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More than 35,000 visitors and more than 1,000 exhibitors attended Chillventa 2018. One of the awards at the international trade fair highlighted innovation in the cooling sector and outstanding displays of teamwork.

Assistance, Awards Drive Innovation in Europe

BY WS COMSTOCK, CONTRIBUTING EDITOR, EUROPE & MIDDLE EAST

NUREMBERG, GERMANY—Initiatives are underway in Europe to stimulate the application of innovative technologies to improve energy efficiency through government assistance and award programs.

An example of government assistance is the European Commission's Horizon 2020 program that promotes breakthrough discoveries. With a pool of €80 billion aimed at supplementing private investment and by coupling research and innovation, Horizon 2020 is helping to achieve innovative discoveries with its emphasis on excellent science, industrial leadership and tackling societal challenges. The goal is to ensure Europe produces world-class science, remove barriers to innovation and make it easier for the public and private sectors to work together in delivering innovation.

Other European initiatives center

on award programs. One of the award programs recognizing innovation in the cooling sector launched late last year at the international trade fair Chillventa. The trade fair and companion technical congress attracted 35,000 visitors and experts in air conditioning, refrigeration and heat pumps.

A twist to the Chillventa award program was that it recognized outstanding displays of teamwork along with design functionality, innovation, cost-effectiveness and operation in four categories of refrigeration and air-conditioning.

In the large-scale refrigeration category, Duschl Ingenieure was recognized for a new refrigeration supply system for Ecoform Multifol. The designers switched from a decentralized supply system to a central refrigeration supply network. The key to the system's success was the

optimization of all parameters and plant components across all systems to ensure a high level of overall efficiency. Compared to similar systems, power savings of 70% were achieved at a relatively low cost since most of the improvements focused on making standard components work better together.

The air-conditioning systems award was given for Hotel Nordport Plaza, a new four-star-plus hotel opened within sight of Hamburg's airport. The hotel opened in 2018. The designer, premero Immobilien GmbH & Co. KG; main supplier Daikin Airconditioning Germany GmbH; and the installation firm, Climatech Leipzig Montage GmbH, planned and implemented the building services strategies. For the hotel's energy strategy, the owners wanted to use mainly renewable energy sources to minimize its CO₂ emissions. The highlight of the energy strategy is that geothermal energy meets all heating and refrigeration needs. Geothermal wells provide 261 kW of power, and 435 kW of heat sink power is also available.

In the heat pumps category, Athoka GmbH designed a new stand-alone residence for the Bütthe family. The goal was to achieve year-round comfort in terms of heating and service water while ensuring the building was both highly cost-effective and environmentally friendly. One special aspect of the project was the installation of Germany's first air-to-water heat pump using R-32 for underfloor heating and service water production. A multi-split air-to-air heat pump with three terminals ensures air-conditioning comfort in the winter garden, the living

rooms and bedrooms. Pedotherm GmbH was responsible for engineering the underfloor heating and the controlled room ventilation with integrated heat recovery. One of the system's special features is the combination of panel heating and quick-response air heating during changes of season. This is with an active cooling and dehumidifying function in the living and sleeping areas and controlled home ventilation in the form of an in-floor system with heat recovery.

A refrigeration plant that expanded capabilities of pharmaceutical manufacturer Biotest AG was selected in the commercial refrigeration category. One of the customer's specifications was to only use natural refrigerants while delivering a total of 100 kW for frozen storage and 30 kW for temperature control, hot air curtains and precooling. All machines had to come with 100% redundancy. Operational safety, short downtimes and the need to observe the latest requirements of Germany's

Energy Saving Ordinance (EnEV 2015), the Renewable Energy Act, the Ecodesign Directive 2009/125/EC and the F-Gas Regulation were all essential conditions. KKR Kälte-Klima-Reinraumtechnik GmbH worked with system supplier compact Kältetechnik GmbH on an option that uses four CO₂ assemblies generating an ambient temperature of -35°C (-31°F) in the storage areas through direct expansion. Cooling for the cascade stages is provided using cooling brine at -8°C (17.6°F). Eight cold-water sets using propane as a refrigerant produce the brine. The eight machines and the resulting eight individual circuits make small refrigerant fill volumes possible for each circuit.

The Chillventa awards are expected to be an ongoing feature of the trade fair, allowing for progress and implementation of successful solutions to be tracked. The next Chillventa is scheduled for October 13–15, 2020, details at www.chillventa.de. ■

INDUSTRY IN BRIEF



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Adding an organic solvent to a water-based turbulent heat exchange system creates bubbles, removing heat.

Boosting Heat Exchanger Capacity

PROVIDENCE, R.I.—Researchers from Brown University and Tsinghua University have devised a way to dramatically speed up turbulent heat exchange. The new method works by adding an organic solvent to a water-based turbulent heat exchange system. The researchers experimented with the additive for three years to maximize the speed of heat transfer. The additive is non-corrosive, non-flammable and ozone friendly. ■

Rittal, Industry Partners Unveil Resilient Data Center

CHICAGO—Rittal is partnering with ABB and Hewlett Packard Enterprise to provide a turnkey edge data center solution for industry and telecommunications environments. The resilient micro-modular data centers will be purpose-built for rough environments. The Secure Edge Data Center allows customers to run enterprise-grade IT near their operational technology environments, machines and equipment to enable low-latency, secure and reliable digital processes. ■

The Harris Products Group Expands HVAC&R Wholesale Business

MASON, OHIO—The Harris Products Group is now the exclusive distributor of Worthington Industries air-fuel equipment in the U.S. wholesale channel, and a distributor of Worthington Industries gas

cylinders. These products began shipping in January. The exclusive distribution agreement broadens Harris' brazing and plumbing product lines. ■

FabricAir Turns 45

LAWRENCEVILLE, GA.—FabricAir® Inc. celebrated its 45th anniversary in August. The first modern fabric duct was developed and installed in a slaughterhouse in 1973 by FabricAir's precursor, and the company made its North American market penetration in 1989. Today, FabricAir continues to innovate and expand, including its new research and development AirLab. ■

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