

XMINI

COMAU



THE NEXT LEVEL 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 for lightweight metals and composites, Comau XMini also provides a central link in Comau's 360° service connected to electrification. The Comau XMini completes the Comau value chain with advanced solutions for battery case machining and related frame components and more.

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).



THE NEW CONCEPT OF ROBOTIZED MACHINING

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

- One setup 6-side machining
- Burr free dry machining
- High Material Removal Rate (MRR)
- Modular & Reconfigurable
- Disassemble, Assemble and Calibrate in few hours
- Digital Native

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

Auto Calibration

In-Line CMM

Repeatability

Max speed X/Y/Z [m/min]

Max Acceleration X/Y/Z [m/s²]

Max work envelope [mm]

Module weight [kg]

Control system

Spindle

MRR*

Part programming

XCAL automatic 5-Axis calibration

XAutoCMM in-line CMM & Adjustment

<5 μm

90 / 90 / 30

30 / 30 / 10

Diameter 3,000 - Height 1,000

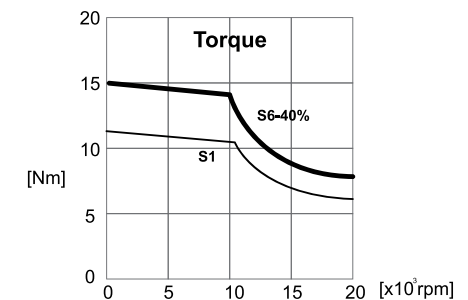
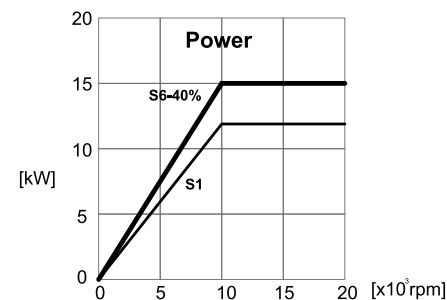
300

Siemens 840D

HSK40/HSK63A - 20,000 rpm

970 cc/min

*Material Removal Rate



MACHINE FEATURES

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 Twin available

Compact Footprint

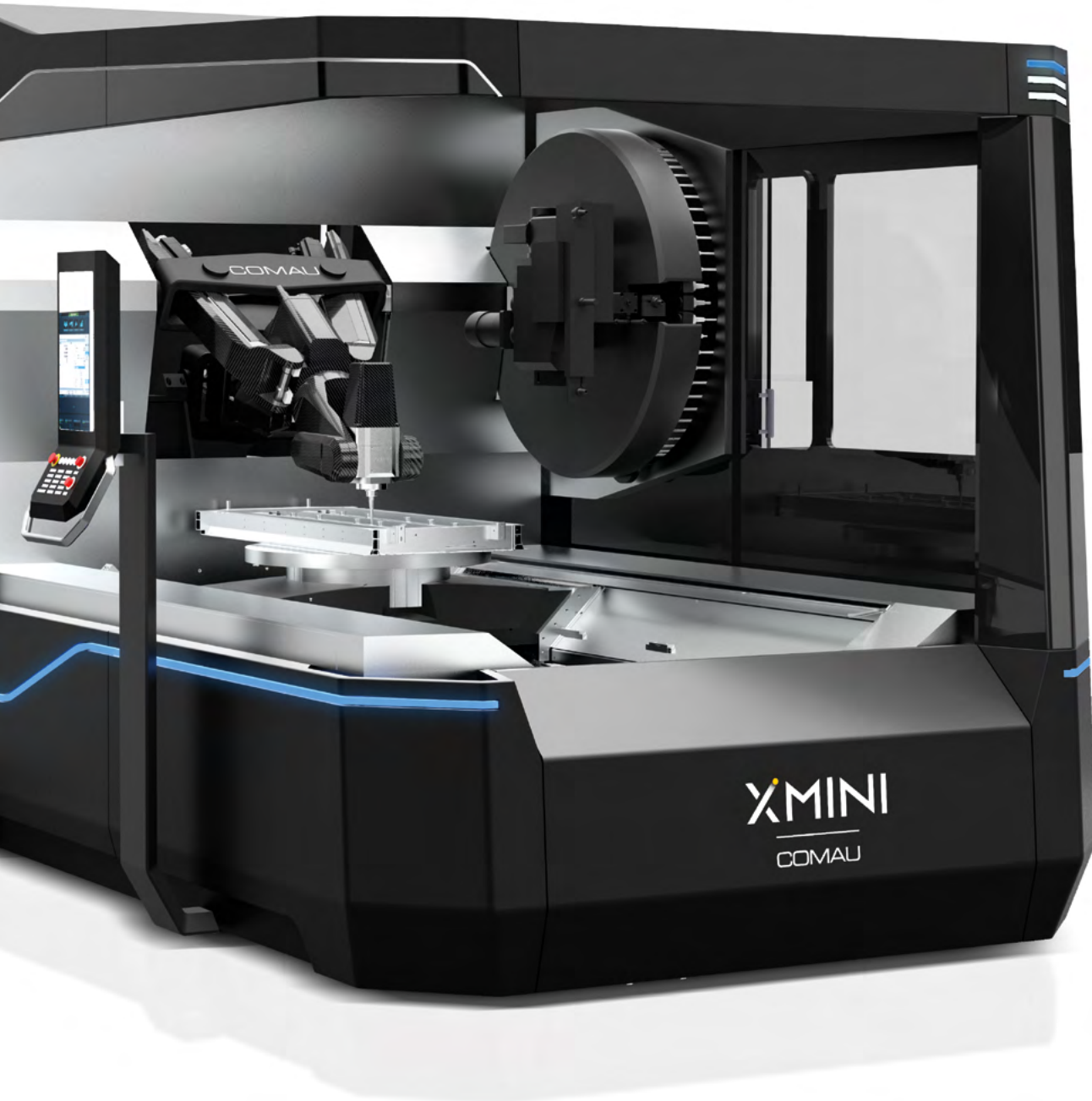
Front & Top Loading

Environmental friendly Dry Machining or MQL

Chip evacuation

IoT ready with integrated OPCUA



**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

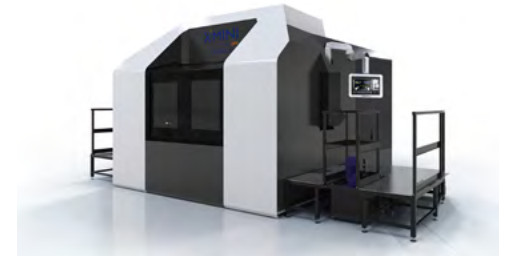
Compact

Electro-fluidic cabinet

COMAU XMINI TWIN

All the features of the Comau XMini are also available on the Comau XMini Twin.

With two Comau XMini devices working together, production is doubled. Comau XMini Twin grants the possibility to use both spindles on the same workpiece or machine two workpieces together in the same machine assuring high productivity and complete flexibility of the system.



MAINTENABILITY

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

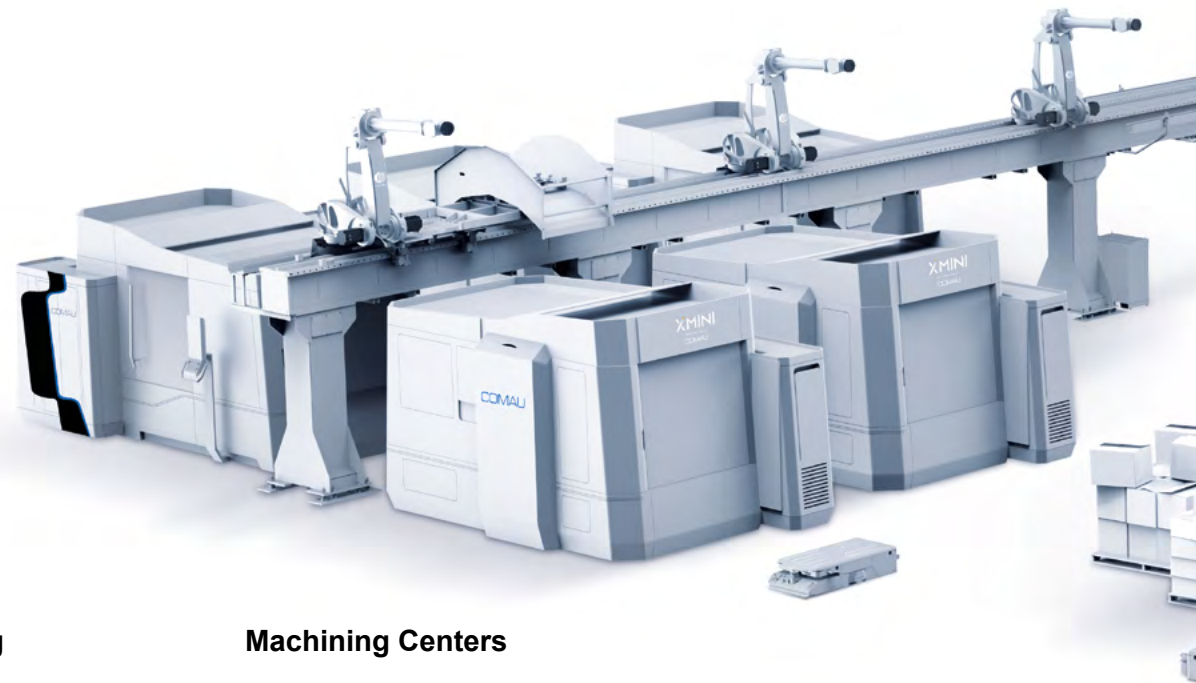
The Machining Unit is composed of four lightweight modules that can be disassembled, hand-carried, reassembled and calibrated in hours with no special tooling, substantially shortening the Mean Time To Repair (MTTR).



ONE PARTNER FOR ENTIRE SYSTEM

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

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



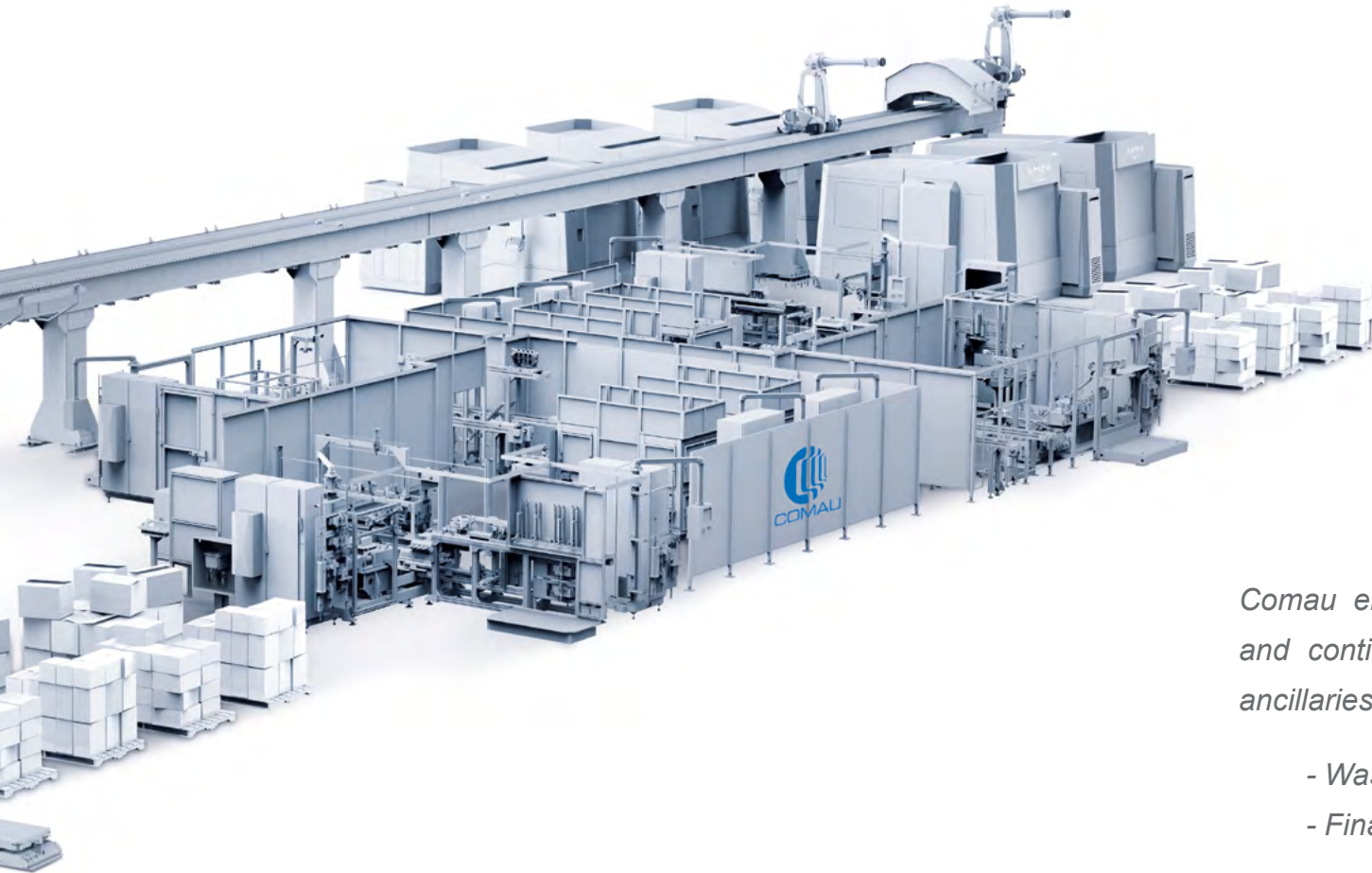
Automatic Loading

Comau supplies several configurations of carriages and arms to meet required production levels.

Machining Centers

Comau machining centers are a perfect fit wherever maximum flexibility and productivity are non-negotiable.

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



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

- Washing
- Marking
- Final inspection
- Logistics

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

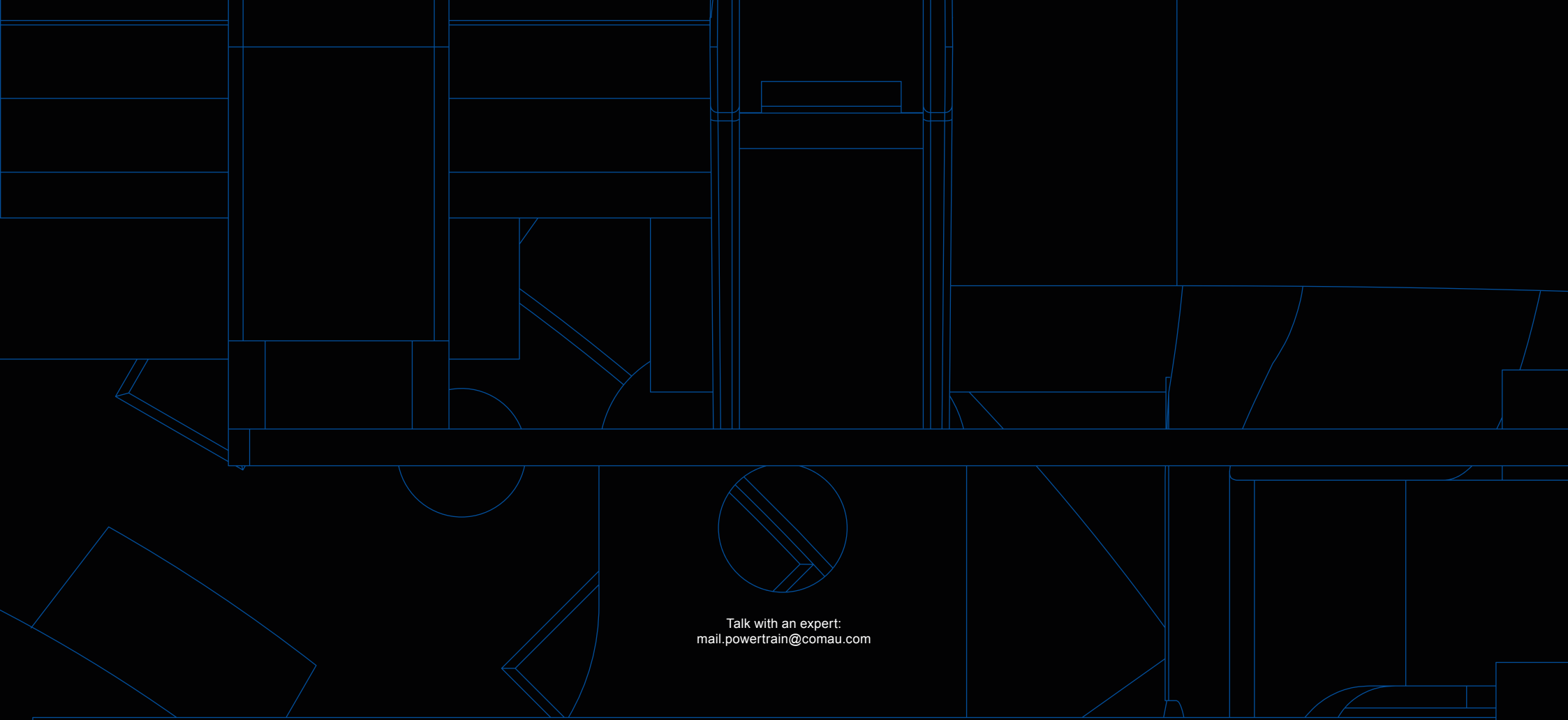
6500+ INSTALLED MACHINES WW

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 delivers 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.





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Made in Comau