



## Food

# Outstanding Cooling Technology to Solve a Critical Production Bottleneck

A globally leading confectionery manufacturer faced a critical challenge: existing cooling solutions were no longer sufficient to meet increasing quality requirements and production volumes. Cooling within the product flow was imprecise, production processes were reaching their limits – all under the difficult conditions of a fully utilised plant with limited space.

METZEN was commissioned to develop a solution that not only resolved the existing cooling issue but also significantly improved efficiency, process reliability, and maintainability – without interrupting ongoing production.

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### Challenge

The project required integrating a new cooling tunnel into an existing production environment (brownfield) under demanding conditions. Strict quality requirements, limited space, and the need for implementation during ongoing production posed particular challenges.

- **Brownfield Implementation:** Integration into an existing production facility.
- **Production Pressure:** Ongoing production could not be interrupted.
- **Limited Space:** Minimal room available for new components.
- **Precision Requirements:** Cooling needed to be millimetre-accurate in the product flow.
- **High Quality Standards:** Previous deviations had led to increased waste.
- **Technically Demanding Integration:** Existing systems had to be considered and expanded.
- **Logistical Complexity:** Deliveries, assembly, and commissioning had to be perfectly coordinated.

### Solution

For the integration of a new cooling tunnel into the existing production environment, METZEN delivered a precisely coordinated, end-to-end solution. Intensive consultation, exact planning, and cooperation with specialists ensured an efficient and smooth implementation. By combining innovative technologies with seamless integration into existing systems, METZEN ensured long-term process reliability, excellent product quality, and maximum efficiency – a complete all-in-one package.

- **Comprehensive Analysis:** Detailed examination of product specifications, process requirements, and spatial conditions.
- **3D-Planning:** Advanced 3D-Scanning technologies simulated and optimised installation under real conditions.
- **Technological Synergy:** Integration of METZEN components with specialised cooling and control solutions ensured maximum system efficiency.
- **Seamless Coordination:** Delivery, assembly, and commissioning were executed without production interruption.
- **Benchmark-Oriented Implementation:** Existing reference systems were intelligently incorporated to shorten maintenance intervals and minimise downtime.

Thanks to METZEN's customised solution, the confectionery manufacturer successfully integrated a new cooling tunnel into existing production. Highest quality standards were met, while efficiency and process reliability were noticeably increased – all without interrupting ongoing operations. The solution also improves maintainability and sets new standards in production safety.

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### Result

A tailored cooling tunnel, precisely planned, intelligently integrated, and technologically advanced. Implementation was carried out during operation and under extremely tight space conditions – a project meeting the highest industrial standards.

- **Seamless Integration:** The new cooling tunnel was successfully incorporated without production downtime.
- **Significantly Higher Product Quality:** Accurate cooling guidance led to more consistent products and reduced waste.
- **Noticeably Increased Efficiency:** Thoughtful technical and process integration saved energy, time, and resources.
- **Future-Proof Maintenance:** Synergies with benchmark systems facilitate maintenance and improve plant availability.

### Project Conclusion

Thanks to thorough planning, innovative technology, and close collaboration with the customer, METZEN not only solved the original problem but also created the foundation for a future-proof, scalable production process. This demonstrates how top-level engineering achieves outstanding results even under challenging conditions.

### Highlights

- **Clearly Defined Customer Problem Solved:** Insufficient cooling quality and lack of scalability previously led to product deviations and production bottlenecks.
- **Precise Product Quality:** The new cooling tunnel guarantees consistent product quality through exact temperature control in the product flow – regardless of capacity or environment.
- **Maximum Operational Safety:** Implementation carried out without production downtime.
- **Optimal Space Utilisation:** The entire solution was realised under very tight structural conditions – with full 3D space analysis and forward-looking planning.
- **Efficient Maintenance:** Integration of customer benchmark systems enhances long-term maintainability.
- **Turnkey Solution:** METZEN delivered a complete, scalable system from a single source – including consultation, planning, cooling, and control technology.

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