



MACHINING CENTERS MANUFACTURING

evolving together

Established in 1978

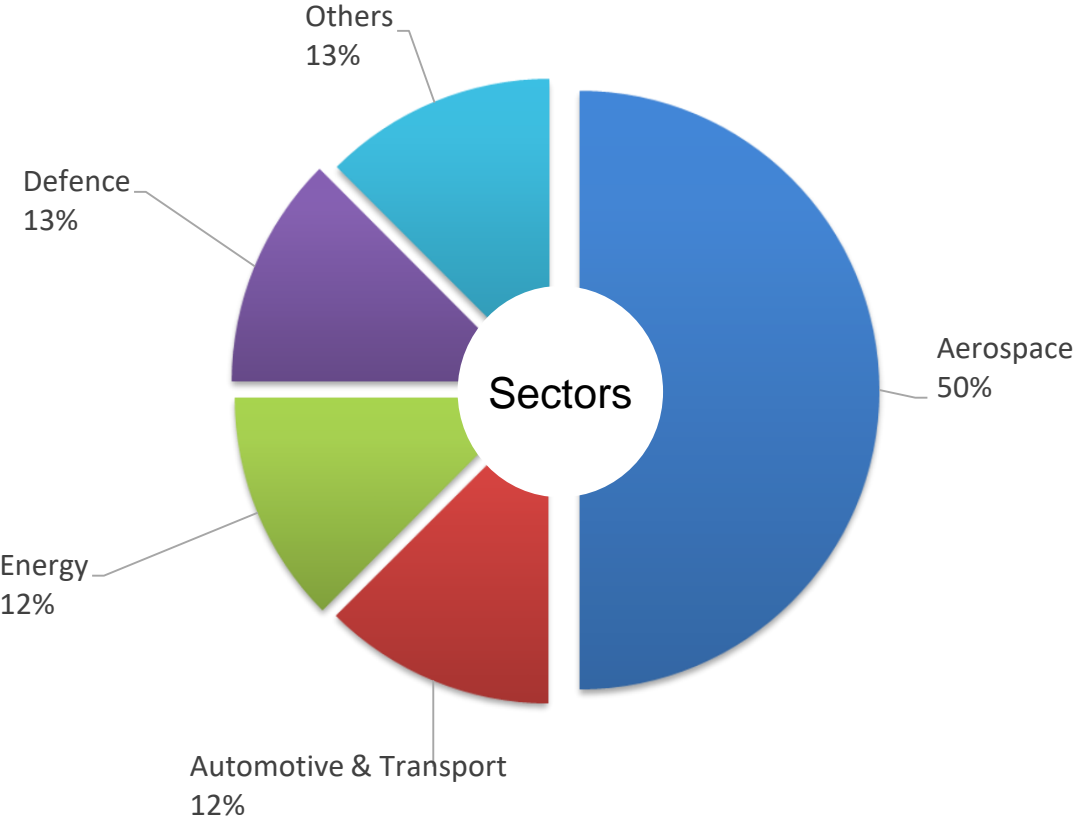
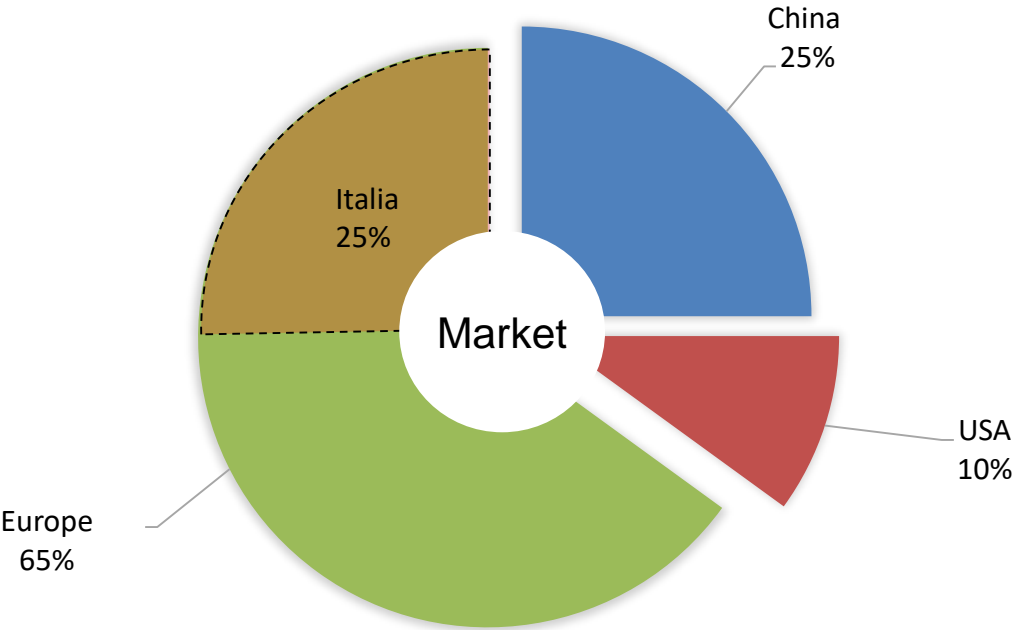
3 production locations in the middle of the Italian district of machine tools, approx. 24.000 m² of assembly area



Employees : 320
Average age: 40



MCM has grown at international level in:
Aerospace, Automotive, Industrial, Energy, Oil & gas and Defence sectors.



4 & 5 AXES MACHINING CENTERS

Milling
Turning
Drilling
Grinding

INTEGRATED PRODUCTION SYSTEMS

Flexible Machining Systems
Complementary processes integration
Process automation

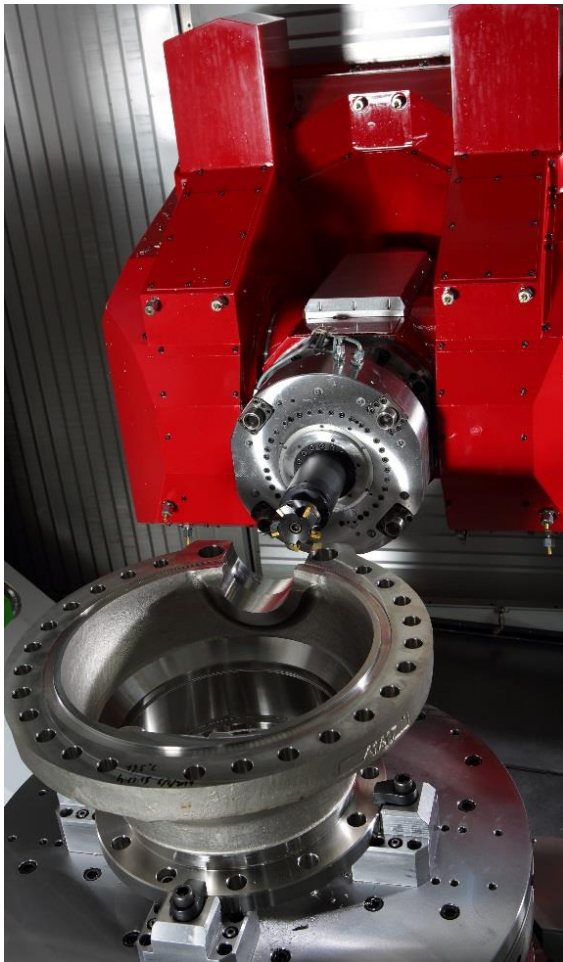
SUPERVISION SOFTWARE

Smart production according to Industry
4.0 principles
Production data & statistics
Cloud and web access



MCM machines can be configured as multi-operational manufacturing center

4 / 5 Axes Milling



Turning



Drilling



Grinding





JET-FIVE
FAMILY

TANK.G
FAMILY

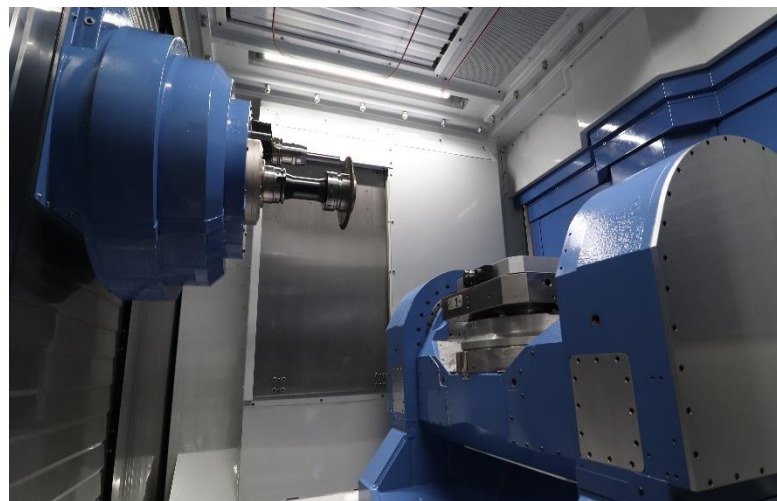
TANK
FAMILY

CLOCK
FAMILY

4 and 5 axes MC with exclusive design and technologies

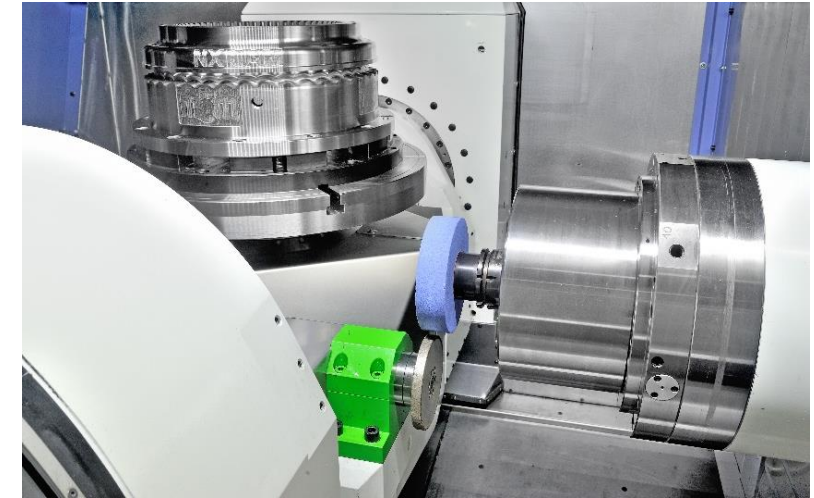
X Axis Strokes from 800 to 1200 mm

High dynamics, rigidity and accuracy



Bipallet, Multipallet (up to 20 pallets), FMS configurable

Pallet Sizes from 500x500 to 630x800





+



Workpiece Size

JET-FIVE
FAMILY

TANK.G
FAMILY

TANK
FAMILY

CLOCK
FAMILY

4-5 axes available, Single/Bi/Multi-Pallet and FMS

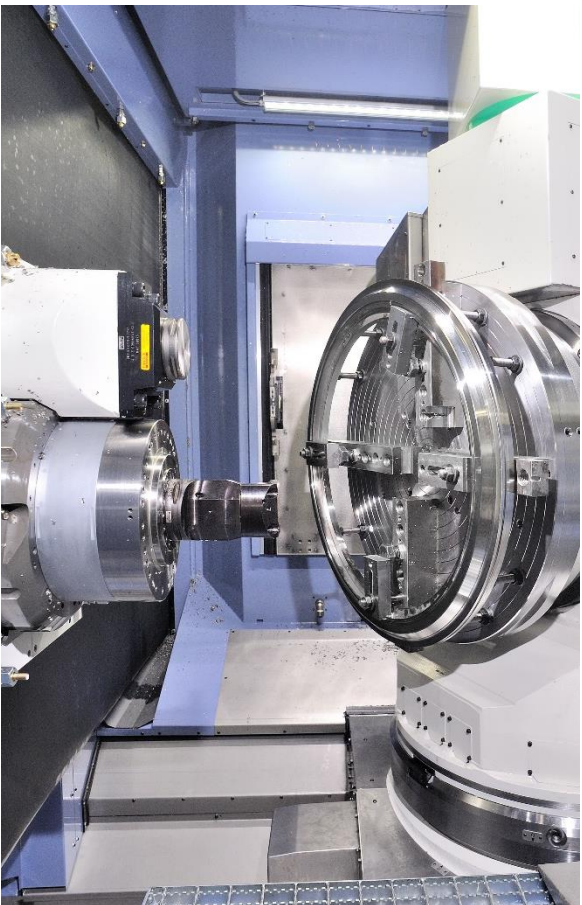
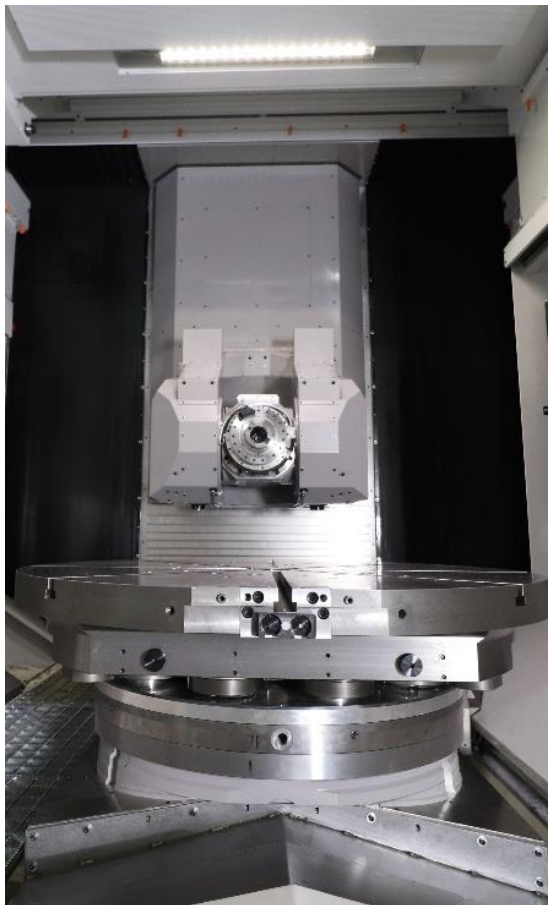
Designed for multitasking

X Axis Strokes from 1300 to 3000 mm

Square Pallet Sizes from 800x800 to 1250x1250 mm

Round Pallet sizes up to 1400 mm

Highly customizable



MACHINING CENTERS



FLEXIBLE AUTOMATION



SYSTEM INTEGRATION



SUPERVISING SOFTWARE



MANUFACTURING TECHNOLOGY



SERVICE



+

Workpiece Size

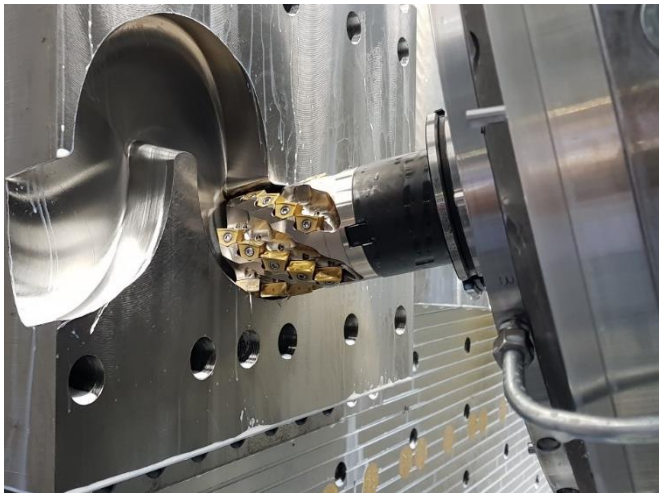
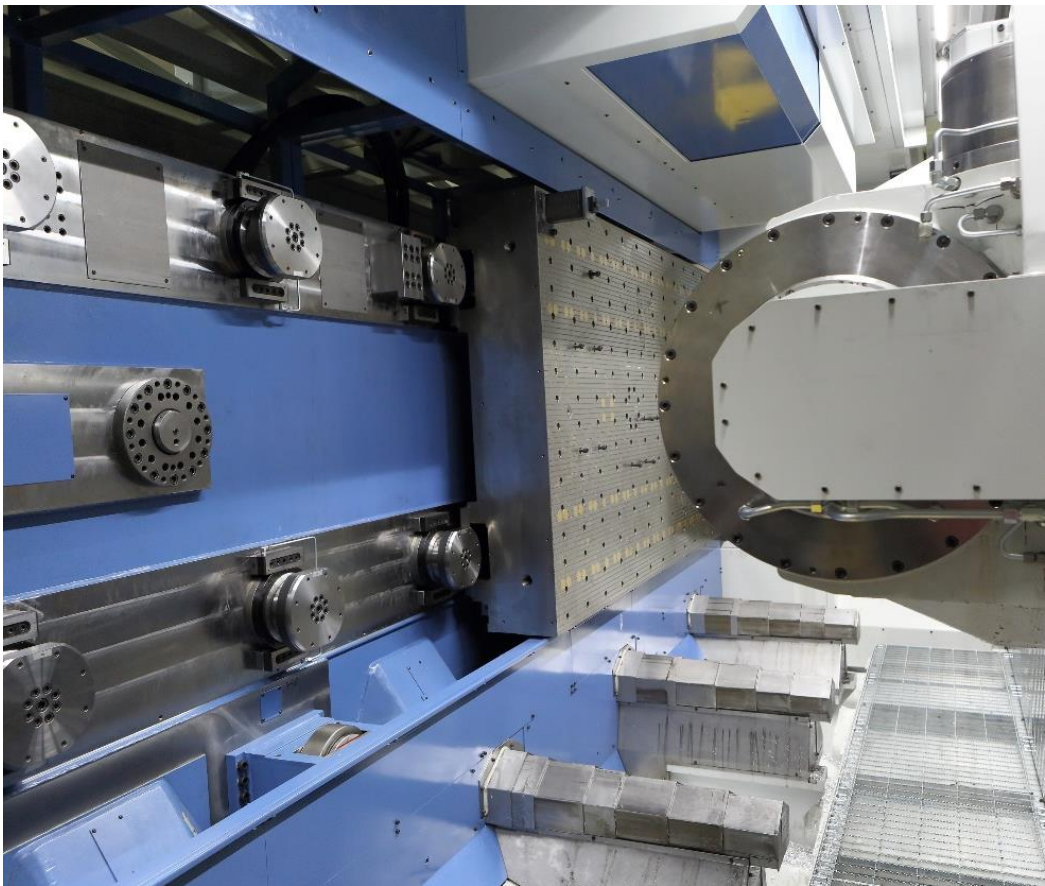
JET-FIVE
FAMILY

TANK.G
FAMILY

TANK
FAMILY

CLOCK
FAMILY

Designed on custom needs and for High Removal Rates
Versatility and excellence dynamics
Cross-Sectoral application
Configurable in FMS or Multipallet operations
Big Sizes (X axis > 3 meters)



MACHINING
CENTERS



FLEXIBLE
AUTOMATION



SYSTEM
INTEGRATION



SUPERVISING
SOFTWARE

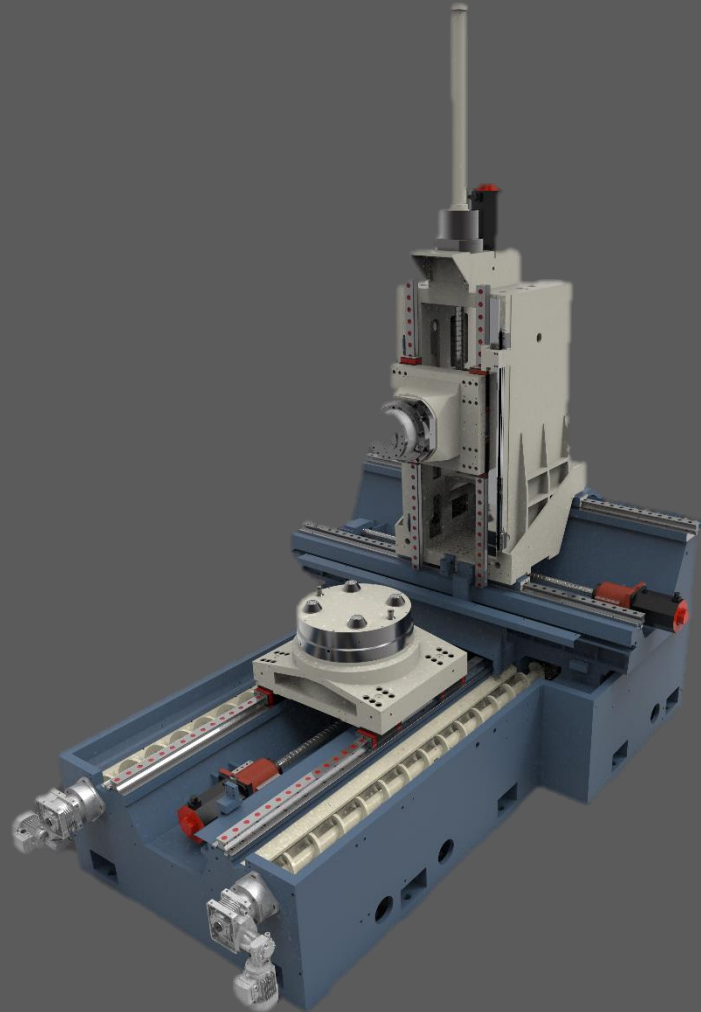


MANUFACTURING
TECHNOLOGY



SERVICE

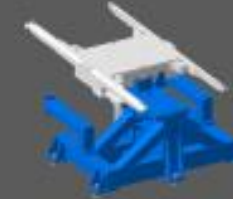
Key components based on exclusive MCM engineering



MACHINE BED



Y-AXIS COLUMN



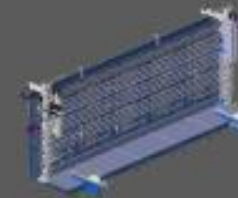
APC



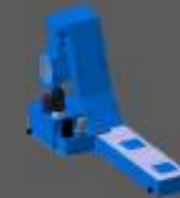
45° APC



ISM SPINDLES



MODULAR RACK ATC



CHIP CONVEYOR



ICS TANK UP TO 350 BAR

FIVE AXES MACHINING ALTERNATIVES



TILTING HEAD



TILTING TABLE



TURNING TABLE



BI-ROTARY HEAD



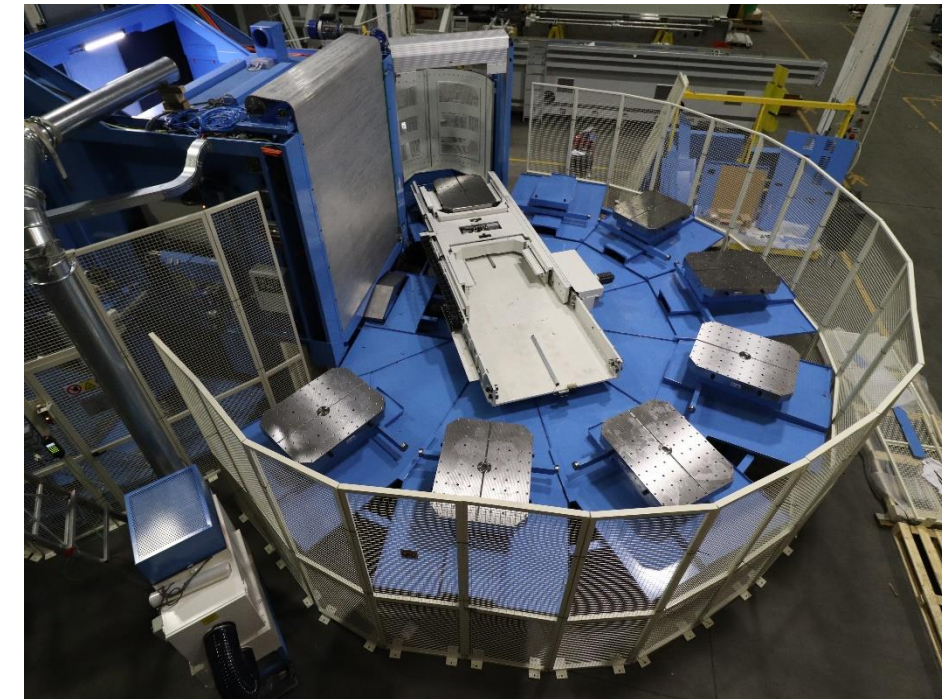
Multipallet

Autonomy of the production plant (i.e. unmanned shifts, weekend)

Reduction of human activities and improvement of shop-floor safety

Multi pallet configurations (from 1 to over 20) and multi-level pallets storage

Supervision and management software





Flexible Manufacturing Systems (FMS)

Specialists of highly automatized machining plants

Fast reconfigurability of production

Reduction of human activities, improvement of shop-floor safety

Optimization of 'Productivity/Surface Unit' ratio [$\$/m^2$]

Improvement of the 'Throughput ratio' [parts/hour]

Elimination of W.I.P. warehouses

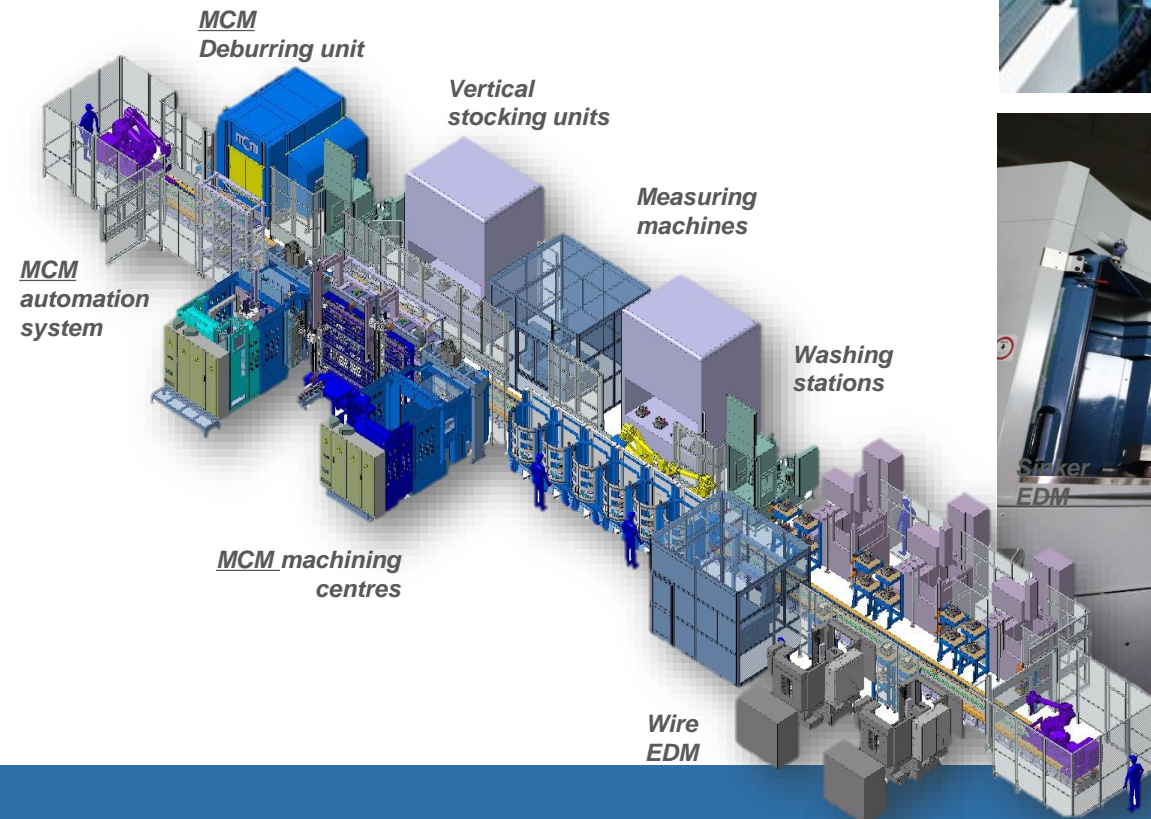




Different and complementary technologies integrated into a single production system

Exclusive management software

Integration: robots, handling systems





Id	Immagine	Caratteristica	Desc
1		D59	1° Misura D59 lato bascula Dx. Esterno perno
2		D59	2° Misura D59 lato bascula Dx. ruotata di 90° Esterno perno
3		D59	3° Misura D59 lato bascula Dx. Interno perno
4		D59	3° Misura D59 lato bascula Dx. Interno perno Ruotata di 90°



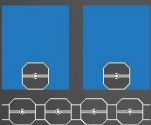
single-pallet



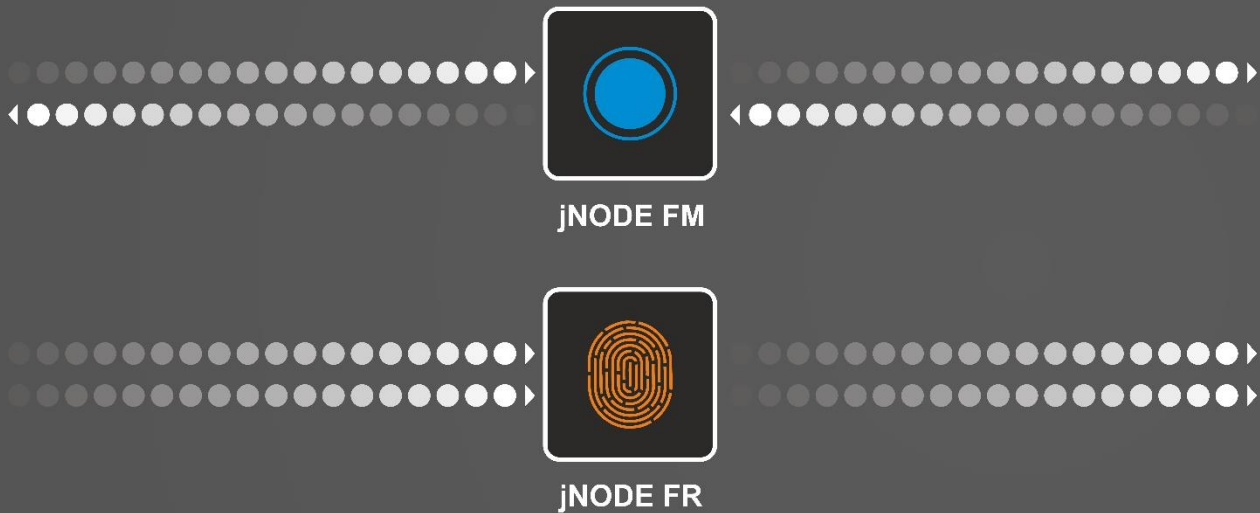
twin-pallet



multi-pallet



FMS



jFMX

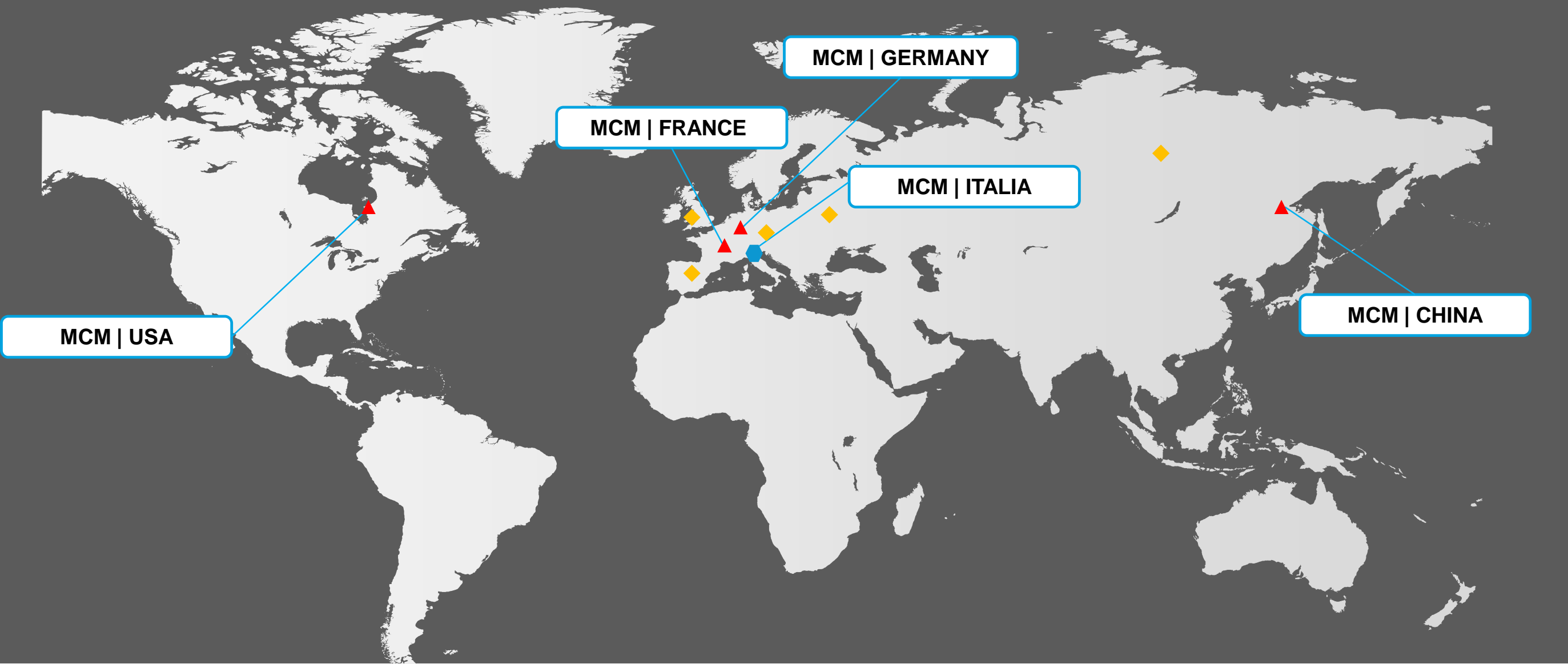


jFRX

- MONITORING
- MAINTENANCE
- PRODUCTION
- MACHINING
- CTDM
- QUALITY
- I/O DETECTOR DEVIATION MONITORING
- FINGERPRINT TRACKER
- SPINDLE MONITOR
- POWERMETER
- FLUID-MONITOR
- WORKINGSTEP TRACKER
- > OPEN TO III° PARTS APPLICATIONS

more than 30 years experience in flexible manufacturing supervision software





MCM operates worldwide with service subsidiaries ▲ located in:
ITALY / FRANCE / GERMANY / USA / CHINA     

MCM network of local partners ◆ is located in:
SPAIN / RUSSIA / UK / POLAND / CZECH REP



MACHINING CENTERS MANUFACTURING

REFERENCES





A.G.I.
 ACITURRI AERO
 STRUCTURES
 ACITURRI AERO ENGINES
 AGUSTA WESTLAND
 AIRBUS
 AIRBUS HELICOPTERS
 AIRCRAFT PHILIPP
 AVIC
 AVITRON – SAM Group
 CAUQUIL
 CESA
 CHINA AVIATION
 INDUSTRY
 COMEAR
 COUSSO
 DASSAULT AVIATION
 FAMAT
 GE-AVIO
 IGW POWER
 ITP
 LATECOERE

LAUAK
 LEONARDO
 MAGNAGHI AERONAUTICA
 MECAFI
 MTU AERO ENGINES AG
 OMA
 PREMIUM AEROTEC
 SAFRAN AERO BOOSTERS
 SAFRAN AERO COMPOSITES
 SAFRAN AIRCRAFT ENGINES
 SAFRAN HELICOPTER
 ENGINES
 SAFRAN LANDING SYSTEMS
 SAFRAN TRANSMISSION
 SYSTEMS
 SECONDOMONA
 SHENYANG AIRCRAFT
 SNECMA Suzhou
 SONACA
 ST. JEAN AERO
 STELIA AEROSPACE
 UTC AEROSPACE



LA.ME.S.
MAGNETI MARELLI
MOTORI MINARELLI
SATA Gruppo FIAT
STREPARAVA
TEKSID
TM RACING
VM MOTORI (DAIMLER
CRYSLER)
VOLVO

ASSO WERKE
BREMBO
CHASSIX
CIE AUTOMOTIVE
FERRARI AUTO
FIAT
FPT POWER
TRAIN
HITACHI METALS
AUTOMOTIVE
COMPONENTS
LLC





ISOTTA FRASCHINI
IVECO
LANDINI
LIEBHERR-
HYDRAULIKBAGGER
MATROT
MCCORMICK
MMS Marine Motor

Service GmbH
OMSI TRASMISSIONI
SAME DEUTZ-FAHR
REFCOM
SITI
V. ORLANDI
YTO France

GILARDONI
GIMA - AGCO
GNUTTI
HDM - LAFORGE-
LLC
INFRABEL
INTERPUMP

AGCO
BCS
BREVINI
CARRARO
CASE
AGRICULTURE
CNH
CUCCHI



GE GRID SOLUTION
HAL LEIPZIG
JMA - JOUSSEAU
L.M.B.
SIEMENS AG
THÖNI
MANUFACTURING
WUXI - AREVA

ALSTOM - AREVA T&D
AMPO
BHEL
CAMS
DAFRAM
DEMONT
FBFC – AREVA
GE - OIL & GAS





A.M. STAMPI
AUTOMOTIVE
LIGHTING
BENELLI
BERETTA
BETTINELLI
BIGLIA
BLM GROUP
BOBST
CAESAR GUERINI
ELIO ZAGO
EUROSTAMPI
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SMI





OIL CONTROL REXROTH
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VAT
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ARON
BIMA
BONFIGLIOLI
BREVINI HYDRAULICS
BUCHER HYDRAULICS
CASAPPA
CASAPPA Pumps Division

EURO PRESS PACK
FRASCOLD
HP HYDRAULICS
INTERPUMP HYDRAULICS
LENZE
METAL WORK



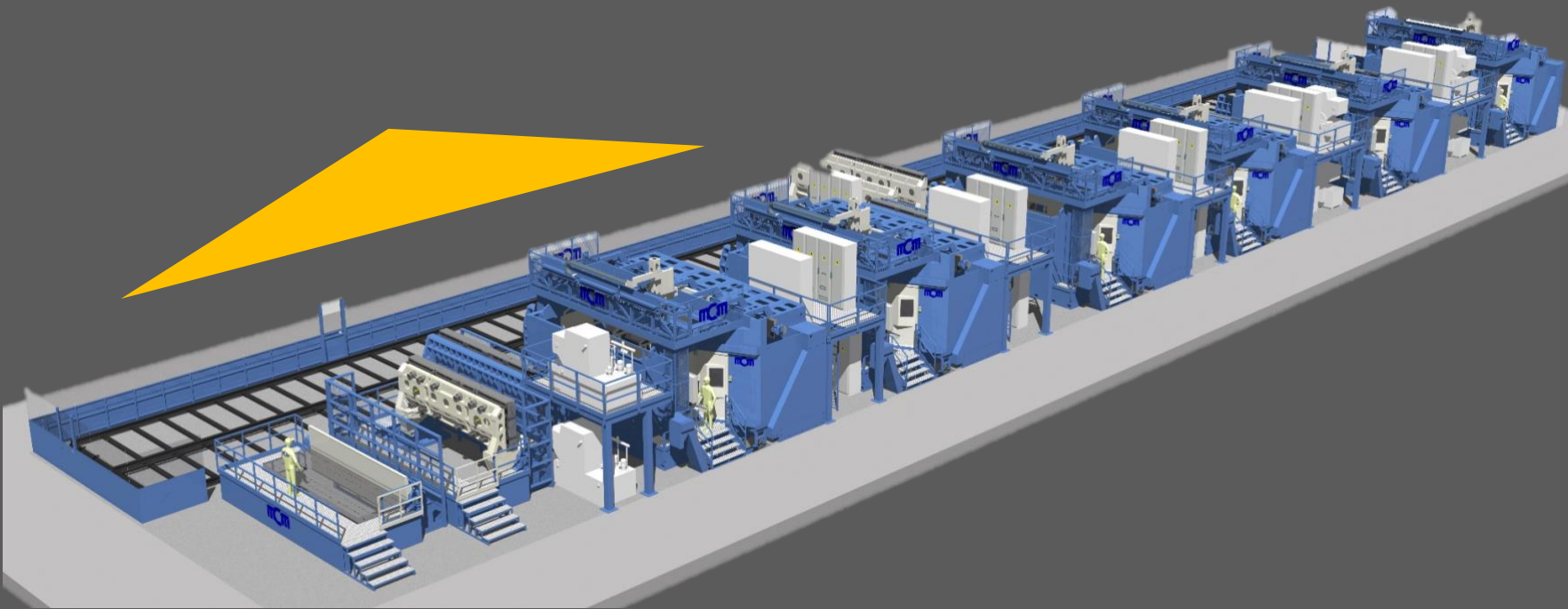


AEROSPACE CASE HISTORIES



FMS with 6 machining centers model Jet Five
and integrated automation for the manufacturing of titanium structural parts.

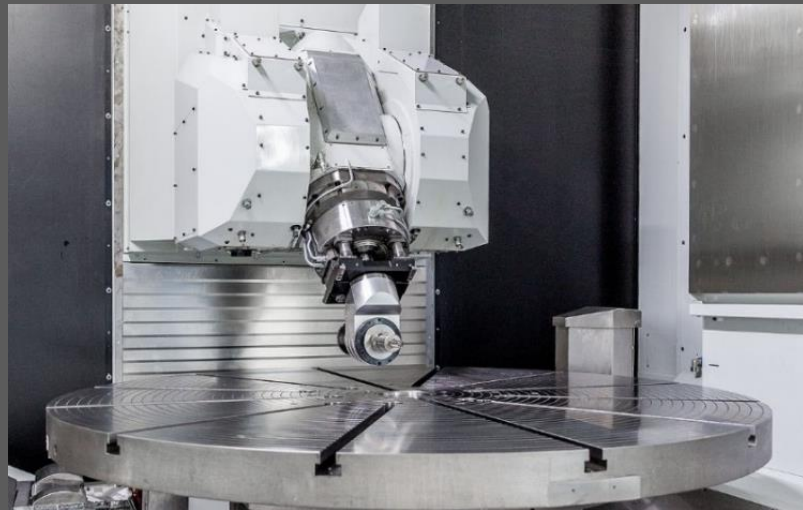
Overall system size: 1.200 m² – 80 x 15 m
Pallet size: 5.000x1.600 mm
Tool management with supertool
jFMX supervising software



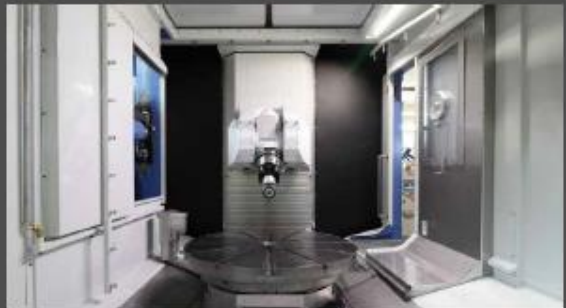
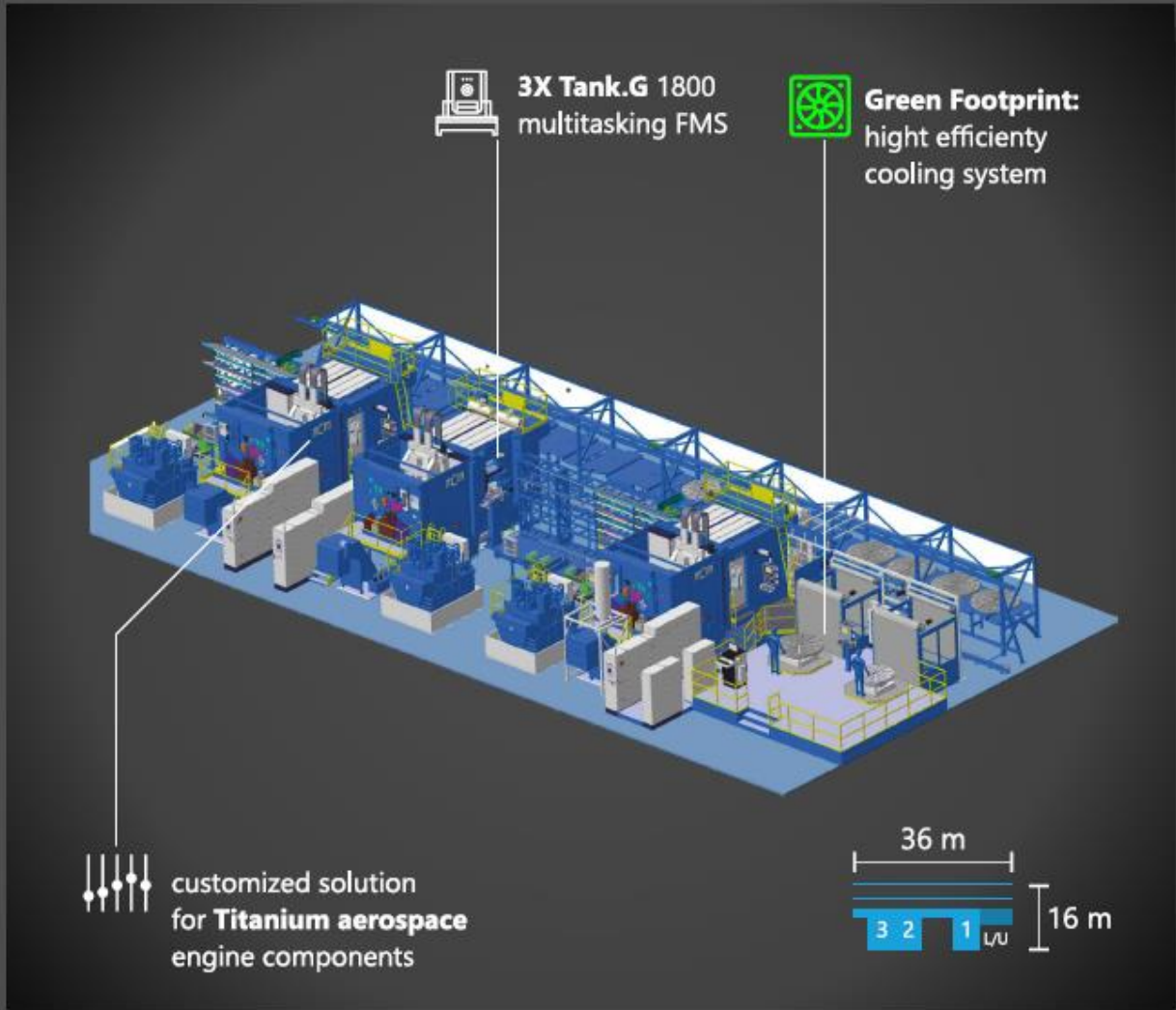
3 FMS with 12 multitasking 5 axis machining centers for the manufacturing of LEAP turbine disks with:

- precision load/unload stations
- pallet change with horizontal-vertical rotary unit
- shared tool magazine type mirror
- hi-performance tool preset station
- jFMX supervising software





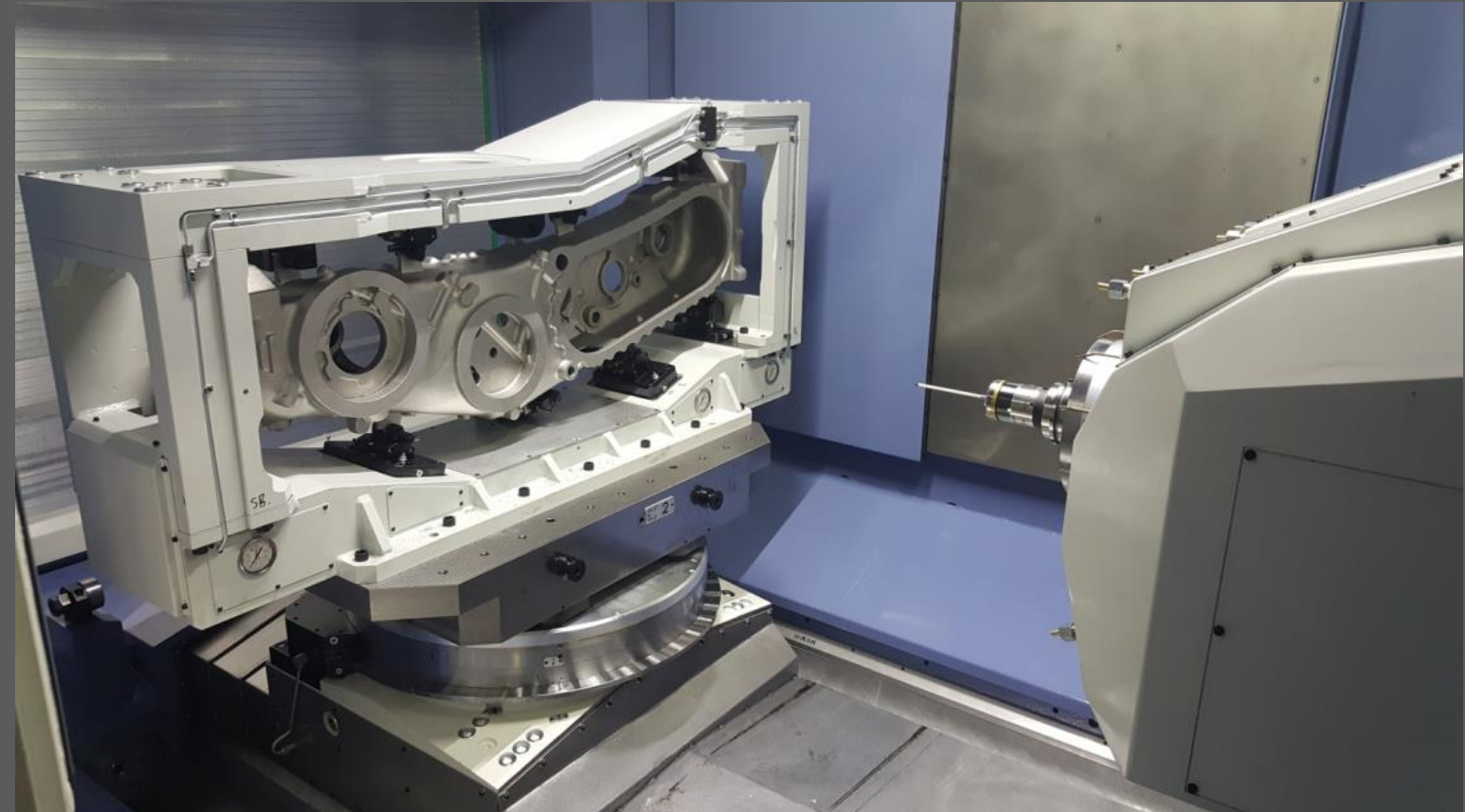
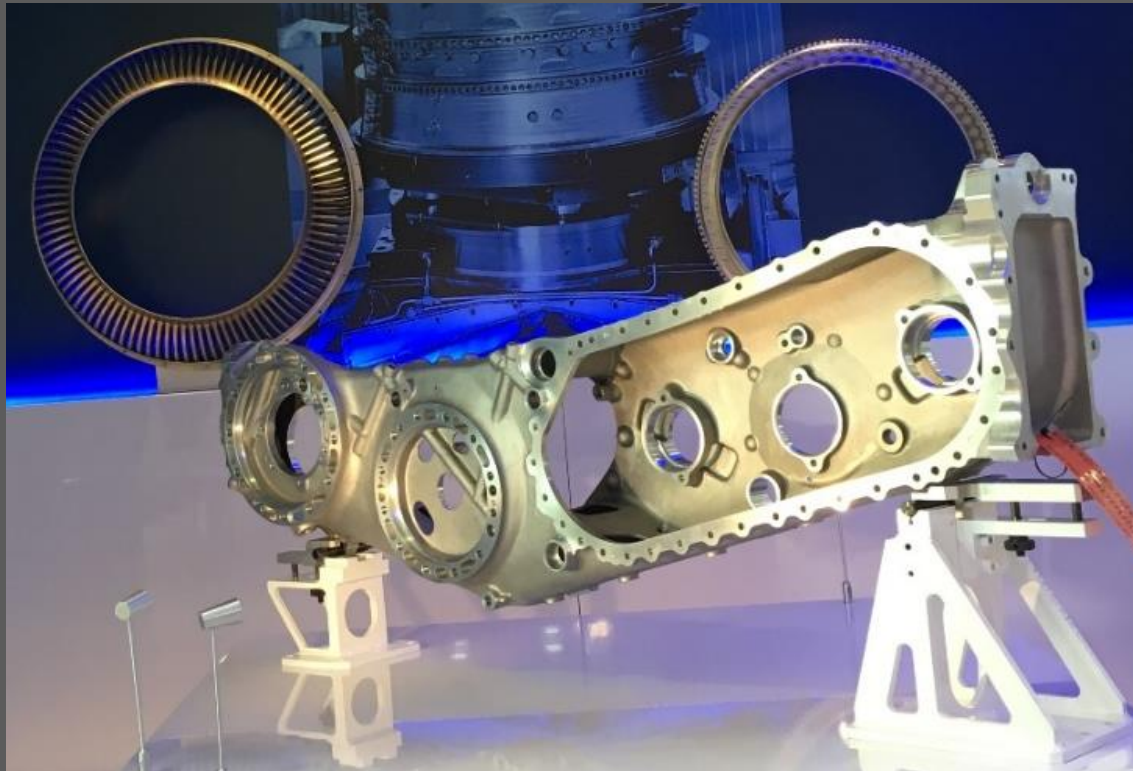
FMS with 3 MULTITASKING machining centers for milling, turning and grinding of Inconel aero engines “central frame”



Production System made by 4 multi-pallet 5 axis machining centres.

PLUS: turn-key solution

- Project development with CATIA V5 to design fixtures and evaluate tool dimensions
- Cycle time: under 10 hours
- > 100 tools required for the complete machining





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