



Shaping a better future



**INNOVATIVE LARGE
MILLING MACHINE
MANUFACTURER**

www.dufieux.com



DUFIEUX designs and builds large capacity machine-tools for soft and hard material applications. The company is strongly committed to focus on customers' needs while outperforming competitors in targeted niche markets.

Continuous technology survey and engineering innovations enable DUFIEUX to offer advanced solutions ready for tomorrow's production demands.

The company's know-how is based on Turnkey projects with process improvement, for the greatest satisfaction of its long term customers.



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MIRROR MILLING SYSTEM (MMS)

Dufieux designs and integrates large dimension machines dedicated to precision thin aluminum formed panels and titanium formed sheets by high speed machining.

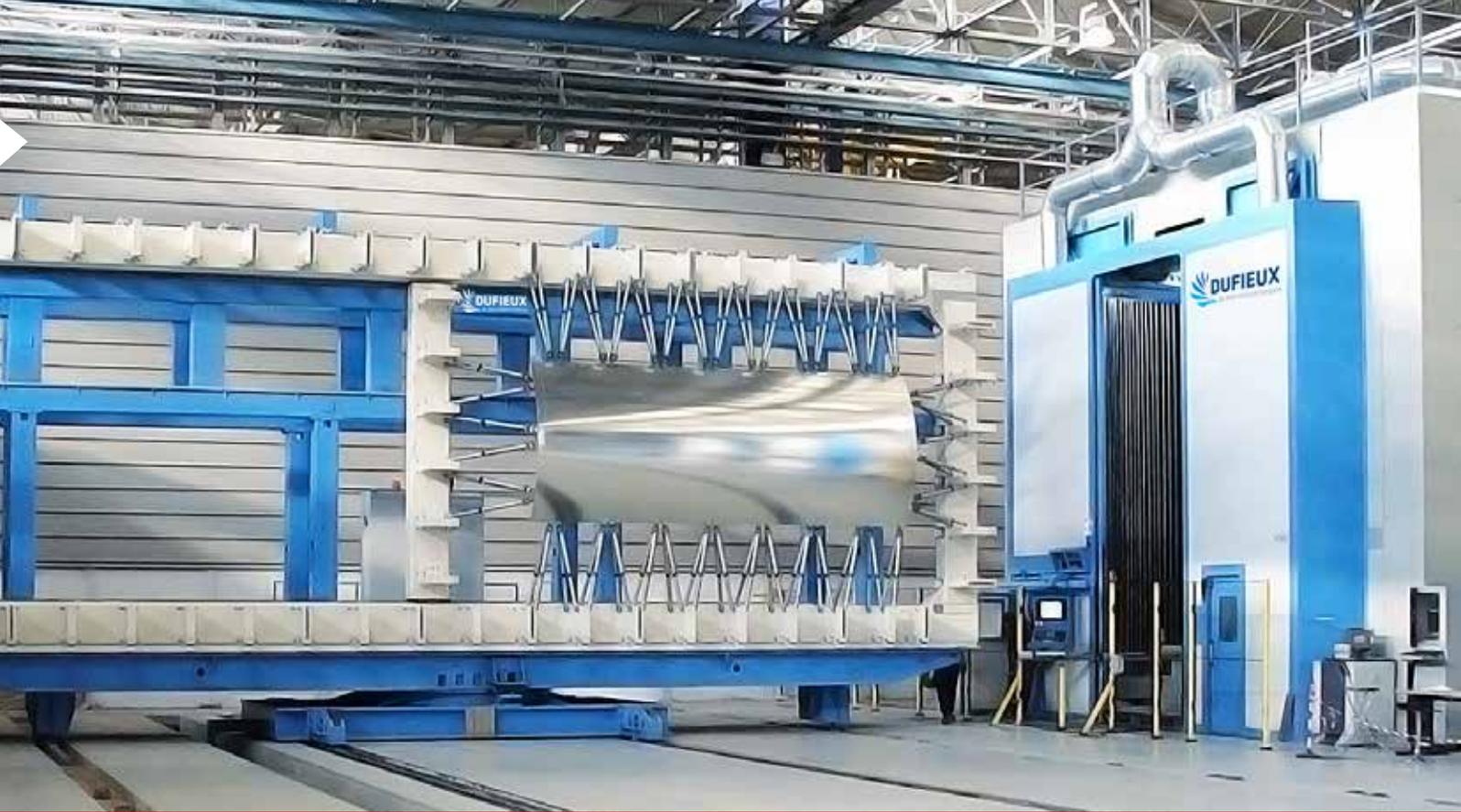
A complete panel line through full automatic MMS cell or stand-alone MMS.

In order to replace the “classic” chemical process, the out-performing aluminum skin Mirror Milling System that was the fruit of DUFIEUX’s cooperation with AIRBUS, has outcome to a world patented fuselage panel production system.

The MMS technology is a proven mechanical process that secures the production of 3D skin in aluminum. It enables the complete process of milling, drilling and routing of skins in a single setup within a single machining cycle.

Today, with a long term experience in that specific market (more than 50 000 panels produced), the MMS is the Best World Available Technology and includes the following features:

FOR GREENER, FASTER AND CHEAPER PROCESS!



- Universal process solution for very large variety of panels contour type
- Double face machined in same setup
- High velocity machine type
- Patented high speed head design with dynamic A & B axes
- Dynamic machining control system including live ultrasonic control
- Simple & accurate part referencing accepting incoming low accuracy stretched panels
- Flexible, quick and stressless panel clamping system
- Possibility of palletization system (no downtime), lean manufacturing, easy product rate implementation



VERTICAL 5-AXIS MULTI-SPINDLE MILLING MACHINE

Highly dynamic 5-axis multi-spindle mobile gantries for the mass production of aluminum and titanium structural parts. A highly productive and flexible concept ensuring optimum profitability.



Titanium Multi-Spindle Milling Machine

A 5-axis gantry for the machining of complex parts in titanium, developed to allow customers to achieve outstanding results in milling called "Titanium Smooth Cutting".

- Modern design gantries integrating latest technology equipment
- Customized machine design based on standard modules combination
- Machine design range from 1 spindle to 5 spindle configuration (in 3 or 5 axis type)
- Large variety of guiding systems adapted to each applications
- Integration of «Direct drive» spindle system (no gear box)





Aluminum Multi-Spindle Milling Machine

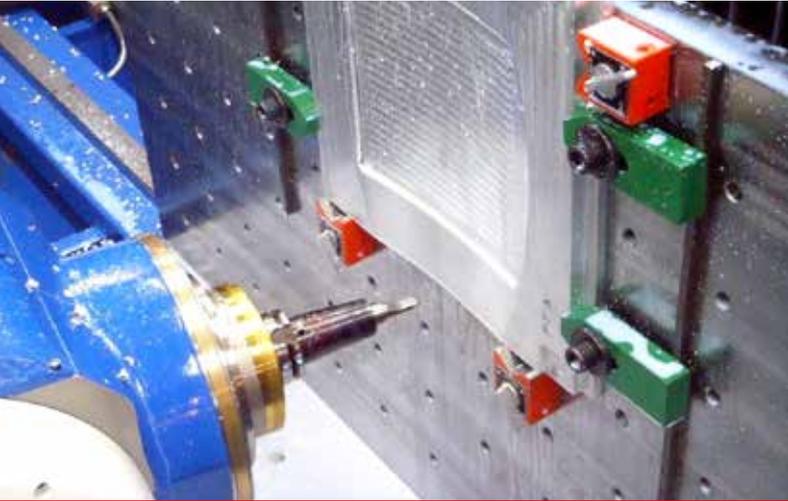
Highly dynamic multi-spindle mobile 5-axis gantry for the mass production of aluminum. A highly productive and flexible concept ensuring optimum profitability.

- Modern design gantries integrating latest technology equipment
- Customized machine design based on standard modules combination
- Machine design range from 1 spindle to 5 spindle configuration (in 3 or 5 axis type)
- Large variety of axes kinematics adapted to each applications (from roughing to high accuracy finishing)
- Integration of large variety of electro-spindles



HORIZONTAL 5-AXIS MILLING MACHINE

Dufieux offers large 5-axis horizontal spindle machines for complex and highly accurate shape parts. Designed to meet maximum efficiency, these machines can be installed in stand-alone or cell configuration.



High-Speed Horizontal 5-axis Machine for Aluminum

Fully equipped with linear motor, with high speed spindle (up to 36 000rpm and 120kW) this machine ensures a high chip removal and self-chip evacuation capacity. The 5-axis machining is ensured by homemade 5-axis heads (C and A axes with endless C, A and B 5-axis head, 100C head).

Horizontal 5-axis machine for hard material

Titanium Horizontal machine configuration is suitable for high coolant pressure and flow, improving tool life and parts machining cycle time. Equipped with our BM56 5-axis head, smooth and high efficiency chip removal is achieved.

COMPOSITE 5-AXIS ROUTING MACHINE

Large dimension single vertical spindle gantry for trimming & drilling high precision parts in dry or wet process.



Horizontal 5-axis machine for hard material

- Innovative design integrating latest technology peripheral equipment
- Customized design based on standard module combinations to offer wide dimensional ranges
- Integration of large variety of electro-spindles for best cutting solution adapted to any customer requirement
- Machine environment designed for dry composite cut or high volume coolant system



TURNKEY WORKSHOP

DUFIEUX's unique expertise and know-how in the design and integration of large dimension machines dedicated to precision machining led the company to add workshop engineering to its offer by integrating palletization, tool loading and unloading...

DUFIEUX can supply turnkey customized solutions from advice and planning through installation and training.

DUFIEUX's expertise

- Industrial efficiency improvement
- Industrial strategy and master plan assistance
- Production unit design
- Production process reorganization
- Handling, transfer and buffer optimization
- Production time and cost improvement (lean manufacturing)
- Supply chain management



CUSTOMER SUPPORT

Dufieux provides a full and global support to assist customers in making cost effective and correct use of Dufieux's products.

Training

Each project is accompanied by a training on the use of the machine, programming and NC operations, mechanical and electrical maintenance. This training is carried out in our workshop, on the customer machine. It is followed by on-site training during commissioning.

Spares

Dufieux can offer the management of spare parts inventory in-house or at the customer site beyond the warranty period of the machine.

Service Maintenance

Dufieux proposes a range of standard and specific maintenance services to meet the needs of each machine user. Maintenance is performed by Dufieux specialists.

Retrofit

What we can do:

- Complete or partial machine retrofit
- Modernization of equipment while cost effectively extending the lifespan of your machine
- Benefit from the latest developments: maintenance tracking, standardized components
- Machine relocation and reboot
- Restore your machine to its original operational state

Telemaintenance

Dufieux offers a remote maintenance option. This service enables a technician to connect to the customer device via internet, visualize the behavior of the machine and modify settings if necessary.

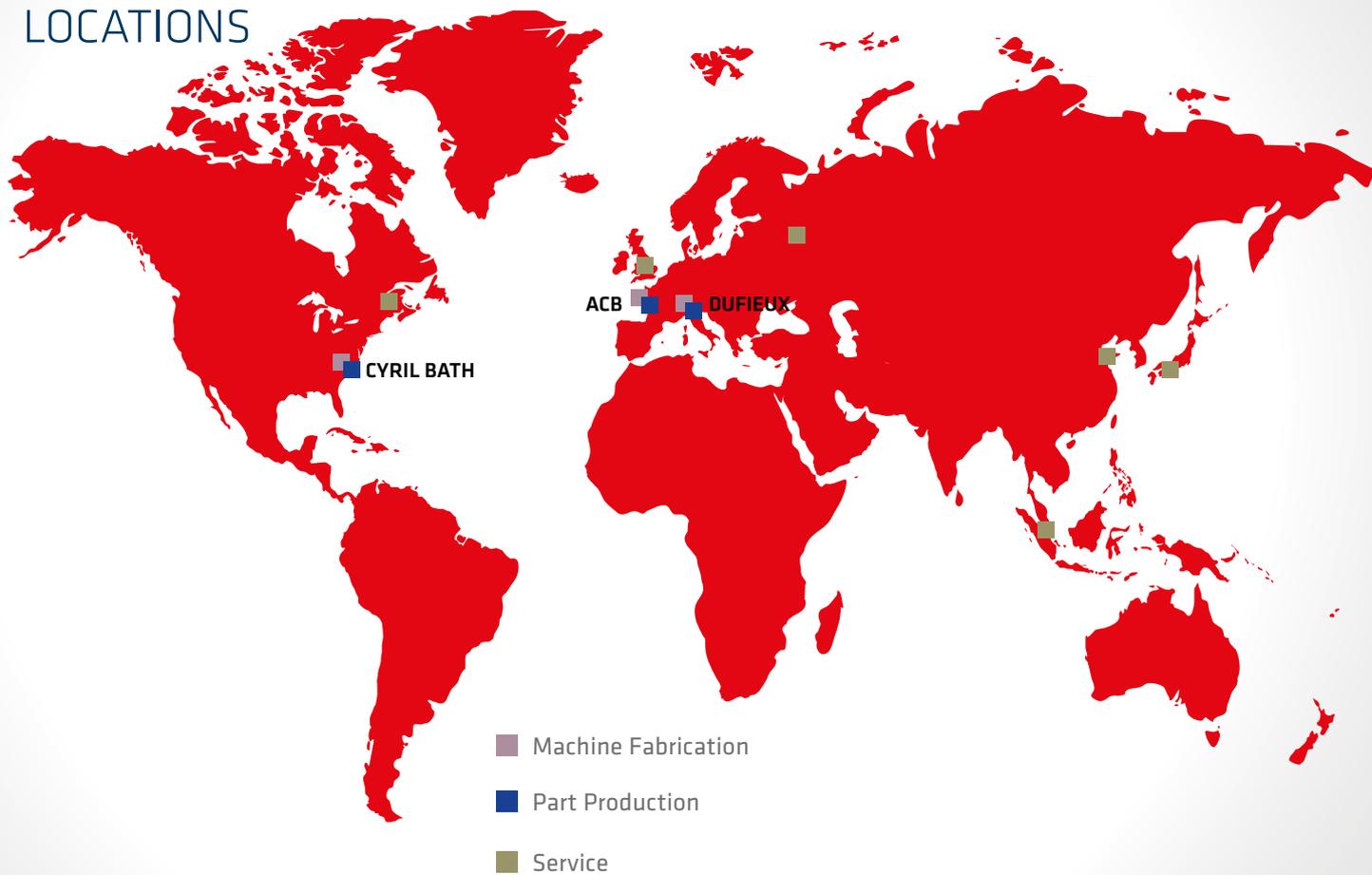


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