

# SUCCESS STORY

## Modernization of Melamin's Network Infrastructure for Reliable Support of Business and Production Processes

 Melamin

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*The meticulously planned modernization of our IT was a major strategic project for Melamin. The outcomes demonstrate that with rigorous preparation, a thoughtfully conceptualized architecture, and the selection of the right technology partner, we have established a highly reliable and securely driven infrastructure that effectively support our long-term needs.*

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**Jernej Miklič**  
AOP Coordinator

Photo: Doris Kordić



## About Melamin

Melamin d. d., based in Kočevje, is a company with a decades-long tradition in the development of melamine resins and their derivatives, used across key industries including paper, wood, rubber, construction and textiles. Through continuous investment in modern technologies and the development of sophisticated products, the company has built a portfolio of high value-added solutions that enable it to compete successfully in global markets.

Collaboration with partners, continuous improvement of production processes and a commitment to innovation allow the company to remain flexible and competitive in a demanding international environment.

**The production facilities in Kočevje utilize state-of-the-art technologies that ensure efficient, safe and environmentally responsible manufacturing** - a foundation on which the company continues to grow and strengthen its global presence.

The IT department is continuously improving the company's information infrastructure and its processes. It focuses on high availability, security and system transparency – all are essential for the uninterrupted operation of both production and administrative functions. **The successful modernization of the wired and wireless network represents a significant step toward more efficient and resilient business support.**

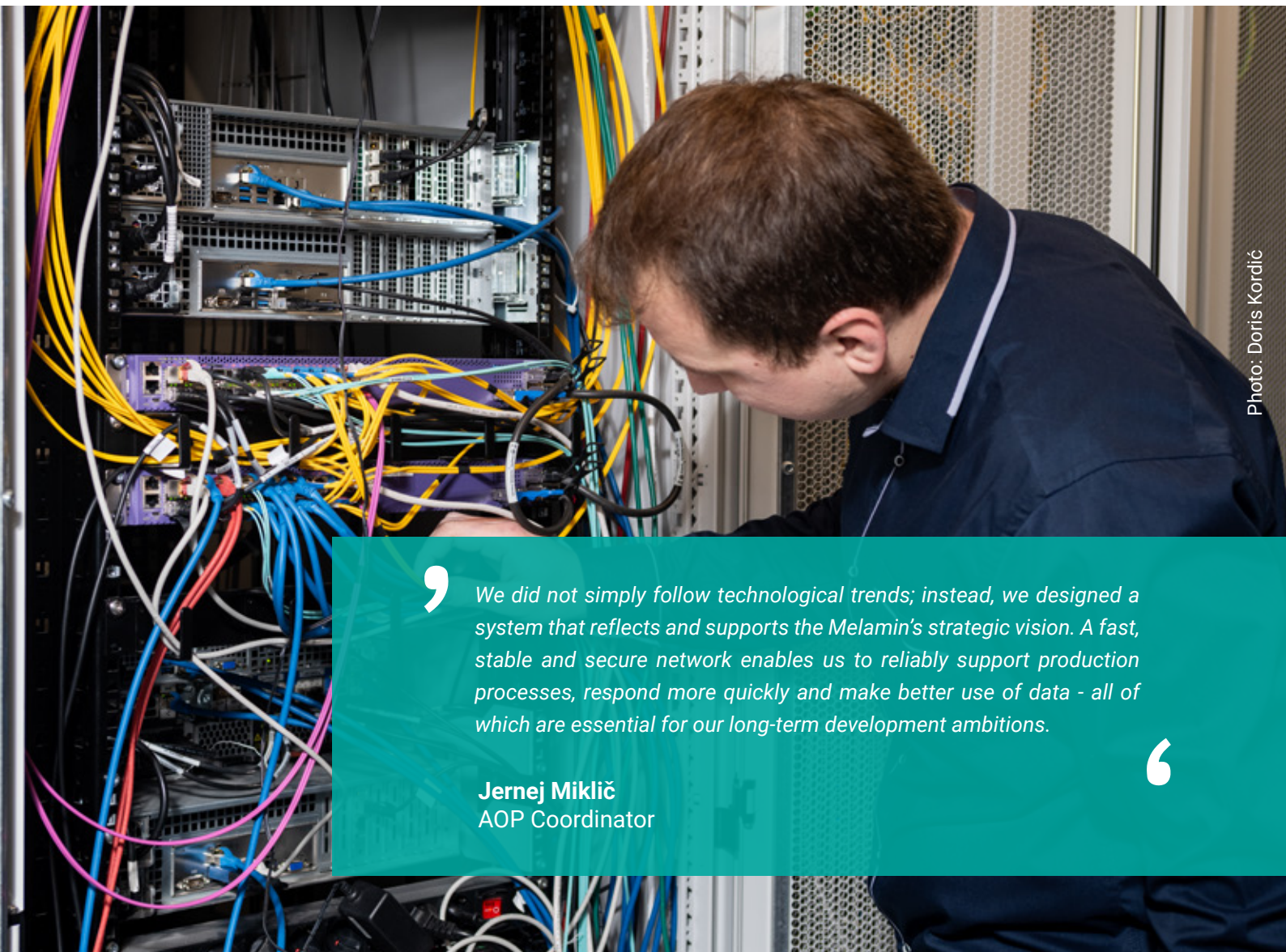


Photo: Doris Kordić



*We did not simply follow technological trends; instead, we designed a system that reflects and supports the Melamin's strategic vision. A fast, stable and secure network enables us to reliably support production processes, respond more quickly and make better use of data - all of which are essential for our long-term development ambitions.*

**Jernej Miklič**  
AOP Coordinator





## Challenges

The existing wired and wireless communication network no longer met the company's needs, as it was prone to outages, speed limitations and insufficient coverage.

The urgency for network modernization was further underscored by the severe accident in 2022, which affected the company and highlighted the importance of having reliable and properly documented systems.

Although most of the IT infrastructure remained intact, some equipment was damaged during the incident, leading to outages of business-critical systems and disrupting daily operations.

## Key Challenges

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Ensuring availability and reliability due to sequential topology;

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Increasing data transfer speed and bandwidth capacity;

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Improving information security;

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Ensuring flexibility and enabling future scalability;

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Efficient management and documentation of the entire infrastructure.

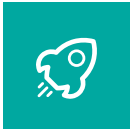
The company decided to undertake a comprehensive modernization of its wired and wireless network with the support of Smart Com. To effectively address the challenges it faced, it selected solutions from the technological provider Extreme Networks, enabling centralized management and real-time network performance monitoring.

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*Our experiences over the past few years have reinforced our belief in the critical importance of high availability and full visibility of the IT infrastructure. For this reason, during the modernization, we placed particular emphasis on comprehensive documentation of connections and on a design that ensures continuous operations, even under demanding conditions.*

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**Jernej Miklič**  
AOP Coordinator



## Innovative Solution for Enhanced Reliability and Security

The network infrastructure modernization at Melamin was a strategic decision driven by the need for a more reliable, secure and high-performance network, tailored to the demands of modern digital business operations.

The objectives of modernization - including improved information security and centralized management - aligned directly with the company's broader business requirements, such as ensuring continuous operations, supporting production and administrative processes and establishing the foundation for future growth and development.

**As part of the project, Melamin conducted a thorough redesign of the network topology, significantly increasing reliability and performance.** The previous design, with sequentially coupled nodes, meant that the failure of a single node could disrupt the entire network. The new ring topology provides multiple independent paths for optical connections, substantially increasing system resilience.

*With the new optical backbone and redundant paths, we have established a network capable of sustaining the operation of key processes even in the event of potential disruptions.*

**Jernej Miklič**  
AOP Coordinator

The main nodes now support connections for both 1-gigabit and 10-gigabit users, while servers connect to the core switches via multiple 10-gigabit links. This configuration ensures high bandwidth, redundancy and continuous operation of business-critical systems.

**An important component of Melamin's new communication infrastructure is the Wi-Fi 6 wireless network**, which delivers higher speeds, more reliable performance for multiple users and improved coverage in both internal and external work environments. It also provides users with complete mobility.

*An on-site review before the start of the project was a crucial step. The Smart Com team tailored the implementation plans to the actual site conditions, ensuring optimal placement of the Wi-Fi access points. Final measurements confirmed that the network operates without interference and that the solution effectively meets the needs of our environment.*

**Jernej Miklič**  
AOP Coordinator

The high availability of the new network is further supported by a redundant internet connection provided by an additional service provider via an independent route to Kočevje. This setup reduces the risk of outages and enhances the resilience of the site. Daily archiving of network switch configurations in *ExtremeCloud IQ SE* system enables rapid recovery of settings in the event of any issues. A key factor in ensuring reliable operation remains the partnership with Smart Com, which has proven to be a reliable partner in terms of providing efficient technical support, rapid equipment replacement, and system recovery in case of disruptions.

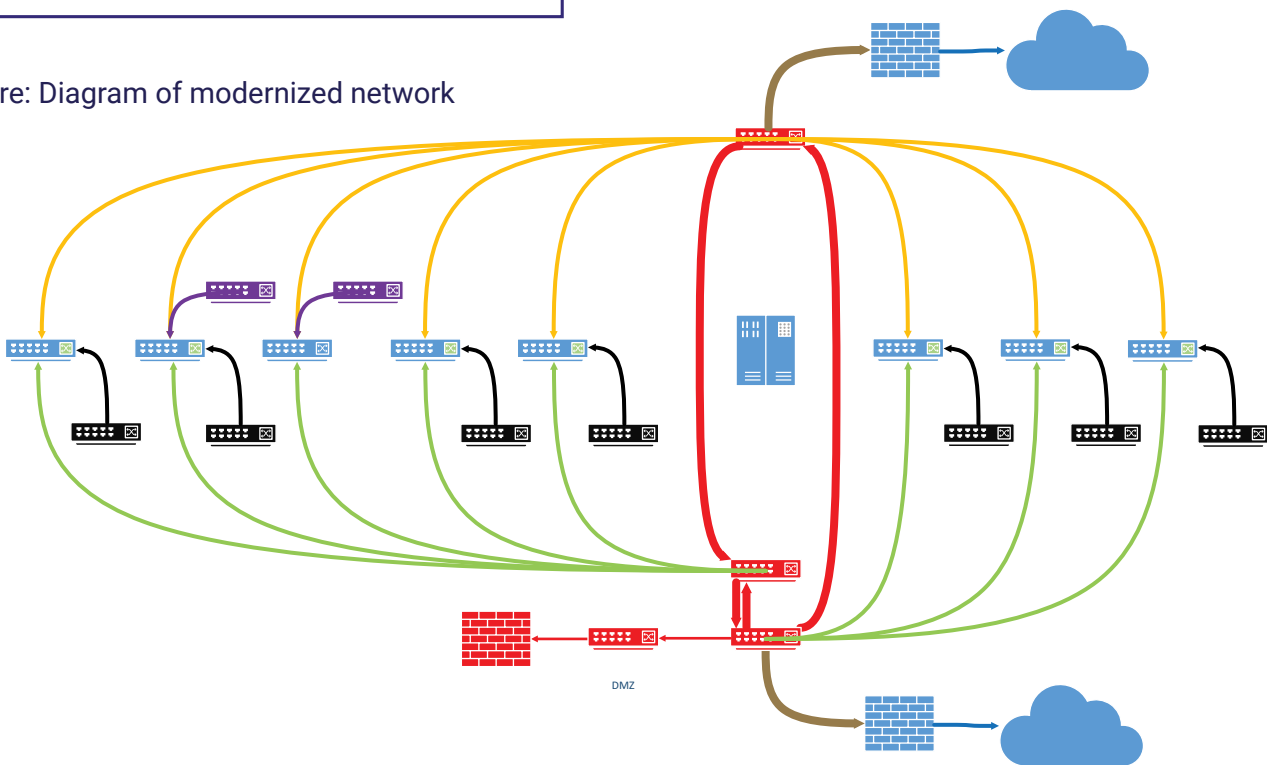
The operation of the wired and wireless network is managed by a central management system which monitors devices, connections and users in real time. In addition, it enables device configuration, notifies administrators and automatically performs configuration backups.

## Integrated components from technology provider Extreme Networks:

- 1 Core aggregation and data center server switches;
- 2 Access switches for end users;
- 3 Wi-Fi controller and access points for internal and external use;
- 4 Centralized management system: ExtremeCloud IQ SE.

The network modernization ensured a higher network bandwidth and stability, introduced network segmentation and strengthened security mechanisms in accordance with ISO 27001 and the NIS 2 directive (ZInIV-1). Connectivity between business and operational environments has also been improved. This has created a solid foundation for further digital development, more efficient employee workflows and a higher level of cybersecurity, **positioning Melamin as a best-practice example in the field of modern industrial network infrastructure.**

Picture: Diagram of modernized network



## The network upgrade has brought numerous benefits:

- 1 More reliable and faster business processes;
- 2 Enhanced cybersecurity and compliance with international standards and regulations;
- 3 Increased network availability and fewer outages;
- 4 More efficient management and monitoring of the IT infrastructure;
- 5 Improved user experience for employees across both production and business-operational support functions.



A reliable and secure network infrastructure is the foundation of successful business operations. Network modernization is not merely a technical enhancement, but a strategic decision that brings the company improved security and performance, flexibility and scalability, cost optimization and enhanced readiness for modern business challenges.

Investing in modern IT infrastructure strengthens competitiveness and business stability, while successful modernization is built on thorough assessment, careful planning and collaboration with experienced professional partners.

If you would like to implement a modern, secure and reliable network infrastructure for your company, get in touch with the experts at Smart Com. Together, we will design a solution tailored to your needs that will address the challenges of the future.

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