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End-to-End Expertise in the Automotive Industry

In vehicle manufacturing plants—where numerous components and diverse processes are managed simultaneously in Türkiye and around the world—critical priorities include mixed-model production requirements, increasing production speed, maintaining quality standards, ensuring occupational safety, and implementing environmentally responsible practices. Mitsubishi Electric supports automotive manufacturers in addressing these multifaceted needs through its e-F@ctory concept, which enables end-to-end digitalization in production, and its comprehensive solution ecosystem. Through collaborations with a wide range of solution partners, Mitsubishi Electric delivers scalable, high-efficiency production infrastructures tailored to the specific requirements of each facility.

With a broad ecosystem spanning robot technologies, motion control systems, PLC and HMI products, and digital twin applications, Mitsubishi Electric provides automotive manufacturers with end-to-end solutions—raising standards of speed, precision, safety, and flexibility across production lines.

In a rapidly digitalizing automotive industry, well-designed production lines, low error rates, and fast scalability are of paramount importance. Gemini 3D digital twin technology enables manufacturing processes to be simulated before any physical investment is made. Production flows, robot layouts, and cycle times can be tested in a virtual environment, helping prevent errors before they occur, shortening commissioning times, and increasing overall operational efficiency. MELFA robots, with their high repeatability and agile design, further strengthen production capacity in critical automotive operations such as assembly, welding, material handling, and quality inspection.

Safer Production Lines

The growing need for flexibility in automotive manufacturing is also addressed through Mitsubishi Electric's automation approach. Robotized cells capable of rapidly adapting to changing model and part variations, control systems that prioritize operator safety, and easily programmable architectures enable manufacturers to operate flexibly—ranging from high-volume production lines to mixed-model manufacturing environments. This approach not only improves workforce efficiency, but also creates safer production environments by reducing employees' exposure to repetitive and high-risk tasks.

Smart Technologies for Sustainable and Efficient Manufacturing

Mitsubishi Electric's energy-efficient robot systems, intelligent motion control units, and data-driven optimization tools help automotive plants achieve higher performance with lower energy consumption. When combined with digital twin technology, pre-production energy planning and process optimization become possible—significantly reducing operating costs while supporting sustainable manufacturing goals.