



MIA

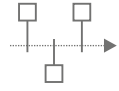
MCM **Intelligent** Automation



MIA | MCM Intelligent Automation

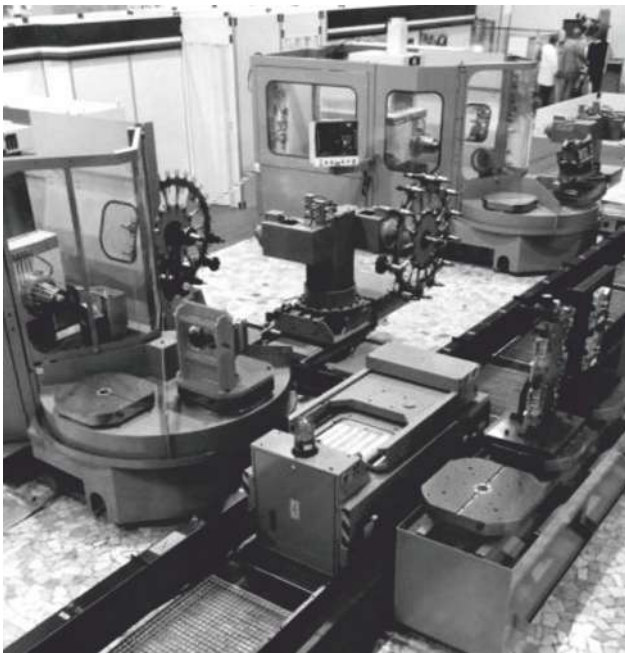


FMS since 1984

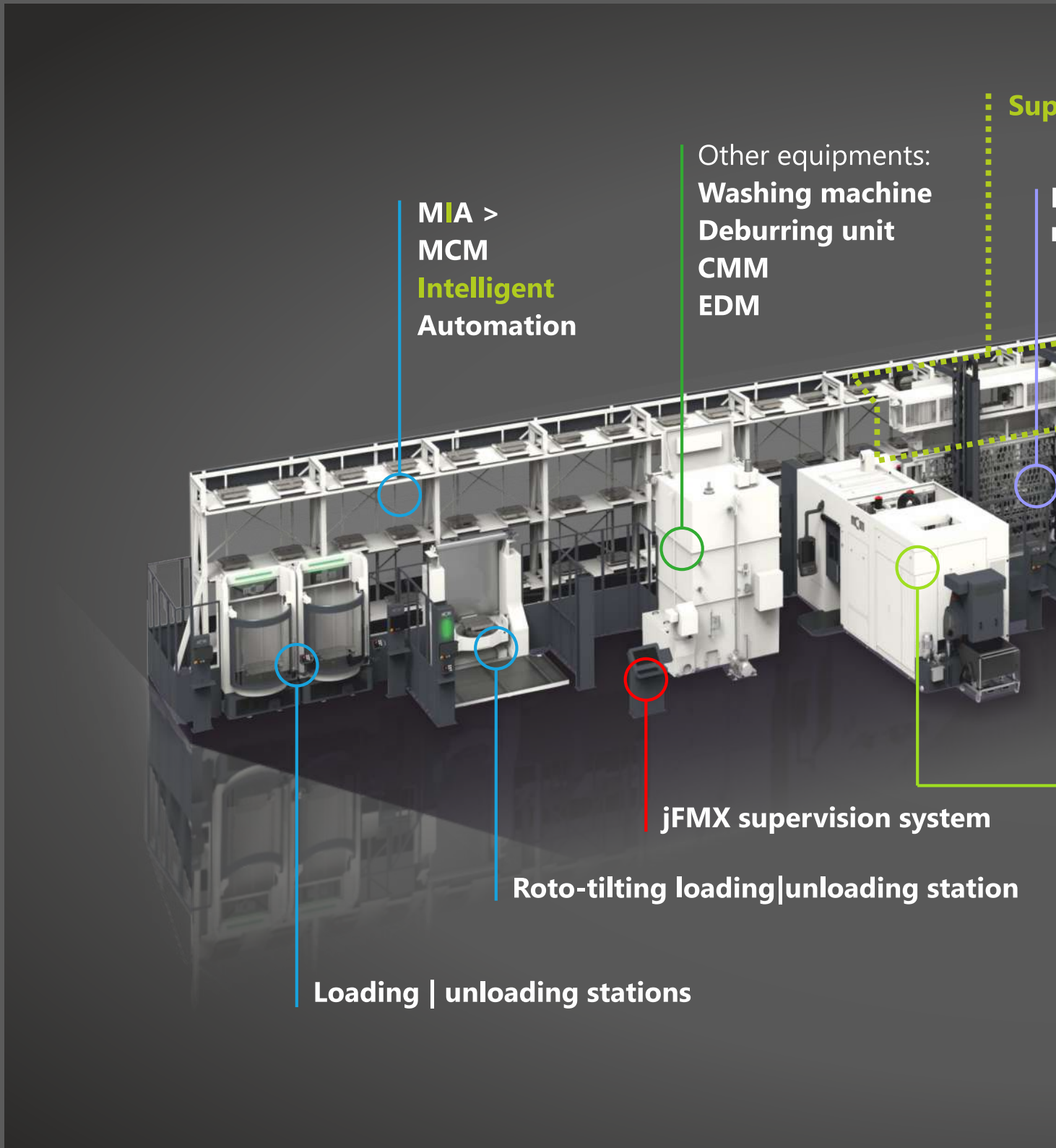


MCM designs and manufactures every building block of a Flexible Manufacturing System (FMS) – centralized tool magazines, pallet shuttles, automation rails, storage places, loading/unloading stations, overturning stations etc. – providing to the customers the advantage of working with one single supplier to carry out the entire project.

Inside MCM, all of the know-how can be found for designing, manufacturing and commissioning complex production systems, fully managed by the jFMX Supervision Software developed by MCE, the Software Division of MCM. Since the founding year 1978, 85% of the MCM machines went to become flexible manufacturing systems.



MCM > ONE-SOURCE-SUPPLIER FLEXIBLE MANUFACTURING SYSTEMS



Smart tool system | centralized tool sharing

Mirror Tool
magazine

Centralized tool room

Tools loading | unloading station

RGV Shuttle
for pallet

Clock 1200 EVO
horizontal machining center

INTEGRATED MANUFACTURING SOLUTIONS

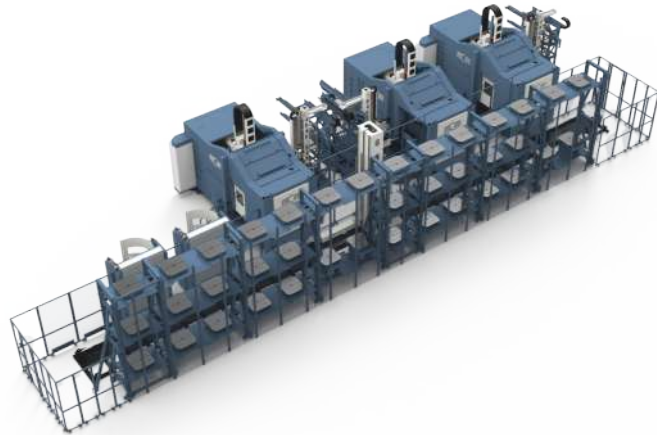
MIA > MCM Intelligent Automation

LP90

3 ≡

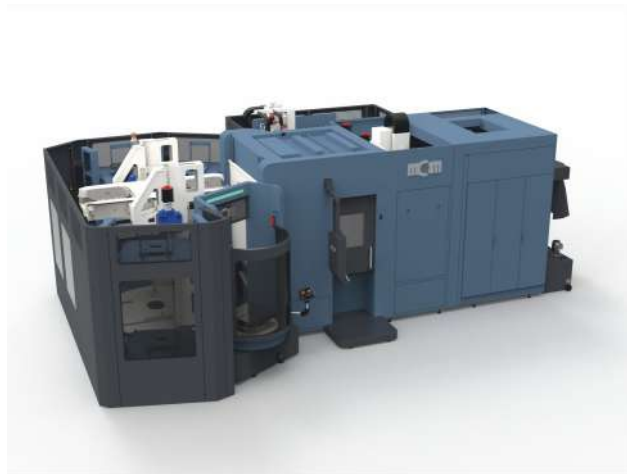
MIA | LP

Linear Pallet storage system
From 6 up to > 100 pallets



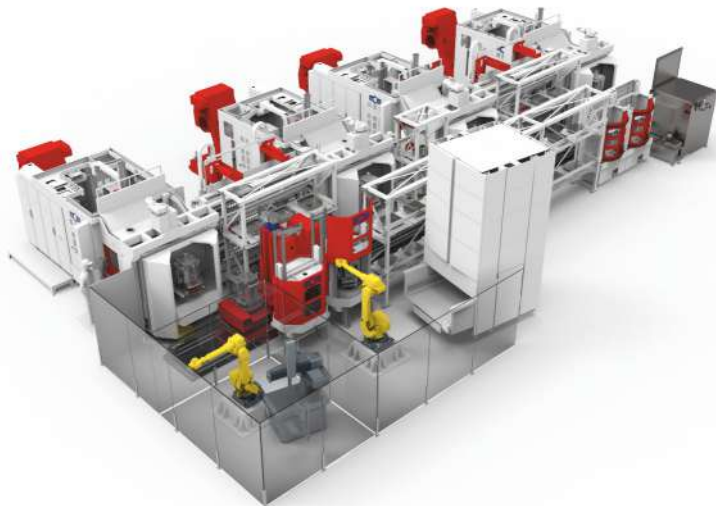
MIA | MP

Multi-Pallet storage system
From 7 up to 25 pallets



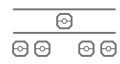
MIA | Robot

Robotized loading / unloading operations
System Integration



LINEAR PALLET _ MIA LP

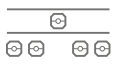
Flexibility Provider



Nowadays all industrial sectors face the challenge of maintaining high productivity in a flexible production setting managing important volumes composed of several small batches. At the same time, labour cost increases all around the world, further accelerating the transition to unmanned production. With more and more frequent integration with enterprise management systems and web connectivity, the FMS becomes the cutting edge of the 21st century production systems and a strategic investment for the future.

With the modular design of every building block of the FMS, MCM offers unparalleled flexibility for the customer to freely define the FMS layout and its extension by steps, which is the ideal investment model to deal with the current market's uncertainties.





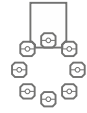
LINEAR PALLET _ MIA LP

Flexibility Provider

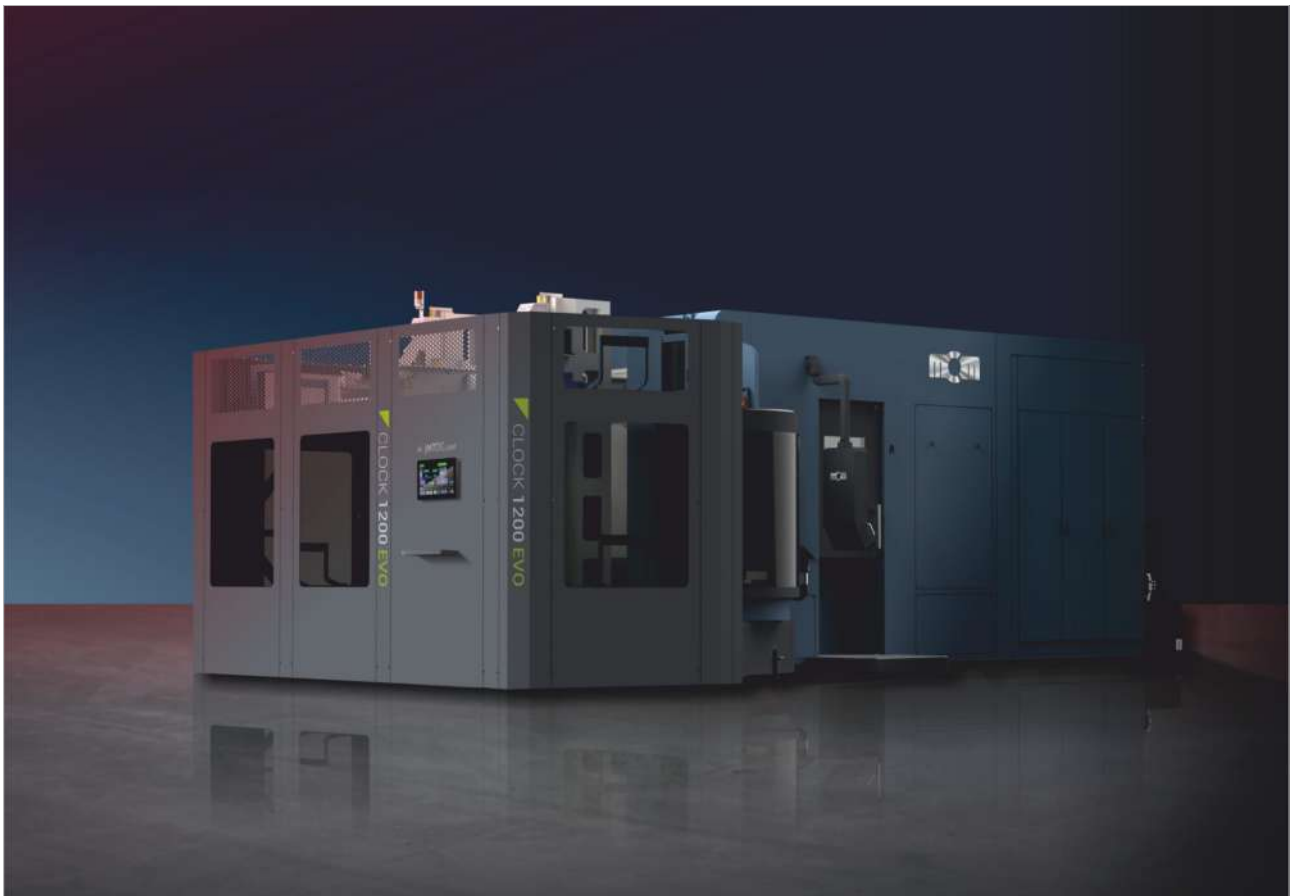


MULTI-PALLET _ MIA MP

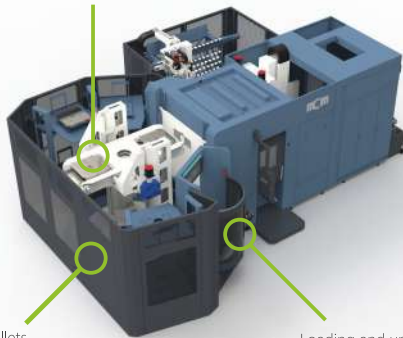
Autonomy First



Multipallet solutions are part of MCM DNA, representing the best compromise between flexibility, autonomy and easy-to-use system. Up to 25 pallets can be managed by one machine thanks to jFMX supervision software and to an innovative smart design that optimizes the pallet storage unit overall dimensions. A new pallet changer structure improves pallet manipulation times as well as the new operator loading and unloading station.

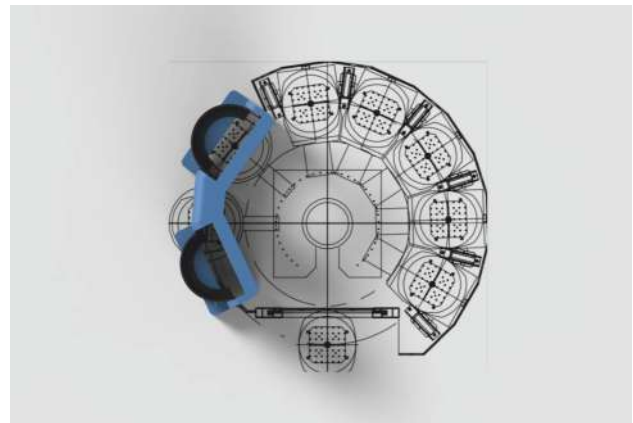


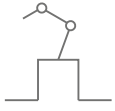
Double ATC with Vertical elevator



Up to 25 pallets

Loading and unloading station
from 1 up to 3





MIA | Robot

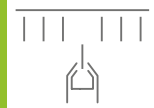
System Integration

A special type of FMS solution exploiting the capability of managing high flexibility to modulate an extremely effective production system. Since its beginning MCM considered all the aspects of an automation solution, including pallet handling or parts handling as available solutions among the building blocks of an FMS, all controlled and managed by the MCM Supervision (jFMX) and Data Analysis (jFRX) suites. With the aim to optimize the layout and the production flow, even vertical storage systems can be integrated, as well as complementary and auxiliary third-party technologies and machines into a single production system.

MCM offers to the customer the certainty of interfacing with one single reliable and competent partner for designing, manufacturing and commissioning of extremely versatile and complex FMS.

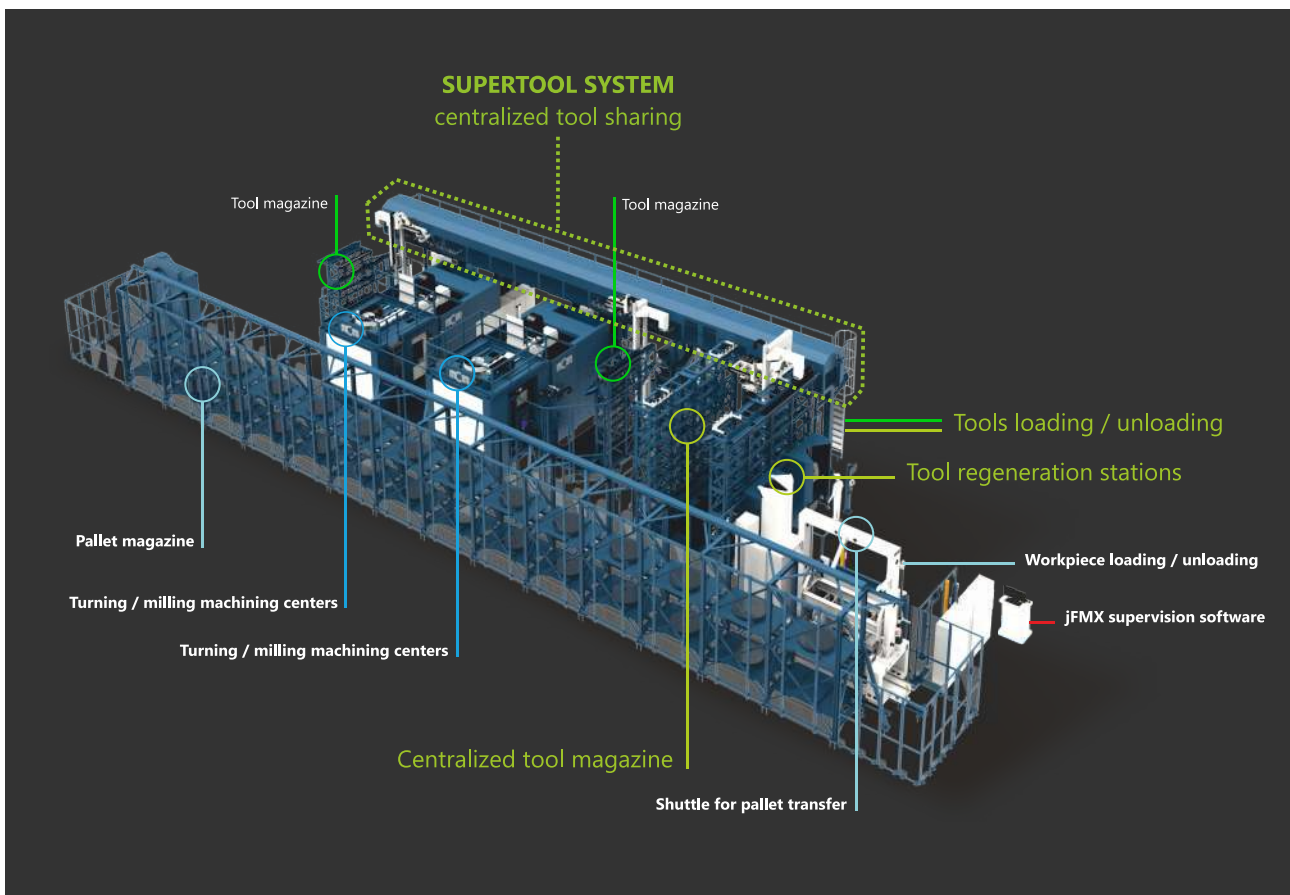


MCM centralized tool systems



Sharing tools across two or more machines allows a greater production autonomy and less downtime for a superior overall system availability. If necessary, an FMS machine can retrieve a tool previously assigned to another unit, or jFMX - the MCM supervision suite - can assign the machining of a component to a unit of the FMS, automatically providing it with all the necessary equipment, cutting tools included.

The sharing of all tools on an FMS system creates the condition for the ultimate flexible production, in which each machine of the FMS is able to complete all the required operations.





Human Centered Manufacturing

Human-machine interface in the MCM FMS _ Loading / unloading stations

In the concept of Human Centered Manufacturing, MCM elevates the regular loading/unloading station to ergonomic and multi-function units, where the operator has full control over the entire production system.



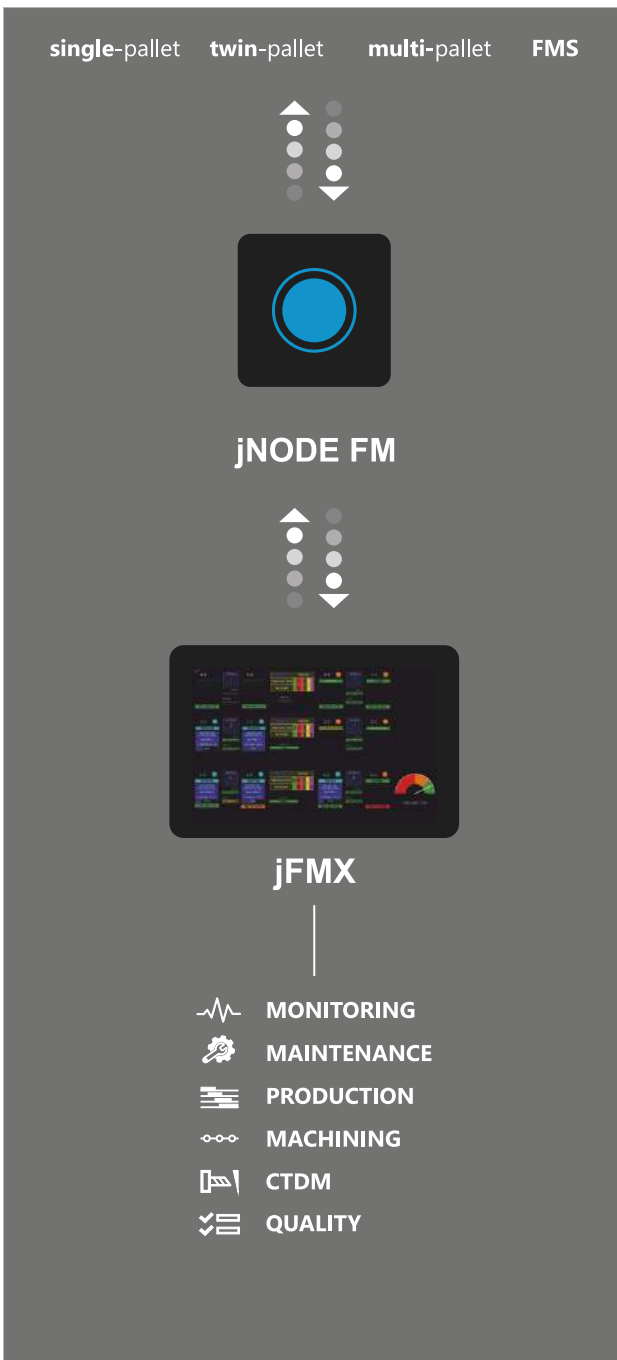
jFMX

SUPERVISION SOFTWARE



jFMX, the exclusive MCM supervision software and the jFRX platform represent the state of the art of the system information, monitoring and control solution.

jFMX can supervise all the aspects of the ongoing process and of the machine. jFMX architecture can be scaled from a simple single-pallet machine to a complex FMS. jFMX can manage in an efficient way: tools, pallets, workpieces, programs, sequences, priorities, resources, inputs / outputs, etc.. Moreover, it can be interfaced with other customer's management softwares always ensuring a high level of cyber-security.



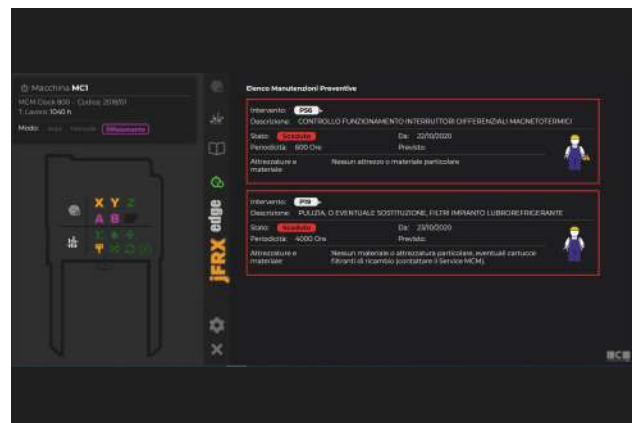
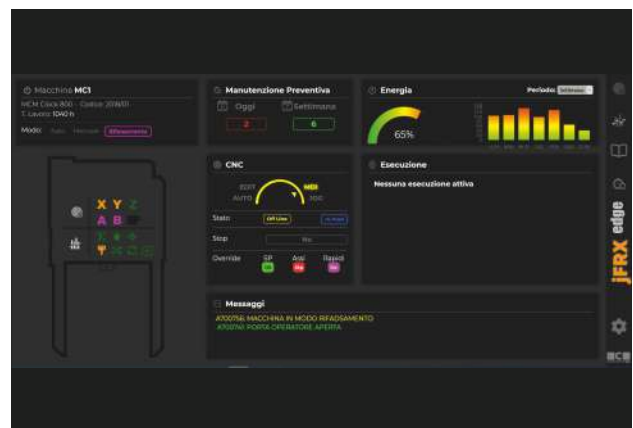
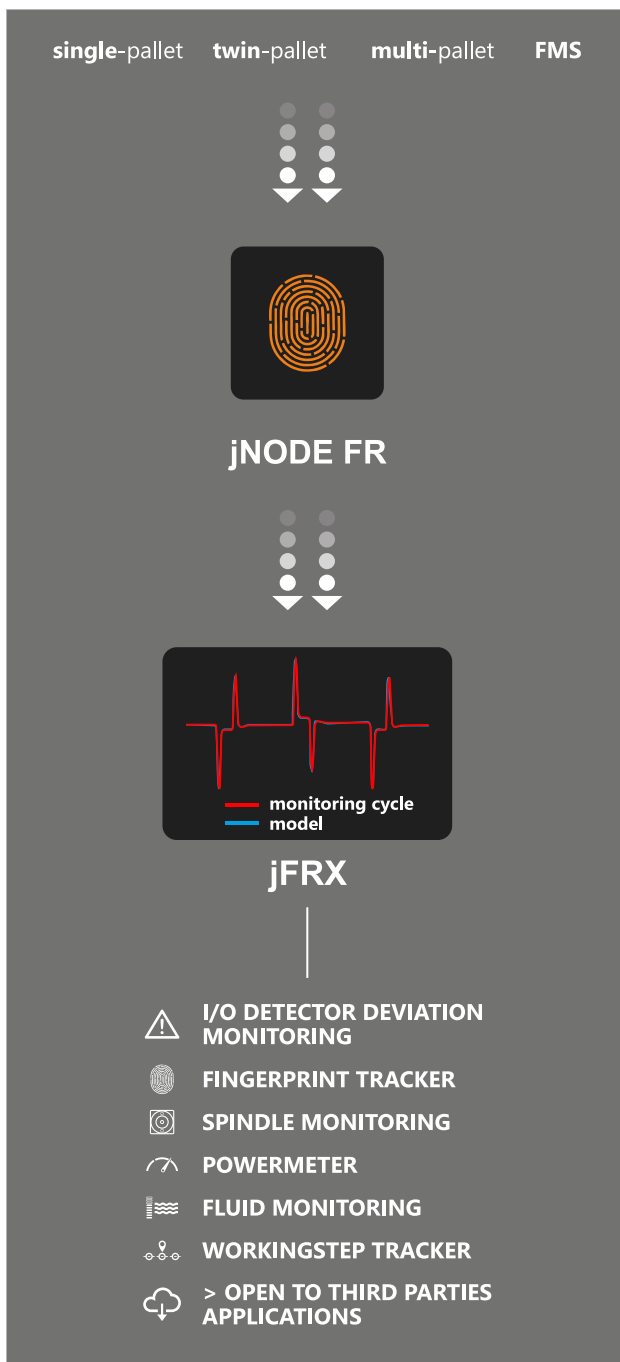


jFRX

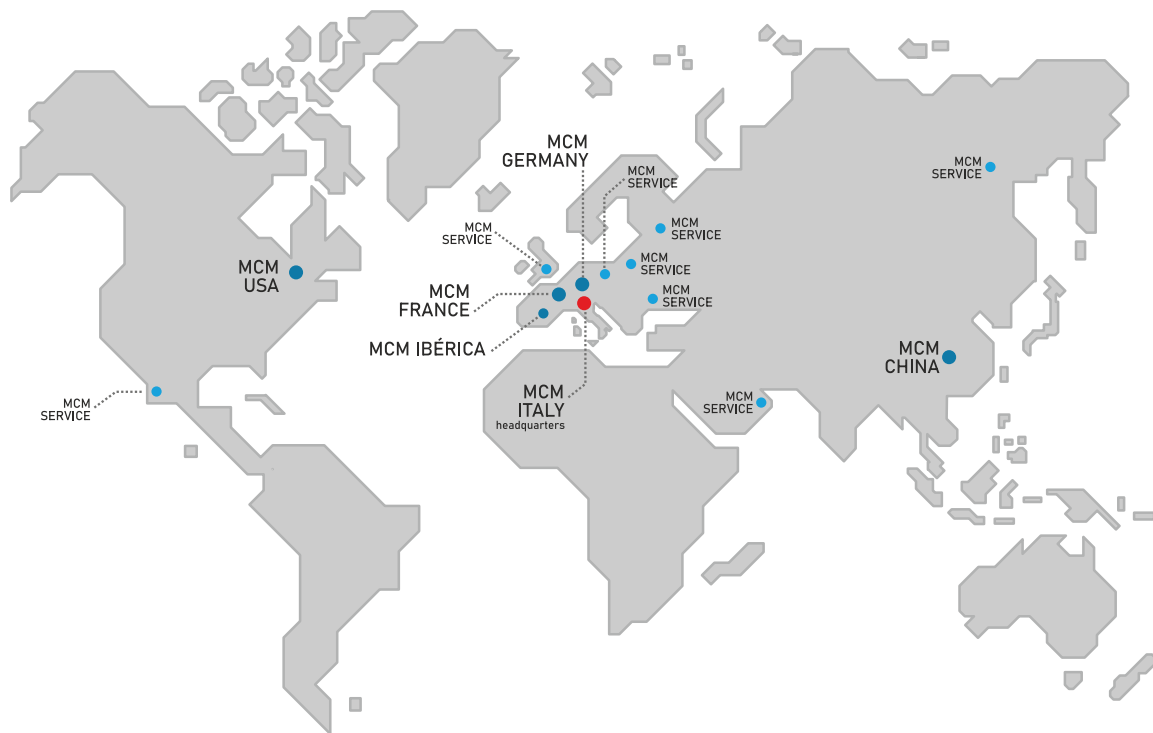
ENABLING PREDICTIVE MAINTENANCE

jFRX is the new software by MCM which enables predictive maintenance concepts. Based on Industry 4.0 principles, jFRX records and analyzes a large number of outputs coming from the process and the machine.

Thanks to the comparison of these data between a reference optimal status and the current machine status, it is possible to discover potential functional drift trends, avoiding unexpected breakdowns. Cloud connectivity and MCM Service remote assistance strength up the reliability of the machine and the user satisfaction.



MCM worldwide



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MACHINING
CENTERS



FLEXIBLE
AUTOMATION



SYSTEM
INTEGRATION



SUPERVISING
SOFTWARE



MANUFACTURING
TECHNOLOGY



SERVICE

#evolvingtogether

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