

XMINI

COMAU



XMINI
COMAU

Comau Machining at a glance

We build machines and develop complete machining processes to ensure productivity, flexibility and long-term quality

Turn-key competence in automation, ancillaries, assembly and test systems, including related digital solutions (MES & IoT)

Retooling expertise, independent of machine brand

Additive knowhow, i.e. thermal spray coating PTWA for emission reduction and performance enhancement

300+ MACHINING LINES WW

6500+ INSTALLED MACHINES WW

150+ RETOOLING PROJECTS WW

Covering your production needs every step of the way

Comau provides comprehensive cross-functional services with a worldwide customer care network, an extensive range of spare parts and customized training programs. Comau also deliver professional machine maintenance and analysis in addition to retrofit and retooling solutions. Our services cover any type of machine, regardless of manufacturer, including everything from set-up and commissioning to testing, troubleshooting and customized requests.



We are working to expand the horizons of machining

To design and produce an innovative machining center able to handle complex lightweight frames and structural components, Comau has joined forces with Exechon, an international company whose patented technologies are being used to develop advanced Parallel Kinematic Machine solutions.

In addition to performing high-speed machining in lightweight metals and composites, XMini also provides a central link in Comau's 360° service connected to electrification. The XMini complete the Comau value chain with advanced solutions, for e.g. battery case machining and related frame components.

Combining the precision of a machine tool and the flexibility of an industrial Robot with a unique modular structure, the Comau XMini offers a high level of Overall Equipment Efficiency (OEE).



1.

THE FIRST CARBON FIBER MACHINE TOOL ROBOT

The Comau XMini is the first PKM* machine tool robot in the world made of carbon fiber, featuring unique capabilities such as:

- One setup 6-side machining
- Burr free dry machining
- High Material Removal Rate (MRR)
- Modular & Reconfigurable
- Disassembly, Assembly & Calibrate in few hours

The game-changing design represents a paradigm shift in automation, where the flexibility & dynamics of robotics meets the stiffness & accuracy of machine tools.

*PKM: Parallel-Kinematics Mechanisms



Highly flexible and dynamic

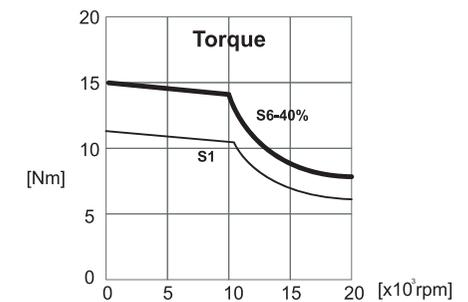
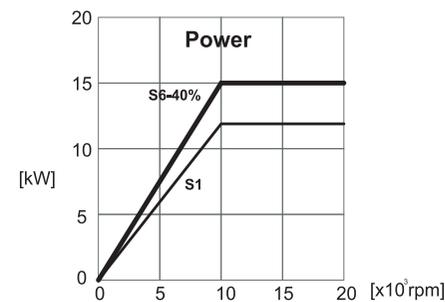
Comau XMini is the first machine tool robot in the world made of carbon fiber, with the unique ability to perform both high-speed machining and cutting with maximum torque at a low rpm.



Key technical data

Siemens NX CAD/CAM	Part programming
Auto Calibration	XCAL automatic 5-Axis calibration
In-Line CMM	XAutoCMM in-line CMM & Adjustment
Repeatability	<5 μm
Max speed X/Y/Z [m/min]	90 / 90 / 30
Max Acceleration X/Y/Z [m/s²]	30 / 30 / 10
Max work envelope [mm]	Diameter 3,000 - Height 1,000
Module weight [kg]	300
Control system	Siemens 840D
Spindle	HSK 40 - 20,000 rpm
MRR*	970 cc/min

*Material Removal Rate



2. MACHINE FEATURES

Be flexible, work hard

Comau XMini moves in an umbrella envelope vs. traditional cartesian axis, moving around the part whilst performing **6-side machining in a single set-up.**

No need to split operations between multiple stations, which increases overall productivity.

*The perfect solution for **Automotive** and **Aerospace** frames and structural components in addition to being an ideal link in the **electrification paradigm***

Fully accessible

Digital Native

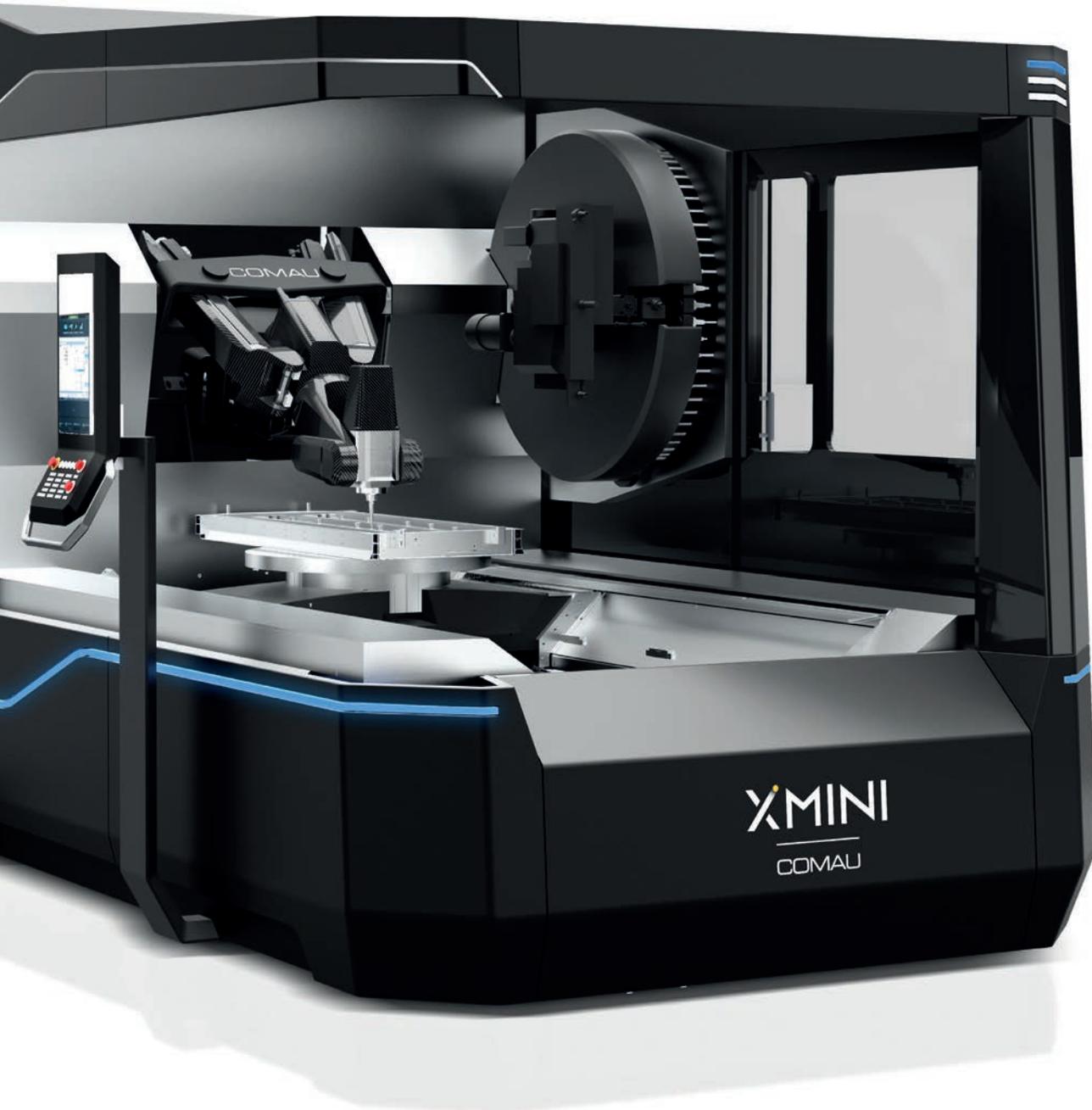
Compact Footprint

Front & Top Loading

Environmental friendly Dry Machining or MQL

Chip evacuation



**XMini**

Full 5-Axis CNC

Controller

Siemens 840D

HMI

22" multi touch display

Tool Magazine

Tool length up to 300 mm

30, 60 or 120 pockets

Automatic tool holder cleaning

Multiple configurations available

Workpieces up to 3000 mm

Compact

Electro-fluidic cabinet

3. DIGITAL NATIVE MACHINE

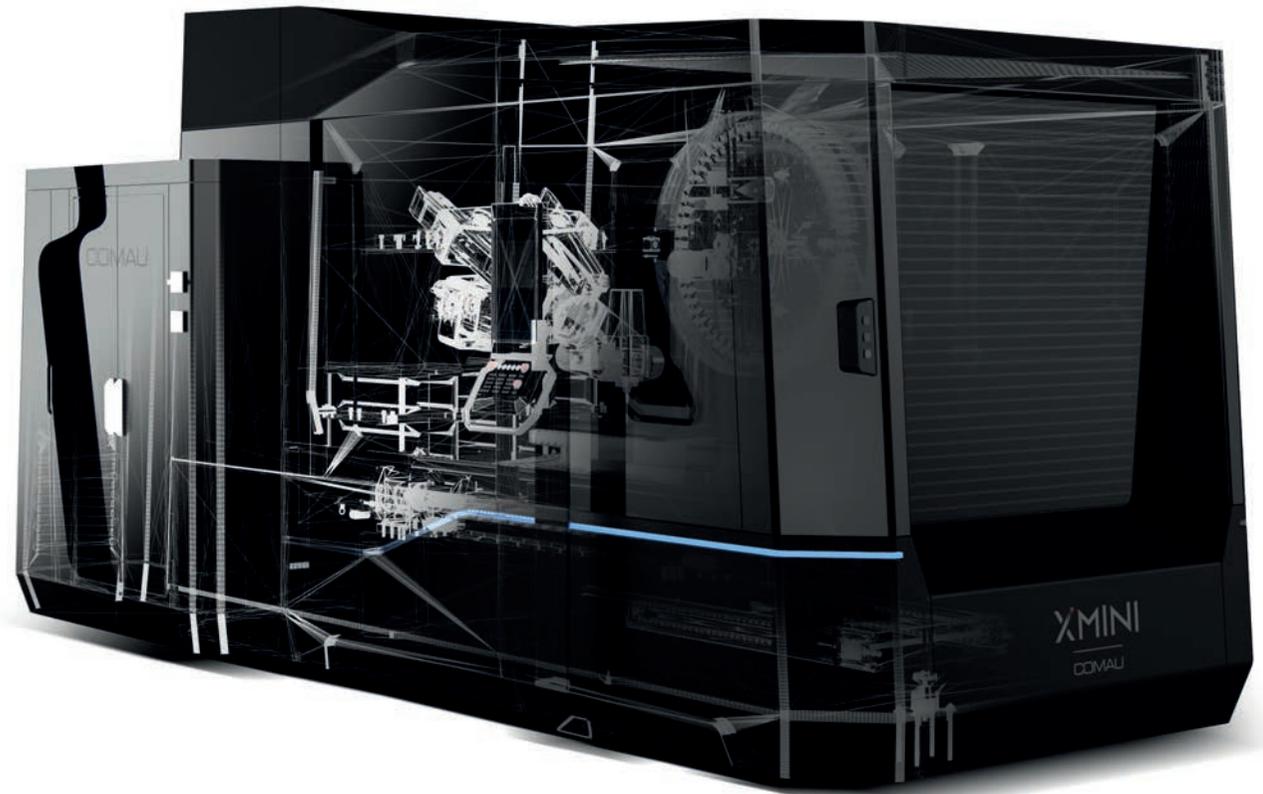
Born to be intelligent

A new CNC family based on an innovative system architecture and digital twin solution, making it possible to virtually machine new or modified workpieces and shorten time-to-market.

Enhance machine productivity by optimizing programs and work flows entirely offline with advanced simulations instead of trial and error on real machines.

IoT ready with integrated OPCUA server ensuring a high level of digital applications.

Virtual remote training is conducted with the digital twin instead of interrupting manufacturing.



MAINTENANCE

4.

Disassembly, Assembly & Calibrate in hours

Comau XMini offers a unique accessibility to its core Machining Unit that easily can be replaced in less than one hour using a standard forklift.

The Machining Unit is in turn composed of four lightweight modules that can be disassembled, hand-carried, reassembled and calibrated in hours with no special tooling, substantially shortening the Mean Time To Repair (MTTR).



5.

ONE PARTNER FOR ENTIRE SYSTEM

Expertise in System Integration

No matter how complex your machining needs are, our result-oriented methodology and system expertise can support you.

Comau have the competence to develop any machining process, assure productivity, flexibility and long-term quality that span over an entire production chain, including assembly and test equipment across the lifetime of your production systems.



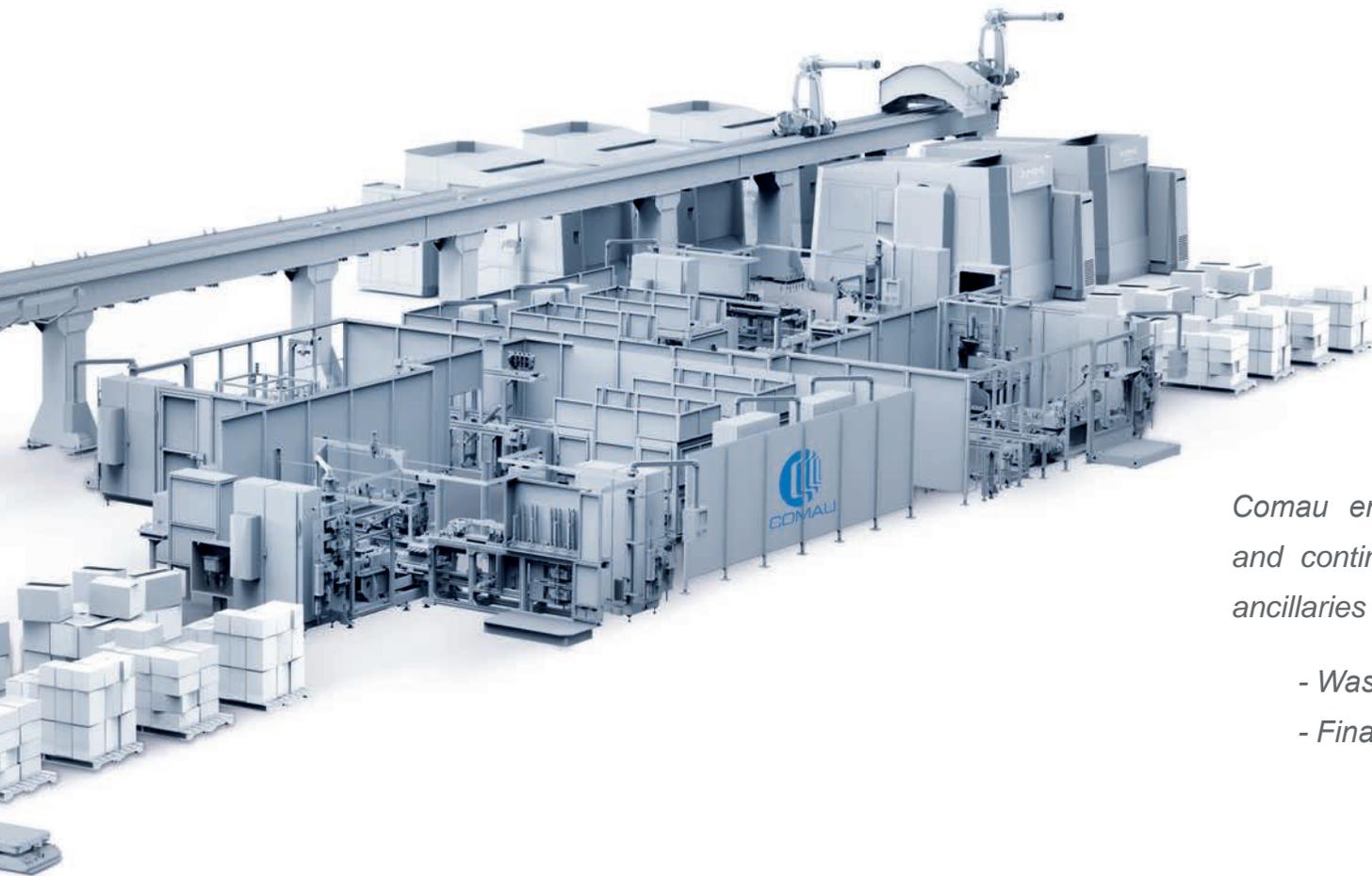
Automatic Loading

Comau supply several configurations of carriages and arms to meet required production level

Machining Centers

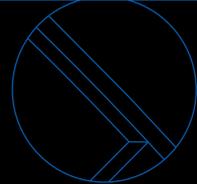
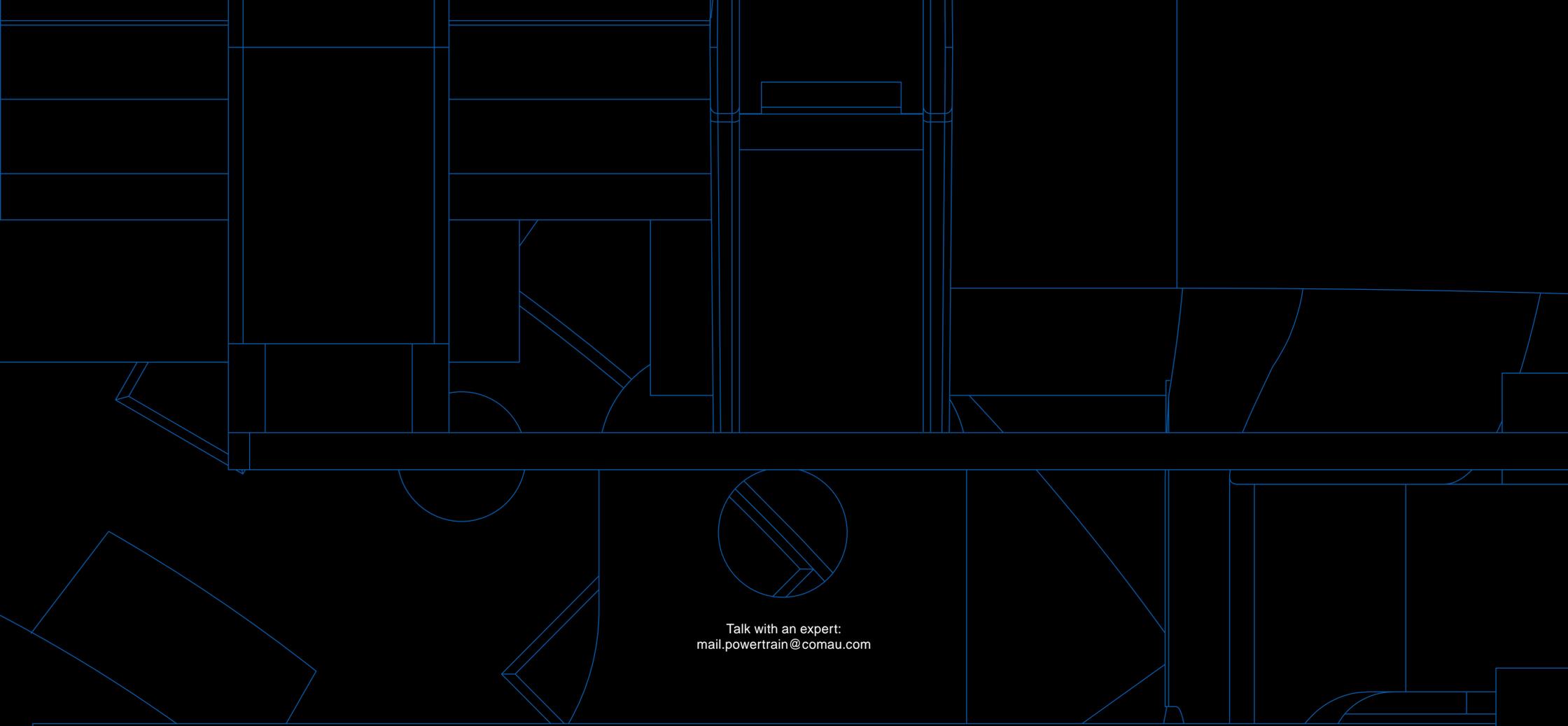
Comau machining centers are fit wherever maximum flexibility and productivity are a must

Our spectrum ranges from single machining cells to complex systems with multiple integrated operations.



Comau ensure productivity, long-term quality and continued reliability including a range of ancillaries such as:

- Washing
- Marking
- Final inspection
- Logistics



Talk with an expert:
mail.powertrain@comau.com

Follow us

comau.com



The information contained in this brochure is supplied for information only.
Comau S.p.A. reserves the right to alter specifications at any time without notice for technical and commercial reasons.
The illustration does not necessarily show the products in their standard version.
COMAU XMini_05.2020_EN

Made in Comau