

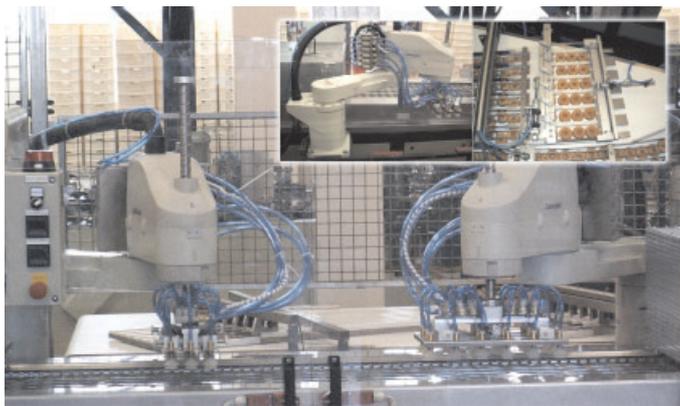
**Industry: Food Industry**

**Products: Robots /// FX Controllers**

# Robots in Cookie Production

In the last years automation with industrial robots proceeded more and more. Quality requirements and productivity are becoming more exacting every day, and as result Mitsubishi Electric offers powerful, high speed and high precision robots.

Banini A.D. from Kikinda is a successful and fast-growing company, becoming one of the leading companies in cookie production in the Balkans. They decided to robotize a section of the company to increase the production of cookies.



System design and implementation was completed by INEA d.o.o from Ljubljana, Slovenia, with tradition and experience in providing engineering solutions, services and equipment for automation, control and management of industrial systems.

The application is based on Mitsubishi's SCARA robots with a handling payload of 10 kg and gripper flange reach of 850 mm. Before robotization the production was managed through a combination of low level automation and manual work. The Technical Manager of Banini, Branko Malenčić, said: "After robotization daily production of cookies has increased from 12,000 to 22,000 kg. Quality of product is 20 % better and as a result the cookies belong in a higher quality class. In the production line, there are 12 workers less."

The solution includes two robotic cells. In each cell there are two Mitsubishi RH-10AH85 robots in synchronous operation. The robots execute pick and place operations by picking up cookies from the distribution line and placing them in the packing machine.

The robot picks up the cookies with a vacuum gripper. The cookie's fragile structure combined with high speed of robot movement represented the main technological challenge in finding the best solution.

The complete installation includes the distribution line for cookies and two robotic cells. The line is automated using two Mitsubishi programmable logic controllers FX2N-80 MT ESS/UL. The project was designed, developed and implemented by INEA's engineers and experts. The technology-development turn-key project included all phases from conceptual design to the production taking-over.



**Daily production of cookies has increased from 12,000 to 22,000 kg. The quality of the product is 20 per cent better and as a result the cookies belong in a higher quality class.**

Branko Malenčić  
Technical Manager of Banini A.D. , Kikinda/Slovenia



The implemented technological solution can be used in various production fields such as food, pharmacy, automobile, chemistry, electronic, and others.

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