### METRO relies on efficient refrigeration technology

* **Zero emission, but one hundred percent shopping experience can be found in St. Pölten in Europe's first zero-energy company building of this kind.**

St. Pölten, the provincial capital of Lower Austria, is one of the oldest cities in Austria with around 55,000 inhabitants. With its modern wholesale store "ZERO 1", the METRO wholesale and retail group has opened an innovative zero-energy business building here - the first of its kind in Europe.

This is made possible by a sophisticated energy concept. In order to combine sustainability and a feel-good atmosphere, METRO is breaking new ground in St. Pölten. In refrigeration technology, the company relies on Viessmann cooling systems, which supplied and installed all the refrigeration equipment. The Viessmann sites in Hof (Bavaria), Kesselsdorf (Saxony) and Porvoo (Finland) worked closely together on this.

Zero emission also means zero emission on the 8,500 m² sales area of the new wholesale market: the new building is heated with the waste heat from the refrigeration systems. A photovoltaic system on the roof of the building covers the building's own energy requirements. Compared to the old METRO store in St. Pölten, the energy requirement has been reduced by more than half.

### The additional energy gain will be used, among other things, for the electric filling stations in the car park.

**New: No more cooling of the sales rooms**

Completely cooled sales rooms, typical for the previous store design concept of METRO Cash & Carry, were dispensed with. Instead, efficient refrigeration units ensure optimally chilled food.

A total of 102 Viessmann products in St. Pölten ensure perfect cooling, score points for their energy efficiency and, thanks to their stylish design, also set visual accents for the feel-good atmosphere in the market. A total of 62 pieces of furniture are installed in the cooling area of the zero-energy building. 50 TectoDeck MD2 GD e-Novus refrigerated shelves ensure optimum energy savings thanks to double-glazed doors. In addition, eight half-height refrigerated shelves TectoDeck SV 1 Inspi offer efficient cooling and first-class product visibility. Four container refrigerated shelves TectoDeck RI4 Leho also underline the concept of sustainability and shopping experience.

### The freezer area of the METRO store is equipped with furniture from the TectoFreeze series from Viessmann. Four TectoFreeze VF1 Luxo deep freezers provide customers with excellent product visibility - thanks to large, fully glazed doors. In addition, 34 TectoFreeze IS1 Maxim freezer islands are in use, twelve of them as switchable plus-minus solutions. Thanks to its wide range of models, Tecto-Freeze IS1 Maxim fits into a wide variety of market concepts. Two additional models with positive cooling also ensure optimally chilled products in the meat department.

**CO2 as a natural refrigerant in use**

Particularly sustainable: Only the natural refrigerant R744 (CO2) is used in the entire refrigeration equipment. In addition, the waste heat from the refrigeration systems is fed into the base plate to heat the branch. The waste heat is also used to heat hot water. The refrigerated cabinets used were produced at the Viessmann Hof and Porvoo locations specifically to customer specifications.

The CO2 refrigeration plant produces approx. 345 kW cooling capacity in the normal refrigeration range. Approx. 93 kW cooling capacity is provided for deep-freezing. The system is controlled by means of a special technology. Special feature: The compound system is equipped with two controllable ejectors (jet pumps without mechanical drive).

METRO Cash & Carry Österreich GmbH itself was responsible for planning the refrigeration technology. The wholesaler relied on the expertise of the specialists at kke GmbH from Kesselsdorf, which has been completing the Viessmann team since 2016, for the know-how in organising and installing the refrigeration technology, especially with regard to natural refrigerants.

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