



SPI Waterloop on High-Sea Island

EDEKA Meinhardt Helgoland

EDEKA is Germany's largest supermarket co-operative and one of the country's leading food retailers, operating thousands of independently owned branches nationwide.

This includes **EDEKA Meinhardt** on **Heligoland**, Germany's only offshore island. Supplying a supermarket in such a unique location presents particular logistical and technical challenges, which is why the reliability and ease of maintenance of the system are crucial factors for day-to-day operations. For the new system, EDEKA Meinhardt wanted to invest in an innovative refrigeration concept that offers long-term operational benefits.

Until now, the retailer had relied on **plug-in refrigerated display cabinets**; however, experience from another store, where a **centralised CO₂ refrigeration system** is in operation, had highlighted the increased maintenance requirements compared to conventional decentralised systems. Given the logistical challenges involved in maintaining systems on an island, the customer specifically sought an alternative that combines the reliability of plug-in technology with the efficiency and sustainability of a modern integrated system.

_Year of installation

2024

_System installed

_VENTO
 _KALEA
 _AMS (Active Monitoring System)

_Project requirements

Low maintenance, redundancy and a special coating for salty ambient air.

The solution was **AHT's Semi-Plug-In (SPI) water circulation system**. The system comprises **three VENTO refrigerated display cabinets** and **two KALEA Freeze deep-freeze cabinets**, all of which are connected via the natural refrigerant **R290 (propane)** to a shared water circulation infrastructure. The system combines the flexibility and simplified maintenance of stand-alone refrigerated display cabinets with the efficiency benefits of a networked refrigeration system.

*Designed for islands.
Engineered for
maximum operational
reliability.*



One of the key design criteria for the project was **system redundancy**. Given Heligoland's geographical location, uninterrupted refrigeration is essential to ensure food safety and business continuity. The SPI Waterloop architecture was therefore designed to offer a high level of operational reliability and provide the retailer with additional security in the event of unexpected component failures.

maintenance work is restricted and operational reliability is of crucial importance. By combining natural refrigerants, a redundant system architecture and digital monitoring via AMS, AHT has delivered a future-proof refrigeration solution tailored to the specific requirements of the food retail sector on Heligoland.

An interesting aspect of the project was the installation process itself. First, the refrigeration units were installed, after which the shop's bespoke **timber wall structure was erected around the refrigerators**. This approach ensured the refrigeration systems were seamlessly integrated into the shop's interior design, whilst also allowing for maximum flexibility during the construction phase.

Today, EDEKA Meinhardt benefits from a refrigeration solution that combines **high reliability, simplified maintenance and intelligent remote monitoring**. The project demonstrates how well AHT's SPI Waterloop technology is suited to particularly challenging locations where access for

