NEWS RELEASE

Entra ASA Powerhouse Brattørkaia Secures Prestigious Heat Pump Award Using Johnson Controls Technology

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CORK, Ireland, Sept. 30, 2021 /PRNewswire/ -- Johnson Controls (NYSE: JCI), the global leader for smart, healthy and sustainable buildings, is proud to announce that its industrial heat pump technology has supported Norwegian real estate company Entra ASA in securing top honors in the prestigious Heat Pump Award 2021.

Johnson Controls industrial heat pump technology enables the building to become energy-positive

Entra was awarded the accolade for a heat pump installation that has enabled its Powerhouse Brattørkaia commercial building in Trondheim, Norway, to be the first new building to achieve the Powerhouse plus energy standard, meaning that it produces more renewable energy over its lifetime than all energy used to produce, operate, renovate, and finally deconstruct the building and dispose the building materials at end of life. The competition entry: *'Heat pump as a key enabler in achieving a positive energy building'*, topped the DecarbBuilding category. Skanska, a leading project development and construction group, was the main contractor for the project.

"I congratulate Entra and Skanska that worked on this project. We are proud to have contributed the technology and expertise that helped Entra gain recognition for the important work it is doing in environmentally-friendly, energy efficient buildings," said Dave Dorney, vice president and general manager, Europe, Middle East and Africa, Johnson Controls Industrial Refrigeration. "Today, the buildings and construction industry accounts for around 40 percent of the world's total energy consumption. By changing the way we build and focus on construction methods that turn buildings into renewable energy producers, the Powerhouse Brattørkaia is making huge strides towards net-zero smart buildings."

Since 2011, the Heat Pump Award is a European Heat Pump Association (EHPA) initiative that has recognized the most energy efficient, smart and sustainable heat pump projects all over Europe. This is the second year in a row that a Johnson Controls installation has received an award from the EHPA.

Powerhouse Brattørkaia is the first new building of its kind in Norway for energy efficiency and production of green energy. It is also a pioneering project in terms of technology using Johnson Controls OpenBlue digital solutions. The building is designed from scratch to be energy positive, and the integrated photovoltaic system on the roof, south façade and upper part of the west façade generate more than 400,000 kWh/year of electricity.

In 2019, Johnson Controls installed a single seawater-sourced natural refrigerant heat pump in the 18,200 m^2, eight floor building. The heat pump not only delivers hot water for heating to Powerhouse but also to the BI campus Trondheim business school located next to it. The hot water first goes to the business school for heating and then loops back to Powerhouse which uses the remaining heat. Initially the two buildings were supposed to be built with two heat pumps each to meet their needs but through clever system design, they are now able to achieve outstanding efficiency with only one heat pump.

In combination with many other innovative measures to achieve high performance this enables the building to produce a significant surplus of energy during summer. A major part of this surplus solar power is delivered to the bus stop and supercharging station next to the building, where an electrical bus comes in every 10 minutes during daytime to charge.

"Winning the EHPA award is an acknowledgement of both our commitment to build a net-zero, energy-smart building that serves as a leading example for the northern hemisphere and our collaboration with Johnson Controls on leading edge innovation and deep industry expertise to support the protection of the environment thanks to energy efficient buildings," said Rune Stene, Managing Director of Powerhouse. "The heat pump is the key enabler to the building going 'over the top' and becoming a surplus energy building. This is a verified 'best practice' example that has been running successfully for two years and will hopefully inspire others to design similar buildings."

Managing energy consumption in heating and cooling of buildings is essential if nations are to achieve global carbon reduction and sustainability goals. Heat pumps have an important role to play in decarbonizing both buildings and industry.

Johnson Controls has provided heat pump solutions for more than a dozen district heating and cooling applications in Denmark, Finland, France, Germany, Italy and Norway.

Further, through its OpenBlue platform for optimizing buildings sustainability, Johnson Controls has been helping its customers and future generations to consume less energy, conserve resources, and identify pathways to achieving healthy, net zero carbon communities – ultimately creating an environment for healthy people, healthy places and a healthy planet. Johnson Controls OpenBlue digital platform and services for optimizing buildings can drive 50% and more in improvement in energy efficiency and corresponding carbon emissions.

As a leader in the buildings space for more than 135 years, Johnson Controls has been a pioneer in sustainability. It is ranked in the top 12 percent of climate leadership companies globally by CDP and was recently named again to the World's Most Ethical Companies® Honoree List and one of Corporate Knights' Global 100 most Sustainable Companies.

To learn more about OpenBlue Pioneer Powerhouse Brattørkaia, please visit: https://www.johnsoncontrols.com/openblue/openblue-pioneers#PowerhouseBrattorkaia

About Johnson Controls:
At Johnson Controls (NYSE:JCI) we transform the environments where people live, work, learn and play.

As the global leader in smart, healthy and sustainable buildings, our mission is to reimagine the performance of buildings to serve people, places and the planet.

With a history of more than 135 years of innovation, Johnson Controls delivers the blueprint of the future for industries such as healthcare, schools, data centers, airports, stadiums, manufacturing and beyond through its comprehensive digital offering OpenBlue. With a global team of 100,000 experts in more than 150 countries, Johnson Controls offers the world`s largest portfolio of building technology, software as well as service solutions with some of the most trusted names in the industry. For more information, visit www.johnsoncontrols.com or follow us @johnsoncontrols on Twitter.

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