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Digital Transformation in Industrial Manufacturing: AI Solutions from Mitsubishi Electric Türkiye

Necmi Ömerdedeoğlu, & Robot & Inverter & LVS Product Manager at Mitsubishi Electric Türkiye Factory Automation Systems, emphasizes that AI-powered robotic technologies are shaping the digital factories of the future today.

1. What is currently the most important topic and innovation on your company's agenda? If it is a project or product, could you please elaborate?

One of the key priorities for Mitsubishi Electric is supporting industrial production through artificial intelligence. Mitsubishi Electric robots, equipped with our proprietary AI brand MAISART, significantly help users meet the requirements of today's industrial landscape by integrating advanced AI technologies into production processes.

2. Could you share key figures about your company (such as production volume, facility size, number of employees, export ratio, and number of countries)?

Mitsubishi Electric is one of the world's leading corporations, operating in more than 120 countries with over 145,000 employees worldwide. The company is active across a wide range of fields, including aerospace technologies, semiconductors, energy generation and distribution, communications and information technologies, consumer electronics, industrial automation, and building technologies.

Mitsubishi Electric Türkiye has been operating in Türkiye since 2012, with activities spanning factory automation, air conditioning systems, building systems, and space systems.

3. How has 2023 been for your company so far? Could you share your first- and second-quarter performance and your targets for this year?

Our operations in Türkiye have demonstrated stable and consistent growth for many years. Despite the challenging conditions of 2023—characterized by slowing growth targets across Europe and global inflationary pressures—we continue to actively expand into new markets within our region. We remain focused on creating added value for large industrial enterprises as well as SMEs, while further strengthening our distinctive premium positioning. In factory automation systems, we expect to achieve our targeted growth figures for this year.

4. Could you provide an assessment of the current state of the industry?

Today, manufacturers must respond quickly to rapidly changing and increasing consumer demands. Achieving the flexible production required to meet these needs is made possible through industrial solutions supported by artificial intelligence. AI, whose role in daily life and industrial production continues to grow, enables faster decision-making and responsiveness.

With our digital factory concept e-F@ctory and MAISART AI technology, we enable companies to maximize the benefits of artificial intelligence. The MAISART technology used in Mitsubishi Electric robots provides users with intelligent engineering tools that simplify the definition of new tasks, as well as predictive maintenance functions that support continuous production. By continuously evaluating component life parameters based on real-time operating performance, the AI actively adjusts the robot's software to ensure faster and more efficient operation.

5. Could you share a forward-looking, futuristic perspective on robotic technologies?

In today's environment, where digitalization and automation in production are becoming increasingly prominent, maintaining systems with minimal errors and deficiencies is only possible through advanced industrial technologies and automation systems. The painting robot we showcased at the recent WIN Fair offers a glimpse into what the future holds. When you describe an image to be drawn using a single sentence, the AI-enabled robot begins painting immediately. In the near future, on the production floor, users will be able to assign tasks to Mitsubishi Electric robots using simple, easily accessible devices—much like a smartphone application—without the need for a programmer. The robot will generate its own program, dynamically adapt its route based on changing environmental conditions, and independently determine the most efficient and fastest path to complete its task.