

BEYOND THE FACTORY FLOOR

Expanding the role of industrial robotics in film and virtual production

Industrial robots are typically associated with manufacturing and assembly lines. Yet the very capabilities that make them indispensable in factory automation are opening up opportunities in entirely different industries. Together with the Italian production company Moviechrome, Mitsubishi Electric is demonstrating how industrial robotics can deliver precise, repeatable and synchronized camera movement for professional film, advertising and visual effects production.

Modern film production demands far more than smooth camera movement. Motion sequences must be repeatable down to the smallest detail and perfectly synchronized with surrounding production equipment. These requirements closely mirror those found in advanced automation applications.

Within Moviechrome's motion control systems, Mitsubishi Electric MELFA robots execute complex camera paths with exceptional accuracy. Camera position, focus and zoom can be integrated into a single programmed sequence, enabling identical movements to be reproduced as often as required. This level of repeatability is particularly valuable for stop-motion productions, visual effects and high-speed cinematography.

Synchronizing Robotics with Virtual Production Environments

Beyond precise motion control, Mitsubishi Electric robots can synchronize camera movement with external systems such as LED volumes, lighting systems and virtual production platforms.

The ability to coordinate multiple technologies within a single workflow allows filmmakers to create highly repeatable scenes while expanding creative possibilities. As virtual production continues to gain momentum across the entertainment industry, seamless interaction between physical and digital environments is becoming increasingly important.

Industrial Robotics Expanding Into New Markets

“Market trends clearly show that robotics is moving beyond traditional industrial environments,” says Simone Farruggio of Mitsubishi Electric. “That is why we are exploring new application areas where robotic technology can add value, including film and commercial production.”

Moviechrome chose Mitsubishi Electric not only for its suitable robotic technology, but also for the technical support provided throughout the project. From the initial concept and component selection through to the implementation of this demanding application, Mitsubishi Electric experts contributed their application expertise. The real star, however, is the vertical articulated-arm robot from the MELFA FR-3FRL-D series. With

high path accuracy, dynamic performance and repeatability, the six-axis robot controls complex camera movements reliably and precisely, even near the film crew.

The application demonstrates how technologies originally developed for factory automation can create value in entirely different markets. What began as a tool for manufacturing productivity is now enabling new levels of creative freedom in film production.

The result of the film shoot:

<https://www.youtube.com/watch?v=gTy25NrE-AA>

Behind the Scenes:

<https://youtu.be/nO53EjUsvvM?si=yx6JmSoiOdjpvlmM>

Images



Image 1: When a robot films a robot. Dynamic camera movement for spectacular visuals.

(Source: Mitsubishi Electric)



Image 2: Direct interaction with people. Highly precise camera movements for film, advertising and special-effects productions enabled by industrial robotics.

(Source: Mitsubishi Electric)

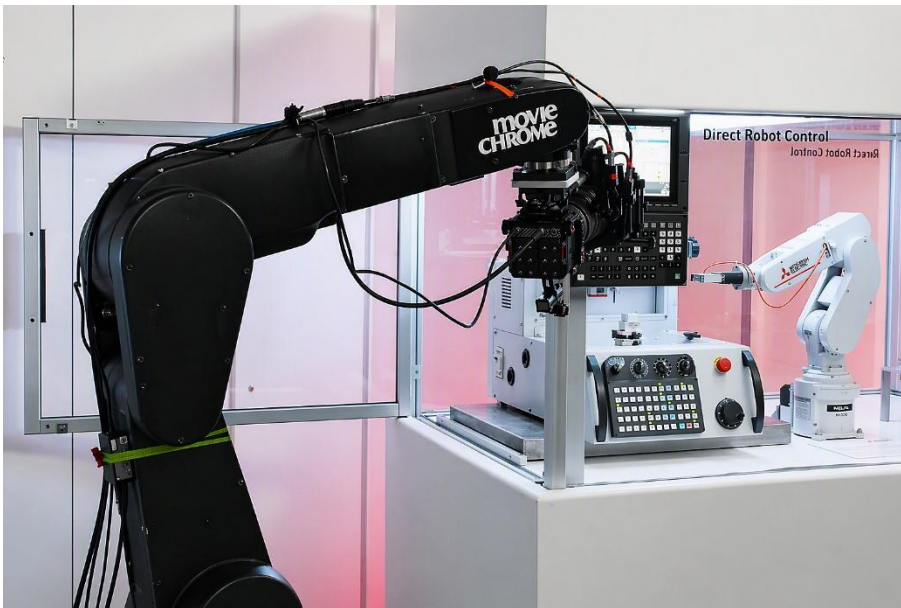


Image 3: The precise coordination of all components enables reproducible scenes and opens up new creative possibilities while maintaining high efficiency.

(Source: Mitsubishi Electric)



Image 4: Simone Farruggio of Mitsubishi Electric sees emerging market trends in new application areas such as film and advertising production.

(Source: Mitsubishi Electric)



Source 5: Incredibly flexible. From close-ups to wide shots, virtually any camera angle is possible.

(Image: Mitsubishi Electric)

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About Moviechrome

Moviechrome is a production service located in Milan, Italy. With eight studios and a video/audio equipment rental house, in addition to an internal team of high-end professionals, Moviechrome expands the concept of video production service offering complete, competitive and cutting-edge services to their clients. Moviechrome launched its Tabletop department in 2018, becoming a benchmark service on the international Special Effects market. In 2022, Moviechrome entered the events industry with its Robot Events service, regularly providing the GlamBolt service to the Cannes and Venice Film Festivals, featuring instant content sharing via proprietary software. In 2023, Moviechrome launched its Virtual Production service by installing a permanent LED volume in its studios, becoming the first in Europe to utilize Pixel Reality technology.

<https://www.moviechrome.com/#robot-events>

About Mitsubishi Electric Corporation

With more than 100 years of experience in providing reliable, high-quality products. With over 200 group companies and approximately 150,000 employees worldwide, the company is a recognized global leader in manufacturing, marketing and selling electrical and electronic equipment and systems across a broad range of sectors, including public utility systems, energy systems, defense and space systems, factory automation systems, automotive equipment, building systems, air conditioning systems & home products, digital innovations, and semiconductor & devices. Guided by “Changes for the Better,” Mitsubishi Electric strives to enrich society through technology. Mitsubishi Electric recorded consolidated revenue of 5,894.7 billion yen (U.S.\$ 36.8 billion*) in the fiscal year that ended on March 31, 2026. Mitsubishi Electric has been represented in Germany since 1978 as a branch of Mitsubishi Electric Europe. Mitsubishi Electric Europe is a wholly owned subsidiary of Mitsubishi Electric Corporation in Tokyo.

For more information, please visit www.MitsubishiElectric.com .

**Amounts in U.S. dollars are converted from yen at a rate of ¥160 = US\$1, the approximate exchange rate on the Tokyo foreign exchange market as of March 31, 2026.*

About the Mitsubishi Electric Factory Automation Business Group

Mitsubishi Electric offers a wide range of automation and processing technologies, including controllers, drive products, power distribution and control products, electrical discharge machining (EDM) machines, electron beam machines, laser processing machines, numerical control (NC) systems, and industrial robots, thereby contributing to higher productivity—and quality—in manufacturing. In addition, extensive service networks around the globe provide direct communication and comprehensive support for customers. The global slogan "Automating the World" illustrates the company's approach to leveraging automation for the benefit of society by utilizing advanced technologies, sharing expertise, and supporting customers as a trusted partner.

For more information on the history of "Automating the World," please visit:

www.MitsubishiElectric.com/fa/about-us/automating-the-world

Mitsubishi Electric Industrial Automation

Mitsubishi Electric Europe B.V., Industrial Automation is headquartered in Ratingen near Düsseldorf. It is part of Mitsubishi Electric Europe B.V., which has been represented in Germany since 1978 and is a wholly owned subsidiary of Mitsubishi Electric Corporation, Japan. Its mission is to manage sales, service, and support for the Industrial Automation division throughout the DACH region and Benelux.

For more information, visit emea-fa.mitsubishielectric.com/fa

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