

The Future of Manufacturing Beyond 2024

MOBOTIX AG



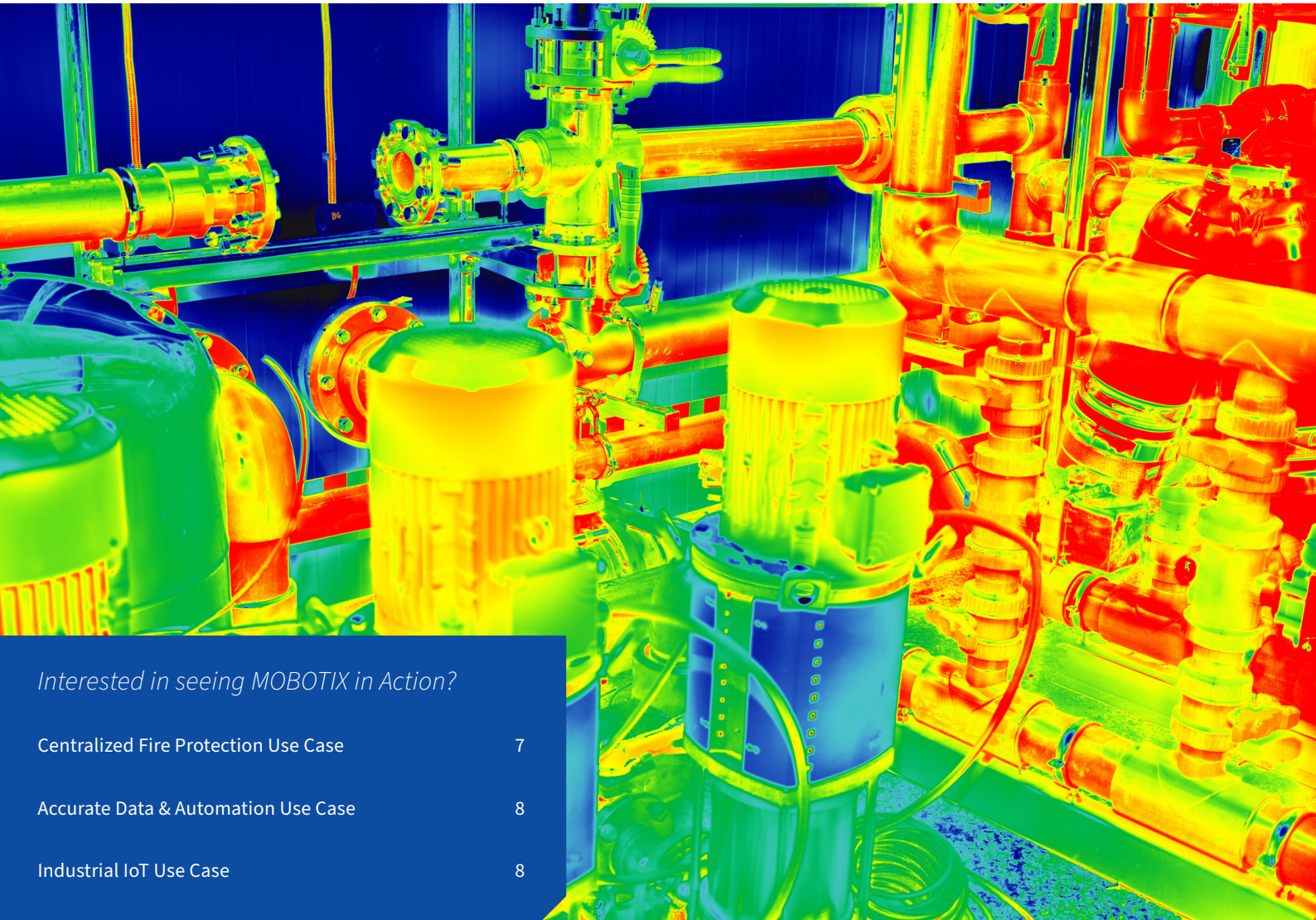
MOBOTIX
BeyondHumanVision

Staying Ahead with MOBOTIX Thermal Technology

The manufacturing world is on the brink of a transformative leap, driven by innovation and technology that redefine the very essence of industry operations. At the heart of this revolution is MOBOTIX Thermal Technology, a powerful ally in the relentless pursuit of excellence and efficiency in manufacturing processes in 2024 and beyond.

We stand at a pivotal moment, where the decisions made by manufacturing executives, technology innovators, and security professionals today will chart the course of industries tomorrow. This is why it is crucial to stay ahead of the curve and keep up with advancements in technology, especially in an ever-evolving landscape.

But what sets MOBOTIX Thermal Technology apart from its competitors? The answer lies in its unique ability to provide a holistic view of manufacturing operations and proven return on investment. By combining thermal imaging with intelligent video analysis, MOBOTIX cameras can detect temperature patterns, track movements, and identify potential malfunctions in real-time, all while providing high-quality images.



Interested in seeing MOBOTIX in Action?

Centralized Fire Protection Use Case	7
Accurate Data & Automation Use Case	8
Industrial IoT Use Case	8



The Key Industry Drivers

The production and manufacturing industry is constantly evolving, driven by the growing demands of consumers and the ever-changing landscape of technology. As such, it's crucial for manufacturers to stay ahead of the curve and keep up with these emerging trends.

These key industry drivers impact your business from pre-production to final delivery. To keep up with these evolving trends, you need solutions that allow flexibility, improved quality, and a positive return on investment. Whether it is preventative fire protection, real-time data analysis, or thermal trigger validation, MOBOTIX's portfolio of solutions offers the right platform for manufacturers looking for cost savings and predictive maintenance.

The Industrial Internet of Things (IIoT):

The convergence of physical and digital systems has paved the way for smarter, more connected factories. The IIoT enables manufacturers to collect, analyze, and leverage data from all stages of production to optimize processes, reduce costs, and improve product quality.

This technology also allows for remote monitoring and predictive maintenance, minimizing downtime and maximizing efficiency. As a common use case, manufacturers who've invested in IIoT have seen a significant increase in productivity and profitability by leveraging real-time data and insights.

Thermal cameras, specifically those developed by MOBOTIX, have become increasingly crucial in modern manufacturing settings. Unlike traditional cameras, thermal imaging devices can easily detect heat sources and measure temperature variations across different objects and environments from distances of 100 meters.

This capability is invaluable in industries where temperature monitoring is critical for quality control, safety, and efficiency. For instance, in the chemical industry, thermal cameras help in monitoring reactions that are temperature-sensitive, ensuring that conditions stay within safe parameters. Similarly, in vehicle manufacturing, thermal cameras can identify potential overheating issues in molds and machinery before they cause costly downtime.

The Rise of AI & Edge Computing in IIoT:

As the amount of data generated by IIoT devices continues to grow, manufacturers are turning to AI and edge computing to process and analyze this information in real-time. This allows for faster decision-making, predictive maintenance, and improved accuracy in detecting anomalies or potential issues.

AI-powered algorithms can analyze vast amounts of data in real-time to identify patterns and anomalies that could indicate potential risks. This allows for proactive measures to be taken before a problem arises.

Edge computing, like on MOBOTIX IoT products, brings decision-making capabilities closer to the source of data, allowing for faster response times and reducing the risk of network latency.

Risk Mitigation:

Risk mitigation has become an essential element in the evolving landscape of the production industry. With the advent of global challenges like supply chain disruptions, artificial intelligence, and cybersecurity threats, the need for robust, forward-thinking strategies has never been more critical.

The evolution of risk mitigation in 2024 and beyond is centered around leveraging advanced technologies like MOBOTIX Thermal Technology to monitor, assess and mitigate potential risks in real-time including early fire detection, predictive maintenance, and employee safety.

As manufacturers continue to embrace IIoT, and edge computing, it is crucial for them to also prioritize risk management strategies to ensure the safety, efficiency, and profitability of their operations. By harnessing the power of data and technology together, manufacturers can stay ahead of potential risks and proactively address any issues that may arise.

In practical terms, MOBOTIX cameras play a pivotal role in real-world risk mitigation strategies within the manufacturing sector.

For instance, our thermal imaging capabilities are invaluable for early fire detection in hazardous environments. By identifying unusual heat patterns that could indicate a developing fire, these cameras enable swift action to prevent disasters.

Similarly, in the realm of predictive maintenance, MOBOTIX cameras can monitor machinery to detect early signs of wear or failure. This not only prevents costly downtime but also extends the lifespan of valuable equipment.

Through the integration of edge-capable apps, these cameras can monitor workplace compliance with safety protocols, like the use of personal protective equipment (PPE), and detect any unauthorized access to restricted areas, thereby maintaining a safe and secure working environment. By incorporating these specific uses of MOBOTIX cameras and multiple sensors into their risk management strategies, manufacturers are better equipped to protect their assets, workforce, and bottom line.



Thermal Validation App:

The Thermal Validation App from MOBOTIX offers real-time analysis of thermal data to detect abnormalities and prevent potential risks. This app can be integrated with MOBOTIX Thermal Technology providing manufacturers with a comprehensive solution for risk monitoring and mitigation.



A specific use case of Thermal Validation App is early fire detection. Early fire detection is crucial in preventing catastrophic losses and minimizing downtime. With MOBOTIX Thermal Technology, you can monitor your production facility 24/7, detecting abnormalities before they turn into major fires. This not only protects your assets but also ensures the safety of your employees.



Automation & Analysis:

Advanced automation has been a game-changer for the manufacturing industry, significantly impacting productivity and efficiency. However, as we move beyond 2024, automation will evolve to encompass more than just physical processes. It will utilize advanced analytics and artificial intelligence to optimize production processes, reduce waste, and improve overall quality.

Moreover, with the help of data analytics, manufacturers can gain valuable insights into their operations, leading to smarter decision-making and proactive risk mitigation strategies. This combination of automation and analysis will not only drive cost savings but also create a more secure and resilient environment for businesses.

With an overwhelming amount of data being collected from sensors and machines, it is crucial for manufacturers to have the right tools and processes in place to effectively analyze and interpret this data. With MOBOTIX solutions, manufacturers can turn their footage into data then easily identify patterns and trends that can help them improve operational efficiency.

For instance, MOBOTIX cameras equipped with thermal imaging can closely monitor machinery for overheating issues, pinpointing potential failures before they lead to costly shutdowns. This predictive maintenance approach not only saves on repair costs but significantly reduces downtime, keeping production lines moving smoothly.

In warehouse management, intelligent video analytics can optimize the storage and retrieval process by tracking inventory levels in real time, identifying discrepancies, and even guiding automated retrieval systems to the correct locations. This level of precision and efficiency ensures that resources are maximally utilized, and customer orders are fulfilled more swiftly and accurately.

MOBOTIX SYNC:

The MOBOTIX SYNC data management software expands the potential of video technology. Merge data, gain insights and create added value like never before with faster decisions, improved actions and cost savings. Data used in SYNC enables process automation by transferring them in various formats to third-party systems via interfaces. Now you're able to support plant and process control and quality assurance. The insights from the data analysis (dashboards) also lead to decisions in the business process.





Cybersecurity:

As technology continues to advance, the risk of cybersecurity threats also increases. From ransomware attacks to data breaches, manufacturers are facing new challenges in protecting their sensitive information and operations.

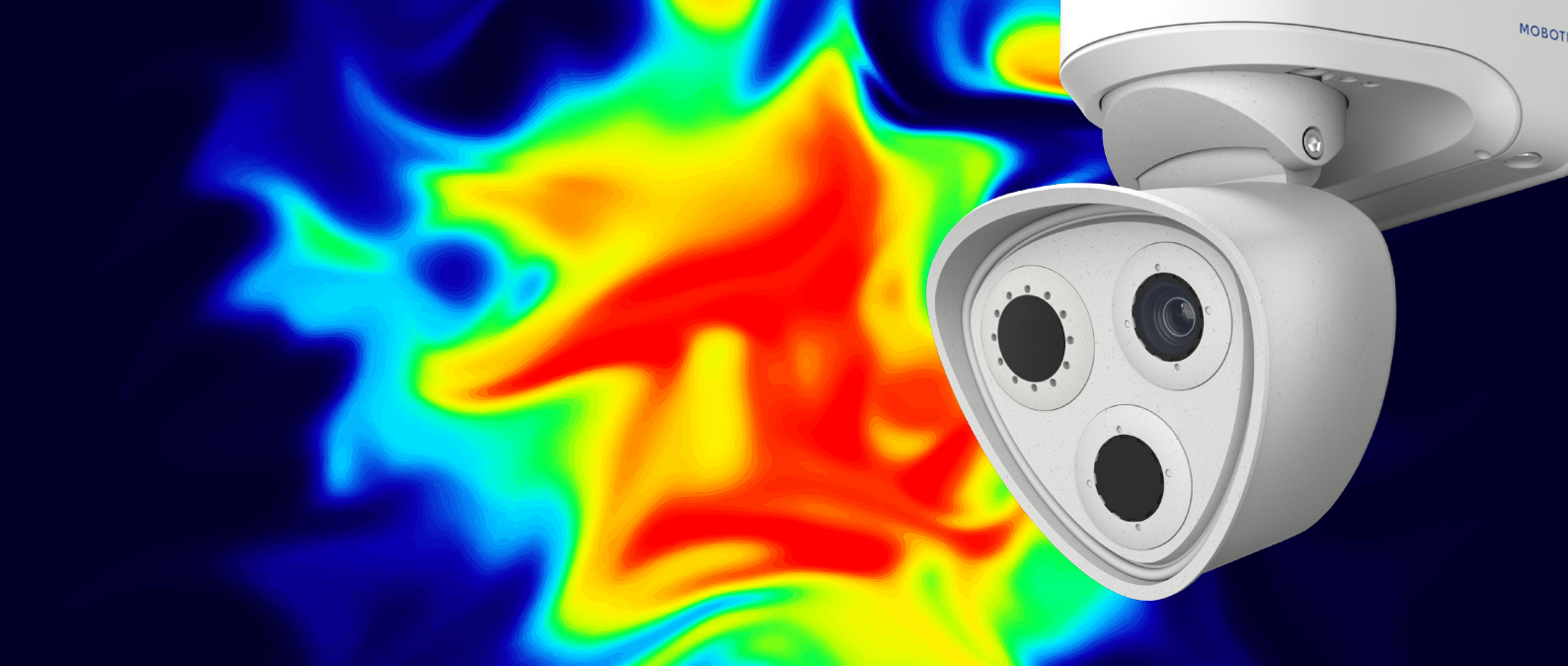
To mitigate these risks, manufacturers must implement robust cybersecurity measures and stay informed about emerging threats. This includes investing in secure technologies like MOBOTIX Thermal Technology cameras that offer advanced encryption and authentication protocols.

In today's digital landscape, manufacturers must prioritize cybersecurity to safeguard their operations and maintain trust with customers. With the right tools and practices in place, businesses can stay ahead of cyber threats and ensure the safety of their data and production processes.



MOBOTIX Cactus Concept:

MOBOTIX Cactus Concept is a comprehensive approach to cybersecurity that includes secure hardware, encryption, and regular software updates. This concept provides manufacturers with a solid foundation for protecting their network, data, and devices.



A Vision for Smart Manufacturing in Action

The dawn of Industry 4.0 and the Industrial IoT heralds a new age of smart manufacturing, where AI, automation, and predictive maintenance converge to optimize operations.

MOBOTIX Thermal Technology is at the forefront of this revolution, offering the capabilities to not only predict operational inefficiencies but also to initiate automated corrective actions.

This is the future of manufacturing – where every process, every operation, and every decision is informed, intelligent, and inspired by innovation.

Centralized Fire Protection Use Case:

A cutting-edge example of this progress is seen in a recent application where a prestigious kitchenware manufacturer harnessed the capabilities of MOBOTIX thermal camera system, paired with a sophisticated central fire alarm system.

This combination not only offered unparalleled software compatibility and ease of use but also set new standards in maintenance quality. By enabling separate monitoring of all machine zones and providing high-resolution production workflow visibility, the setup ensures an adaptive and resilient manufacturing environment.

The integration of the MOBOTIX M16 thermal camera alongside the Integral IP central fire alarm system epitomizes the ideal approach, enabling distinct surveillance of each area within the polishing machine.

High-definition video captures give a clear view of the internal production activities. The system is designed with three programmed escalation levels that the MOBOTIX camera can autonomously activate if necessary:

1. Displaying a heat alert
2. Temporarily halting the machine for evaluation
3. Powering down the machine and initiating an automatic extinguish.

The key to this system's success is its tiered heat escalation protocol, equipped to issue warnings, pause for analysis, or even halt operations if necessary, thereby significantly mitigating fire risk. Since its implementation, this solution has not only restored process security but also spurred a notable increase in productivity.

Demonstrating a stellar example of modern manufacturing's potential, this configuration underscores the critical role of advanced technology in safeguarding and optimizing production lines, paving the way for a safer and more efficient future in the industry.



Accurate Data & Automation Use Case:

In transitioning towards the future of manufacturing, one remarkable example demonstrates the power of innovative solutions to overcome traditional challenges. A manufacturing facility, specializing in processing wood chips, faced significant hazards stemming from the potential of fire in a dust-filled environment and the necessity of monitoring expansive outdoor areas effectively.

To address these challenges, the facility implemented a specialized solution employing thermal and optical cameras equipped with advanced calibration and precise alignment. These cameras, housed in air spray systems designed to combat the high dust content, allowed for effective monitoring while minimizing false alarms caused by hot engine parts of moving vehicles.

Additionally, the utilization of a proprietary Thermal Validation App enabled the filtering out of false alarms triggered by mobile heat sources, significantly enhancing the accuracy of the fire detection system. Alerts are triggered immediately through an innovative communication system, ensuring rapid response and unparalleled protection.

This example underscores the potential of implementing cutting-edge technology to ensure safety and efficiency in manufacturing environments, paving the way for a more secure and resilient industry future.

Industrial IoT Use Case:

A prime example of leveraging the IIoT for unparalleled safety and efficiency comes from MOBOTIX's collaboration with an industry end-user.

Through this partnership, 65 strategically mounted cameras now monitor every nook of the premises. This not only ensures comprehensive real-time surveillance but also facilitates impeccable incident documentation, transforming the standard for maintaining security and safety.

The facility has deployed a sophisticated network of MOBOTIX cameras, specifically tailored for IIoT applications, across critical areas for comprehensive monitoring and data analytics.

Furthermore, the deployment of an intuitive software solution has substantially uplifted management processes. It enables efficient data management directly on the devices while ushering in an era of seamless user interaction.

Making the choice to incorporate superior surveillance systems and avant-garde access control mechanisms not only fortifies an organization's security posture but also scales its operational efficacy, laying a steadfast foundation for enduring success and fortified security.

This IIoT-driven approach allows for real-time monitoring of the facility's operations, equipment health via thermal imaging, and unauthorized access attempts, thereby not only ensuring physical security but also operational continuity. The MxManagementCenter software stands out by offering a centralized platform for managing the vast data captured by the cameras, enabling predictive maintenance, and ensuring that the facility operates smoothly around the clock.



MOBOTIX
BeyondHumanVision

The MOBOTIX Difference

At the heart of tomorrow's manufacturing success stories will be the innovative utilization of intelligent video solutions, and this is where MOBOTIX stands unparalleled.

We believe in empowering the industrial and manufacturing sector by providing state-of-the-art, highly reliable video solutions. Our technology is not just about surveillance; it's a toolset for enhancing ROI, transparency, efficiency, and safety across all operations.

Why MOBOTIX is Essential for Your Manufacturing Success:

- **High Return on Investment (ROI):** Our solutions are designed to provide long-term value, with minimal maintenance and upgrades required.
- **Proactive Security:** With MOBOTIX, you can monitor your entire production process in real-time, identify potential risks or malfunctions, and take preventive measures before they escalate into costly incidents.
- **Customizable Solutions:** We understand that every manufacturing operation is unique. That's why our solutions are highly customizable, allowing you to choose features and functionalities that address your specific needs.
- **Qualified Fire Protection Certifications:** Various legislation, insurance and building regulations require qualified fire protection certification, which also helps with settlements in the event of damage. MOBOTIX is the first video systems manufacturer with five times certification for qualified fire protection.



- **Reliability and Durability:** Our systems are built for industrial environments, with high-quality materials and components that can withstand harsh conditions and constant use.
- **Support and Training:** We believe in building strong partnerships with our distributors, integrators, and end users. That's why we offer comprehensive support services and trainings.

Choosing MOBOTIX means not just investing in superior technology but aligning with a partner that understands the unique challenges and opportunities of the manufacturing and industrial sectors.

Join us in leading the manufacturing industry into a brighter, smarter future with MOBOTIX.



Contact us
info@mobotix.com



CONTACT US

- www.mobotix.com
- info@mobotix.com

Intelligent Video Security Solutions Made in Germany

MOBOTIX offers a comprehensive range of solutions for all aspects of video-based security systems. We develop high-quality, decentralized, energy-efficient systems that mean our customers save money on every MOBOTIX system installed.

Our motto **Beyond Human Vision** is also our mission: MOBOTIX is fully committed to making itself the most reliable company it can be, one that protects people and property by using intelligent, cyber-secure video technology to go beyond human vision.



EN_06/24
MOBOTIX AG
Kaiserstrasse
67722 Langmeil, Germany

www.mobotix.com
info@mobotix.com

MOBOTIX is a registered trademark of MOBOTIX AG in the European Union, the USA, and other countries. This may only be transferred to trade or commercial partners. Subject to change. MOBOTIX does not assume any liability for technical errors, printing errors or omissions. All rights reserved. © MOBOTIX AG 2024

MOBOTIX
BeyondHumanVision