steam generation with heat upgrade technologies - Laboratory tests and demonstration in the industry**, L. Alonso (TECNALIA), M. G. de Arteche (TECNALIA), et al.
	HTHP at Berlin City Center: Detailed Test Results and Experiences from Real-World Operation, G. Balyaligil (KTH, Siemens), S. Sawalha (KTH), J. Schafer (Siemens), K. Moritz (Siemens), et al.	**R718 heat pump for efficient supply of 4.4 MW steam: Insight and first-hand experience**, M. Bantle (Aneo), C. Schlemminger (Aneo), K. Evenmo (Epcon), C. I. Gotaas (Epcon)		**High-Temperature Butane Heat Pump for the R&D project EcoHeat Revolution**, S. Beltman (Dutek)
	Thermodynamic analysis of high-temperature heat pumps and their integration into geothermal energy systems, J. Jeßberger (Uni of Bayreuth), F. Heberle (Uni of Bayreuth), D. Brüggemann (Uni of Bayreuth)	**Steam Generating Heat Pump at Pharmaceutical Plant** , A. Høeg (Enerin), K. Løver (Enerin), I. Fløystøl (GE Healthcare)	**Flexible heat sources while generating process steam above 150 °C – results from the "De-carbonization of European Dairy industry" project**, K. Högnabba (Åbo Uni), T.M. Tveit (Åbo Uni, Olvondo), et al.	**Development and testing of cascade HTHPs with hydrocarbons**, N. Ahlbrink (DTI), J. L. Poulsen (DTI), B. Zühlsdorf (DTI)
12:10 – 13:15	**Lunch**			

Please note that the program is subject to change. Revision date: 21st of November 2025

Program of the 5th HTHP Symposium

Thursday, 22nd of January, 09:00 – 13:15

High-Temperature Heat Pump Symposium Copenhagen

Time	Auditorium 15 (582 seats)	Auditorium 10 (310 seats)	Auditorium 11 (310 seats)	Auditorium 12 (310 seats)
12:10 – 13:15	**Lunch**			
13:15 – 14:15	**Looking ahead – Bringing technologies into application** Session 2-3A | Session Chair: t.b.d. This session will discuss what's ahead with a focus on how to bring systems into application. Stakeholders with different views on the value chain will share their key takeaways and considerations for future activities. Participants will be announced shortly.	**Steam generation and compression systems** Session 2-3B | Session Chair: t.b.d. **Development of HTHP based on steam as refrigerant and 4-stage oil free reciprocating compressor**, O. M. Moen (SINTEF) **Development and design of a family of high-speed water based Turbo Compressors for MVR and heat pump applications** , M. Weel (WSE-TURBO), J. Rehn (WSE-TURBO), M. Svanteson (WSE-TURBO) **Case Study: Development of Skyven's Arcturus Steam-Generating Heat Pump at an Industrial Facility**, J. Saccone (Skyven), J. Strasser (Skyven)	**Development, test and application of CO_2 systems** Session 2-3C | Session Chair: t.b.d. **CoBra – A High-Temperature, Load-Flexible Brayton-Cycle Heat Pump Demonstrator**, A. P. Tran (DLR), J. Oehler (DLR), F. C. Yücel (DLR), P. Stathopoulos (DLR) **Reverse Brayton HTHP application for drying processes in the paper industry: a case study**, S. Barberis (Unige), A. Patti (Unige), A. Traverso (Unige) **Techno-economic analysis of a transcritical CO2 heat pump for a high-temperature drying application**, J. Lagarde (SynchroStor), J. Oledzki (SynchroStor), A. Dole (SynchroStor), H. Simpson (SynchroStor)	**Reversible & heat–driven systems** Session 2-3D | Session Chair: t.b.d. **Unlocking Value from Waste Heat: Energy Efficiency & Decarbonization without compromise**, T. De Vloo (Qpinch), S. Rousseau (Qpinch) **Unlocking the potential of absorption heat transformer. The path to de-carbonization of steam generation.**, D. Gorlovsky (JCI) **Reversible large-scale heat pumps for district heating applications: First experimental characterization and design of a 200 kWel demonstrator**, C. Schifflechner (TUM), A. Passamonti (TUM), et al.
14:15 – 14:45	**Summing Up** Session 2-4A | Session Chair: Benjamin Zühlsdorf (DTI) This session will summarize the key takeaways from the Symposium and provide an outlook for the next years.			
14:45 – 15:15	**Break**			
15:15 – 17:00	**Sector Collaboration Workshops** These workshops will focus on bringing all players for the specific sector together for discussing sector-specific solutions. The sector collaborations are organized as part of the IEA HPT Project 68 and are open for all participants			
	Textiles Session 2-5A | Session Chair: Sanduni Pathiraja (DTI) The session will feature presentations on the overall structure of the textiles sector and their decarbonization targets and supply chain dynamics, as well as technical solutions. Moreover, it will be discussed how to bring solutions into application most optimally.	**Chemicals** Session 2-5B | Session Chair: Fabian Ahrendts (Fraunhofer IEG) This session will give an overview of the most promising heat pump applications in the chemical sector and discuss options for exploiting the potential.	**Pulp & Paper** Session 2-5C | Session Chair: Panagiotis Stathopoulos (DLR) This session provides an overview of the most optimal integration concepts for typical plant layouts and discusses what's missing to enable complete decarbonization of pulp and paper plants.	

Please note that the program is subject to change. Revision date: 21st of November 2025

Program of the 5th HTHP Symposium

Wednesday, 21st of January, from 16:50

High-Temperature Heat Pump Symposium Copenhagen

<table>
<tr><td></td><td colspan="2">Poster Session and Networking – Part 1/2
Session 1-5A</td></tr>
<tr><td rowspan="2">16:50
–
18:00</td><td>

Heat pump integration

- **A novel hybrid system for medium-temperature industrial steam: Techno-economic performance across European climates**, P. Saini (DU, Absolicon) C. Arpagaus (OST), F. Bless (OST)
- **An innovative tool for HTHP integration in industrial processes**, A. Patti (Unige), S. Barberis (Unige), A. Traverso (Unige)
- **Applications of the analytical solution to optimal heat pump integration**, J. Walden (DTU), R. Padullés (DTU), J. K. Jensen (DTU)
- **Optimizing paper drying with high-temperature heat pumps: Integration challenges and research directions**, O. A. A. Awan (Modell Fabrik), J. Lunewski (Modell Fabrik), I. Kuperjans (NOWUM), P. Bekaert (Modell Fabrik)
- **IEA IETS Task XXIV – Process Integration for Industry Decarbonization**, S. Pathiraja (DTI), N. A. Kermani (DTU), R. Padullés (DTU), B. Zühlsdorf (DTI)

</td><td>

Steam Systems

- **Design and Simulation of Reliable Desuperheating Methods for a Multi-Stage Oil-Free R718 Compressor for High-Temperature Heat Pumps**, K. Banasiak (SINTEF), J. R. Dowdell (SINTEF), Á. Á. Pardiñas (ITG)
- **Decarbonizing Industrial Process Heat: A geothermal R718 high-temperature heat pump for rubber and dairy facilities**, V. Somasundaram (SDU), P. Gullo (SDU), O. M. Moe (SINTEF), J. R. Dowdell (SINTEF), S. Sannan (SINTEF), K. Banasiak (SINTEF), A. Zini (Uni Fi), L. Talluri (Uni Fi), A. Milazzo (Uni Fi), A. Rocchetti (Uni Fi), G. Vitri (Rivacold), F. Luchetti (Rivacold), M. Dallai (Dorin)
- **Testing of steam compressors for High-Temperature Heat Pump Applications**, N. Ahlbrink (DTI), B. Zühlsdorf (DTI), J. L. Poulsen (DTI), H. Madsbøll (DTI)
- **Two-Phase Water Ejectors for High-Temperature Heat Pumps: CFD Numerical and Experimental investigation**, O. A. Khass (DLR), M. Cristofaro (DLR), S. Klöppel (DLR), E. Nicke (DLR), P. Stathopoulos (DLR)

</td></tr>
<tr><td>

Technology benchmarking and system design

- **Techno-economic analysis of a high temperature Stirling heat pump for spray drying applications**, M. Sanclemente (KTH), P. Kumavat (KTH), D. Balzarini (KTH)
- **High-Temperature Heat Pumps for Industrial Use – Benchmarking Refrigerants and Efficiency Limits**, C. Arpagaus (OST), PM. Bever (OST), F. Bless (OST), S. S. Bertsch (OST)
- **Development of a Low-GWP Refrigerant Portfolio for Optimized Transcritical High-Temperature Heat Pumps for 100-250 °C Industrial Heat Supply**, A. Forés-Palanques (ISTENER), CM. Udroiu-Bucur (ISTENER), P. Giménez-Prades (ISTENER), G. Alarnaot-Alarnaout (ISTENER), J. Navarro-Esbrí (ISTENER), A. Mota-Babiloni (ISTENER)
- **Mapping ejector potential in hydrocarbon high-temperature heat pumps**, C. Tammone (DTI), P. J. E. Delêtre (DTI), J. Kristófersson (DTI)
- **Numerical study of bearing leakage and liquid injection in industrial heat pumps**, R. Tassenoy (UGhent), E. Vieren (UGhent), T. Huyghe (UGhent), J. Raeymackers (UGhent), K. Couvreur (UGhent), M. De Peape (Ughent, Uni Cape), S. Lecompte (UGhent)
- **Data-Driven Prediction of Compressor Efficiency for High-Temperature Heat Pumps**, M. Babaei (Unige), M. K. Patel (Unige)
- **Technical Challenges and Lessons Learned from High-Temperature Heat Pump Implementation: A Focus on Component Reliability and System Performance**, P.-J. E. Delêtre (DTI), M. P. Andersen (DTI), J. L. Poulsen (DTI), J. Kristofferson (DTI), B. Zühlsdorf (DTI)

</td><td>

Integration of thermal storage & flexible operation

- **Design and experimental analysis of a lab-scale high temperature heat pump operating with solid thermal energy storage and for steam generation**, J. Spale (CVUT Uni), P. Smola (CVUT Uni), V. Novotny (CVUT Uni)
- **Comparisons of thermal performance and cost for three thermal energy storage systems utilized in high temperature heat pump**, T. Chang (XJTU), Y. Song (XJTU), F. Cao (XJTU)
- **Decoupling steam demand and steam-generating heat pump dynamics using thermal energy storage** D. Ruberg Nørhave (DTI), M. Herget Christensen (DTI), W. Meesenburg (DTI), B. Zühlsdorf (DTI), J. Kjær Jensen (DTU)
- **Flexible Heat Pump Operation with Thermal Energy Storage for District Heating Applications**, L. B. Anderson (SINTEF), H. Thon (SINTEF), O. M. Moen (SINTEF), H. Schüman (SINTEF)
- **Impact evaluation of intercooling control on the dynamic performance of high temperature heat pumps**, M. Evens (KU Leuven, Energy Ville), S. Lecompte (Ghent Uni), A. Arteconi KU Leuven, Energy Ville)
- **Techno-economic assessment of a high temperature Stirling heat pump with thermal energy storage with solar integration for industrial heat generation**, M. Sanclemente (KTH SE), S. Trevisan (KTH SE), R. Guedez (KTH SE)
- **Model-based, techno-economic analysis of electricity market-optimized heat supply through high temperature heat pumps**, N. H. Petersen (RWTH), R. Sager (RWTH), M. Wirsum (RWTH)

</td></tr>
<tr><td>18:00 –
19:00</td><td colspan="2">Transport to Carlsberg Byen and Activities</td></tr>
<tr><td>19:30</td><td colspan="2">Dinner at Madklubben – Home of Carlsberg</td></tr>
</table>

Please note that the program is subject to change. Revision date: 21st of November 2025

Program of the 5th HTHP Symposium

Wednesday, 21st of January, from 16:50

High-Temperature Heat Pump Symposium Copenhagen

<table>
<tr><td rowspan="5">16:50 – 18:00</td><td colspan="2">Poster Session and Networking – Part 2/2
Session 1-5A</td></tr>
<tr><td>Zeotropic working fluid mixtures
Composition-adjustable fluid mixtures for enhanced performance of reversible heat pump - ORC systems, M. Weitzer (FAU), H. Cortnum (FAU), N. Elhaus (FAU), J. Karl (FAU)
Alternative Working Fluid Mixtures for High-Temperature Absorption/Compression Heat Pumps, P. Stumm (Ruhr-Uni), K. Grübe1 (Ruhr-Uni), C. Doetsch (Ruhr-Uni)
Advanced Heat Pump Cycles with Natural Refrigerant Mixtures, C. Fleßner (TLK), H. H. Khab Bin (TLK), W. Tegethoff (TUB)
Double Effect High Temperature Reverse Cycle for Milk Industrial Processing: performance evaluation of CO2-Based Mixtures, A. Zini (Uni Fi), G. Vaccaro (Uni Fi), L. Talluri (Uni Fi)
Energy and Thermal Characterization of R744/HC Zeotropic Blends for High-Temperature Heat Pumps, K. M. Mesheshaa (Uni Lim), D. Newporta (Uni Lim), R. Grimesa (Uni Lim)
High-Efficiency High-Temperature Heat Pumps with Refrigerant Blends for Temperature Glide Applications, L. P. M. Brendel (OST), C. Arpagaus (OST), P. Lemke (OST), N. Lüchinger (OST), S. Bernal (OST), S. S. Bertsch (OST)</td><td>Reversed Brayton cycles and CO2 cycles
Steam Heat, CO2 High Temperature Heat Pump, L. Chordia (Thar), V. Vahdat (Thar), M. Portnoff (Thar), A. Amarnath (Epri)
Transcritical-Transcritical CO2 High-Temperature Heat Pump Cycle for Dairy Spray Dryers, R. Engelbrecht (OST), C. Arpagaus (OST), S. Paranjape (OST), F. Bless (OST), D. Gstöhl (OST), L. Kong (Waikato), T. G. Walmsley (Waikato)
Techno-economic assessment of Brayton cycle heat pumps for combined heating and cooling production in industrial frying processes, C. Vankelekom (Uni Mons), P. Stathopoulos (DLR), F. Demeyer (Engie), W. De Paepe (Uni Mons)
Study of a reverse Brayton cycle heat pump for industrial applications, R. Gautier (CEA), T. Nicolas (CEA), K. Bhairapurad (Enogia), P. Dumoulin (CEA), M. Menoux (CEA), P Burnier (Enogia)
Investigation into the design and part-load behaviour of a high-temperature heat pump process using CO2 providing carbon-neutral industrial process steam, L. Steinberg (Ruhr Uni), S. Glos (Siemens), R. Span (Ruhr Uni)
CO2 High-Temperature Heat Pump for Vegan Cheese & Dairy Alternatives, C. Arpagaus (OST), F. Bless (OST), S. S. Bertsch (OST), C. Maibach (Newroots)
High-Temperature Heat Pump using CO2 as refrigerant for drying applications, F. D. Holdt (DTI), J. L. Poulsen (DTI), L. Rasmussen (DTI), B. Zühlsdorf (DTI)</td></tr>
<tr><td>Large-scale testing and demonstration
Demonstration of HTHP for remote industry and grid integration (HEAT RIG), F. D. Holdt (DTI), N. Ahlbrink (DTI)
Experimental Investigation of Large-Scale Hydrocarbon-Based HTHP Systems: Performance Evaluation of Isobutane and Butane with High-Capacity Piston Compressor Technology, J. Kristófersson (DTI), P. J. E. Delêtre (DTI)</td><td>Digitalization and advanced control systems
Technical and Ecological Assessment of High-Temperature Heat Pumps with Model Predictive Control in Paper Manufacturing, C. Kötting (RWTH Aachen), F. Will (RWTH Aachen), L.asse Jöhnk (RWTH Aachen), H. Romberg (RWTH Aachen), N. Kalter (RWTH Aachen), M. Mersch (RWTH Aachen), C. Vering (RWTH Aachen), D. Müller (RWTH Aachen)
Digital Services for High-Temperature Heat Pumps: Applications from Ongoing International Projects, J. J. A. Prado (DTI), K. R. Kramer (DTI)</td></tr>
<tr><td>Heat-driven systems
Techno-economics of H2O / LiCl + ZnCl2 based Single Stage Absorption Heat Transformer, R. Krishnadoss (NTNU), M. Codemo (Uni Pd),T. A. Adams II (NTNU)
Stirling heat pump for low and high temperatures with thermic operation, G. Manolache (Engineer)</td><td>Solid state technologies
High-temperature solid-state electrocaloric heat pump, K. Klinar (Univ. of Ljubljana), A. Kitanovski (Univ. of Ljubljana)</td></tr>
<tr><td colspan="2">Advanced manufacturing methods
Leveraging Additive Manufacturing in the Development of Screw Compressors for High Temperature Heat Pumps, A. J. Hoess (Purdue), R. B. Barta (Purdue), E. A. Groll (Purdue), D. Ziviani (Purdue)</td></tr>
<tr><td>18:00 – 19:00</td><td colspan="2">Transport to Carlsberg Byen and Activities</td></tr>
<tr><td>19:30</td><td colspan="2">Dinner at Madklubben – Home of Carlsberg</td></tr>
</table>

Please note that the program is subject to change. Revision date: 21st of November 2025