

Sustainable cooling solutions:

Heating, cooling and hot water: all-in-one solution for the renovation of the Jules Verne Restaurant in the Paris Eiffel Tower

CATEGORY:

Thermal Comfort

THE CONTEXT:

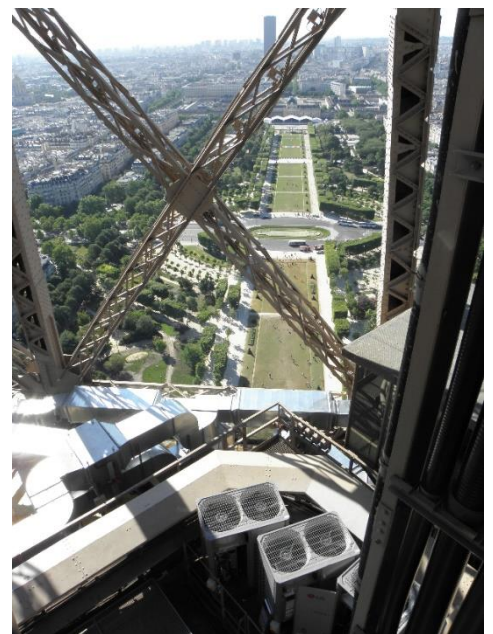
With heating and cooling consuming roughly half of the total energy in Europe, the upgrade of heating and cooling systems has been identified as a top priority to achieve the European climate and energy goals. The renovation of the building stock offers a major opportunity to do so, is enshrined in the Clean Energy Package and represents one of the major axes of the European Green Deal. In existing buildings, there are often constraints in terms of architecture, design and technical possibilities which are slowing down renovation efforts. For the uptake of sustainable heating and cooling solutions it is therefore important that they address these and other challenges, being adaptable to the building where they need to be installed.

SUSTAINABLE COOLING SOLUTION:

- “Le Jules Verne” is a gastronomic restaurant located on the 2nd floor of the Eiffel Tower in Paris, France. Frédéric Anton, the 3-star French chef who won the operating license, initiated the restaurant’s renovation, including the heating and cooling system. As the restaurant is at 125 meters above ground and hosted in a monument, there were several constraints to respect: energy efficient heating/cooling system, a flexible system for a maximum comfort and a compact system that could be installed on the restaurant’s roof. Prior to delivery, the installation had to be validated by the French administration in charge of the preservation of French Buildings and Historic Monuments.



- Variable refrigerant flow (VRF) system composed of three modules with a 56 Horse Power capacity installed outdoors and coupled with a heat recovery system to provide heating and cooling in different spaces.
- Equipped with a centralized controller and with individual controllers allowing for separate control.
- Connected to a heat recovery system to recover the heat from the refrigeration application and use it for hot water production.
- Coupled with air handling units to provide fresh air treatment and a hydrokit for hot water production.



BENEFITS:

- Compact design as “all-in-one” solution, addressing installation and architectural constraints with a reduced number of outdoor units as the space on the rooftop of the Eiffel Tower is very limited.
- Indoor cooling units are concealed ducts integrated into the ceiling of the restaurant and blending in perfectly with the design and decoration of the dining room. As the aesthetic redesign of the restaurant was one of the key objectives of the renovation, a wide choice of indoor units was very important.
- A specific piping system design made it possible to bridge the distance between outdoor, indoor and hydrokit units.
- High energy performance level for reliable and energy efficient operation and free hot water production due to the heat recovery system.

TAGS:

- Energy efficiency
- Synergies with heating
- Heat recovery

GENERAL INFORMATION

NAME OF THE COMPANY: LG Electronics



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HYPERLINK TO LEARN MORE ABOUT THE SUSTAINABLE COOLING SOLUTION: