



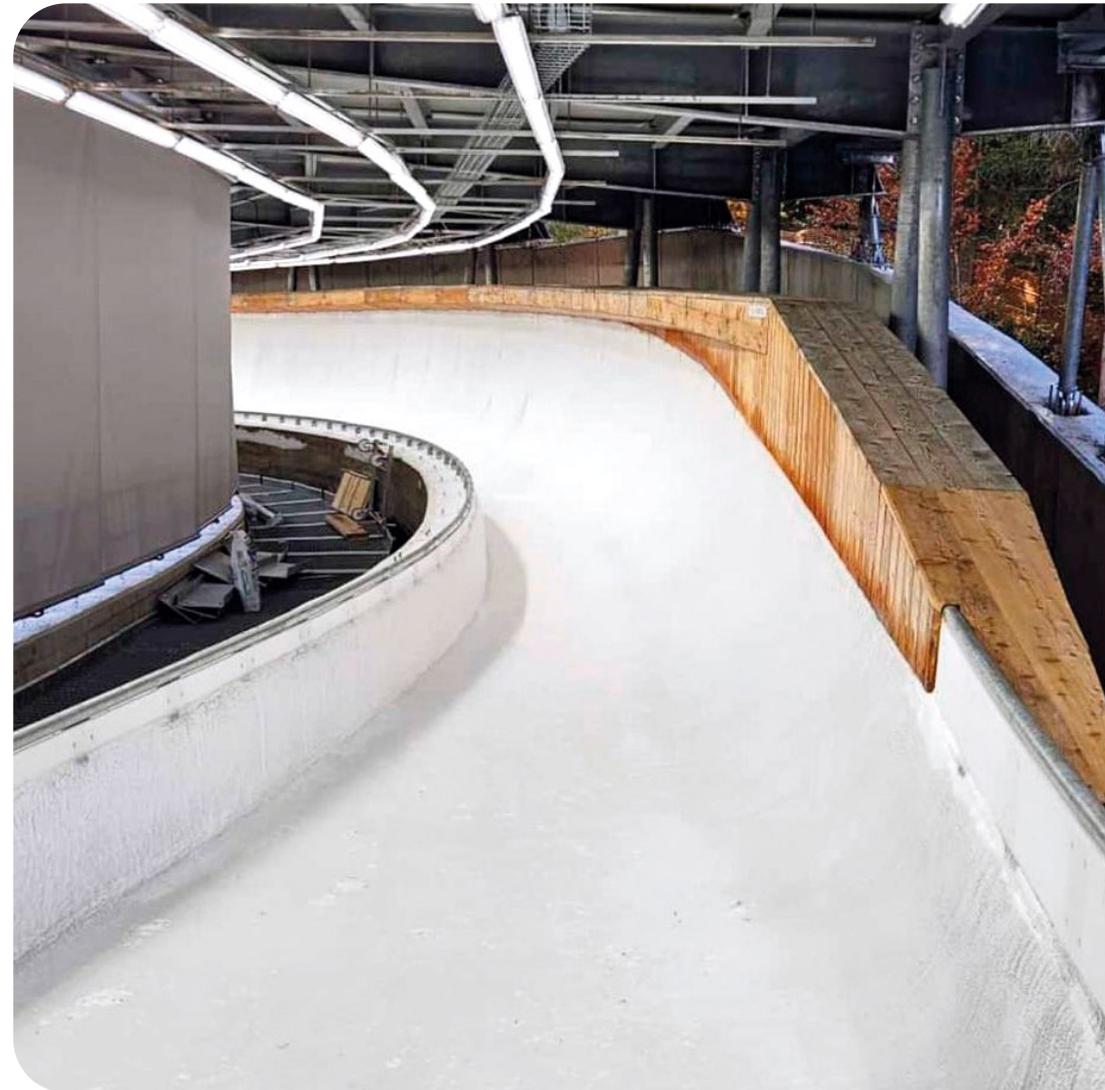
Perfect ice conditions for olympic performance

Danfoss delivers integrated, efficient refrigeration for the Cortina bobsleigh track.

When the new bobsleigh and skeleton track in Cortina d'Ampezzo was built for the Olympic Winter Games Milano–Cortina 2026, consistent ice quality, high energy efficiency, and safe operation were non-negotiable requirements.

To meet these demands, an advanced ammonia-based refrigeration system was designed to produce chilled glycol distributed along the track. The plant concept was developed in collaboration with engineering partner Energytech and installed by Longofrigo, a specialist with decades of experience in winter sports refrigeration.

Danfoss contributed with a fully integrated refrigeration solution and application expertise to help ensure reliable, Olympic-level performance.





Challenge

Ensuring stable, efficient, and safe cooling

The Olympic track required a highly efficient refrigeration system capable of maintaining precise and uniform ice temperatures along a long and technically complex course.

Energytech needed a solution that could:

- Maintain consistent ice quality for safe and fair competition
- Prevent efficiency losses caused by non-condensable gas accumulation
- Minimize downtime and manual maintenance
- Ensure operator safety by reducing ammonia odor and leak risks
- Integrate seamlessly with control and monitoring systems

Reliable, automated operation was critical to meet strict environmental, safety, and performance standards.

"We chose Danfoss for its strong reputation and proven reliability. For a project of this scale, system efficiency and reliability are critical. The integrated Danfoss solution supported our design objectives and ensured optimal operation of the ammonia plant," adds Project Manager Manuel Pallua, Energytech.



Solution

A fully integrated ammonia refrigeration package

Danfoss delivered a complete, pre-engineered solution designed specifically for large-scale ammonia systems — supporting the project from design through commissioning.

The solution provides:

- Higher system efficiency and optimized energy performance
- Stable cooling capacity and uniform ice conditions
- Improved safety through reduced ammonia presence in machinery rooms
- Automated operation with minimal manual intervention
- Seamless integration with plant control systems

A central element of the installation is the IPS 8 purging system, which automatically removes non-condensable gases from the refrigeration circuit. Continuous removal of these gases is essential to maintaining high efficiency and stable cooling capacity.

In addition, a comprehensive portfolio of valves, sensors, safety components, and variable-speed controls ensures precise regulation and dependable operation under demanding conditions.

“What set Danfoss apart was its ability to combine automated purging technology, advanced control components, and deep expertise in natural refrigerant (NH₃) applications into one integrated package. This ensured regulatory compliance, long-term reliability, and optimized system performance”, elaborated Manuel Pallua, Energytech.

Results

Reliable performance where it matters most

The refrigeration system now delivers the stability, efficiency, and safety required for world-class competition.

“Efficient removal of non-condensable gases is essential for high performance and energy efficiency in large ammonia refrigeration systems,” explains Ilaria Carluccio, Key Account Manager at Danfoss.

Key benefits include:

- Stable and uniform ice quality across the entire track
- Optimized system efficiency through continuous gas removal
- Increased operational safety and improved working conditions
- Reduced maintenance thanks to automated purge operation
- Reliable performance designed for continuous high-demand operation



The customer expressed high satisfaction with the solution's ease of installation and dependable performance.

“The Danfoss IPS 8 system was easy to install and provides a flexible solution that can be reused for future installations,” says Francesco Longo, Head of purchasing at Longofrigo.

The collaboration between Longofrigo, Energytech, and Danfoss demonstrates how integrated technology, application expertise, and strong engineering partnerships can deliver safe, efficient, and high-performance refrigeration — even on the global stage.



Longofrigo S.r.l. is an Italian company, founded in 1977 that specialises in the design and manufacture of industrial refrigeration systems for food production, preservation and distribution, sports ice facilities and other sectors. It offers reliable, turnkey refrigeration solutions incorporating advanced technologies and has built a strong reputation both in Italy and abroad.



Energytech S.r.l. is an Italian engineering firm based in Bolzano that designs and implements sustainable, energy-efficient systems—from consultation and detailed planning to construction management—for civil and industrial installations, focusing on reducing CO₂ emissions and optimising energy use.

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