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LASERTUBE LT-FREE

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BLM GROUP

LT-FREE

Laser system for machining **any** 3D part



An array of features makes the LT-FREE easy to use. Cameras are installed inside the safety enclosure to monitor machine operation. Just select material type and thickness: the machine will automatically set all of the cutting parameters and set the optimal focus position.

LT-FREE

The system is equipped with a fiber laser capable of cutting mild steel, stainless steel, galvanized, aluminium, copper or brass components at high speeds and high quality.



LT-FREE HIGH FLEX version

Universal version for bent and hydroformed tubes, flat and deep-drawn sheets or welded assemblies. Double robots and dual moving part-table handling system including scrap collection.



LT-FREE PIECE VALUE version

Rotary turn table part handling. High productivity version for drawn and hydroformed sheets. Part loading and unloading during the cutting cycle with automatic scrap conveyor.



LT-FREE ENTRY LEVEL version

Dual fixed table system for use with dedicated part-positioning supports. Suitable for use on a wide variety of part configurations.

Traditional cutting, drilling, punching, milling and deburring operations, which are normally carried out in sequence, can now be performed on a single machine. This eliminates set up, reduces material handling, eliminates 'work in progress' inventory and streamlines the entire production process.

LT-FREE

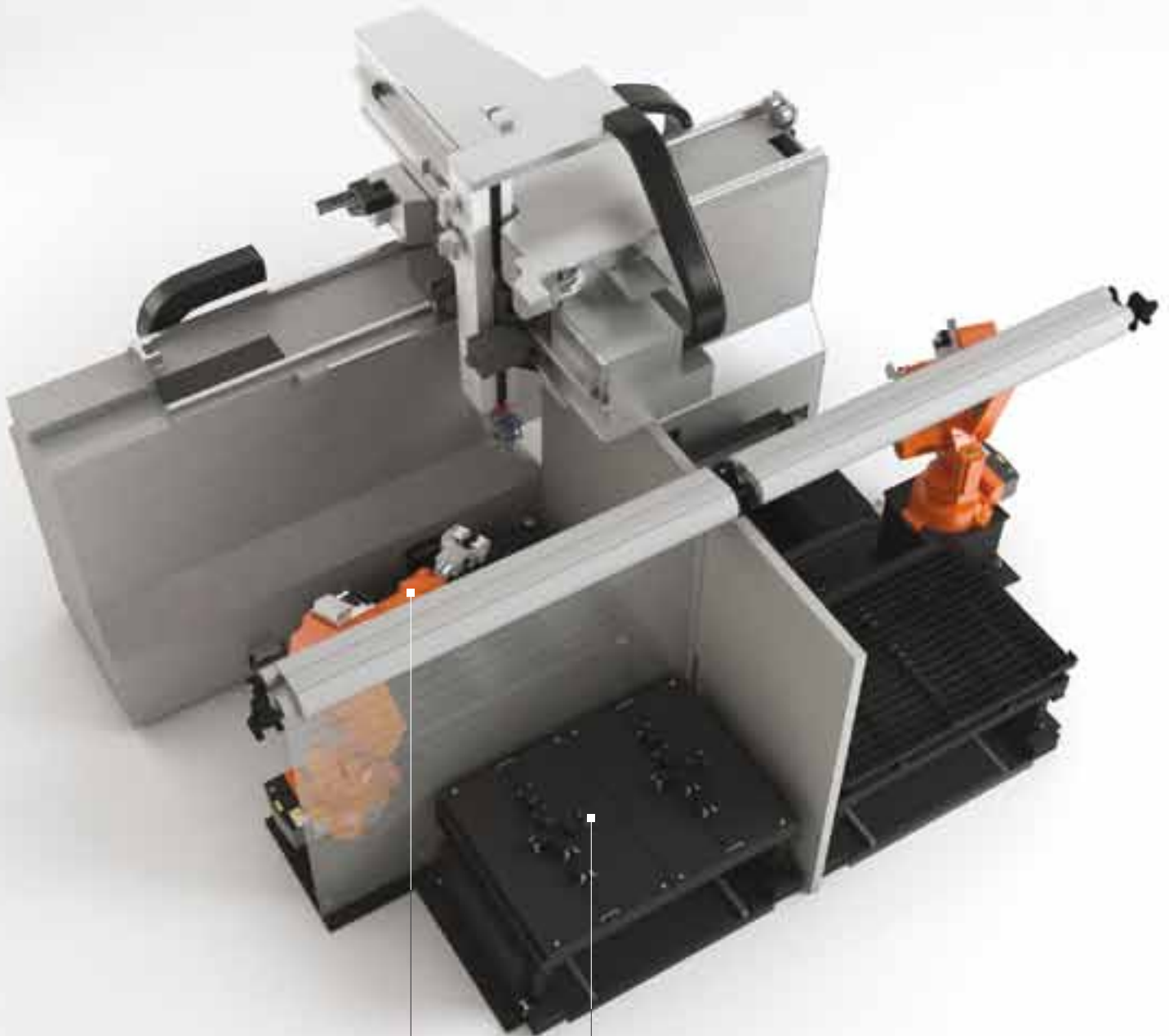
Flexible Laser Cutting Solution

The LT-FREE five-axis laser cutting system is designed for cutting formed or shaped parts such as bent tubes, hydroformed or stamped components and assemblies.



LT-FREE HIGH-FLEX

The dual robot configuration provides high 'beam on time' and hence productivity because the loading and unloading takes place without interrupting the cutting process.



The robot accurately presents the part to the machine for precise cutting.

The loading tables are designed to provide maximum flexibility to accommodate bent tubes or formed components.

LT-FREE

Technical features

Part handling

The part does not move during the cutting operation. The robotic handling provides the flexibility to optimally present the part to the cutting head which is mounted on a highly accurate five axis motion system.

Support tables

No part-specific dedicated locating templates are needed for positioning bent tubes.

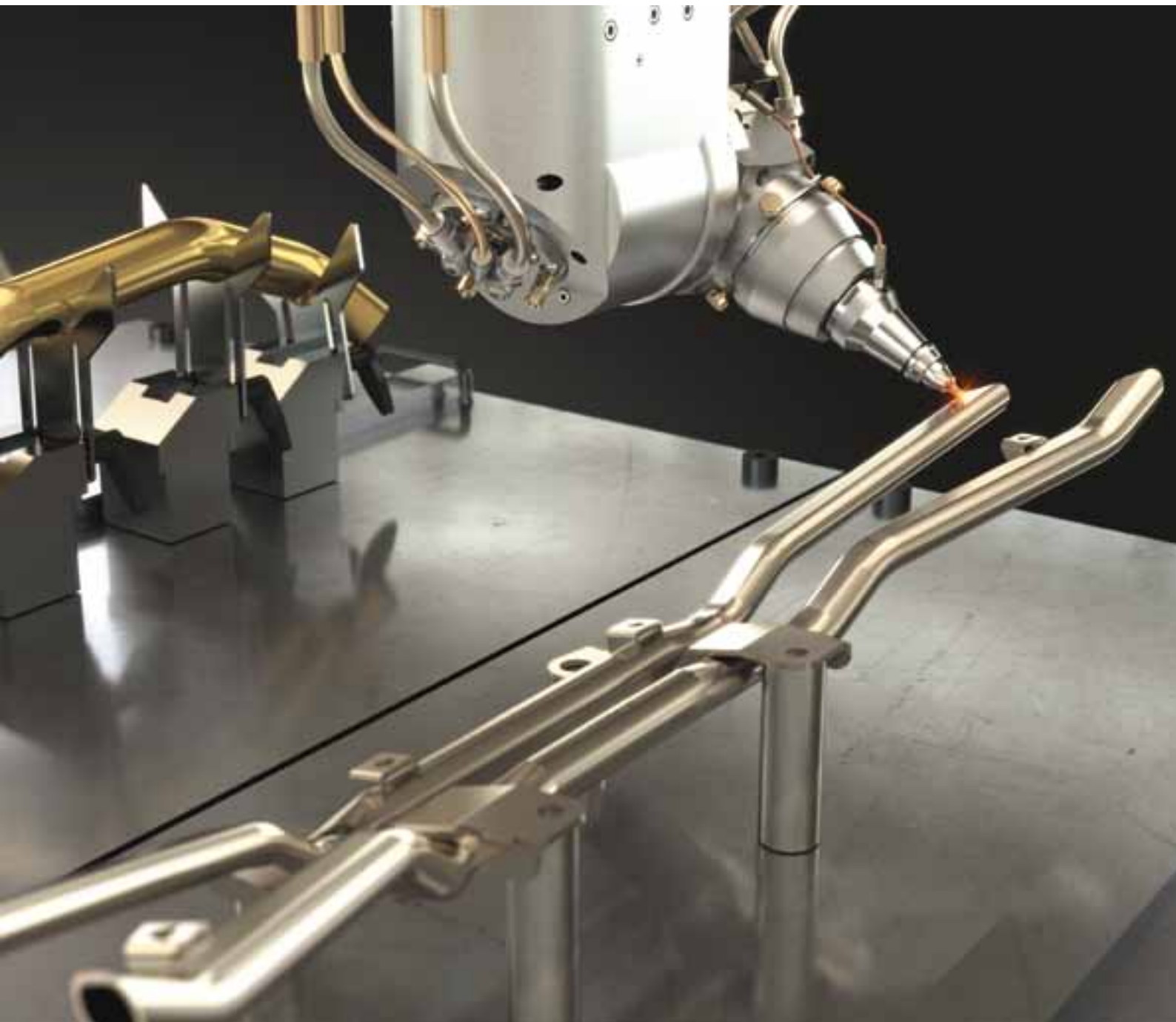
Software

The entire machine and handling robot cycles can be programmed directly offline using BLM GROUP programming and simulating software. The software reference system makes adapting to the real part directly on the machine easy.



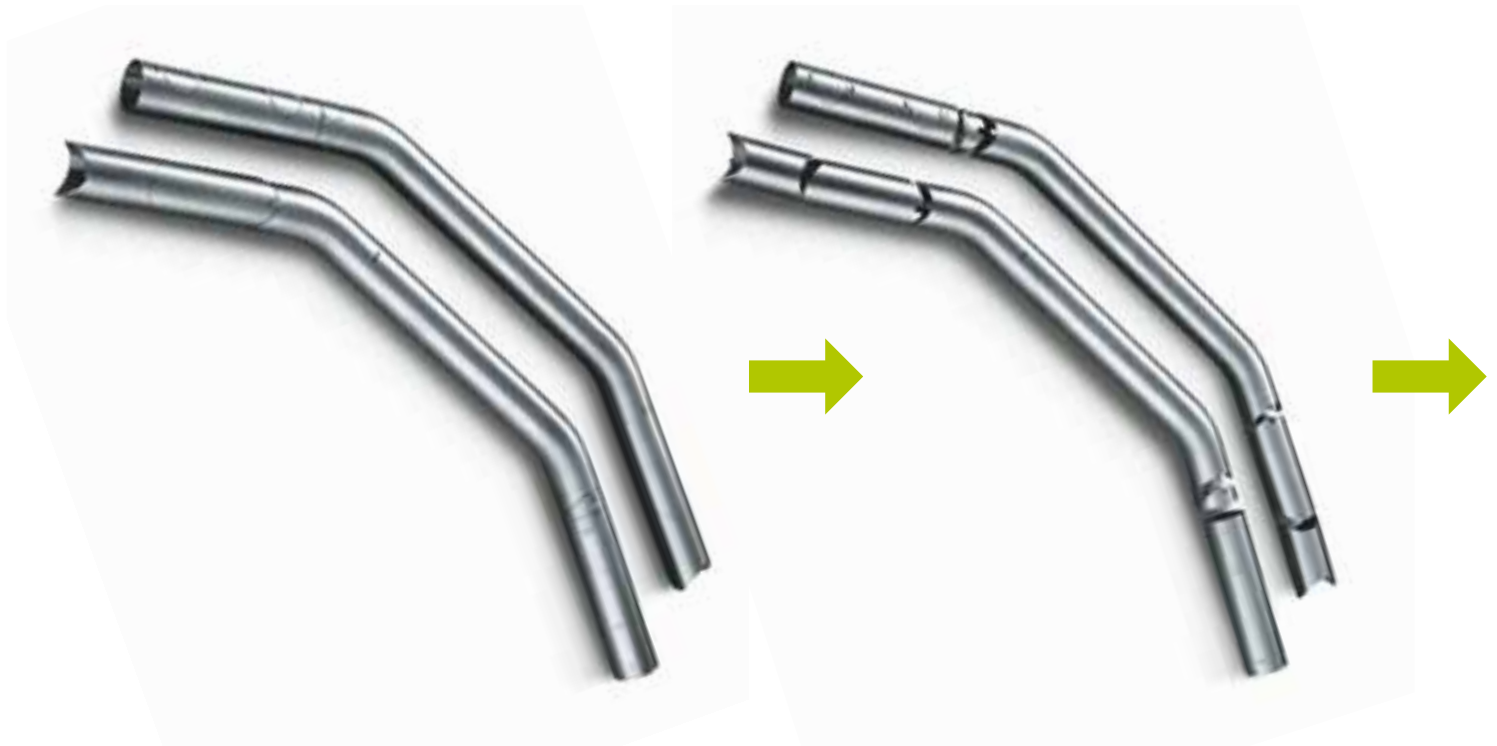
FIBER LASER

The fiber laser processes all grades of metal. Its maintenance free design and robust fiber beam delivery system increases uptime while reducing operating costs.



LT-FREE

Processing advantages

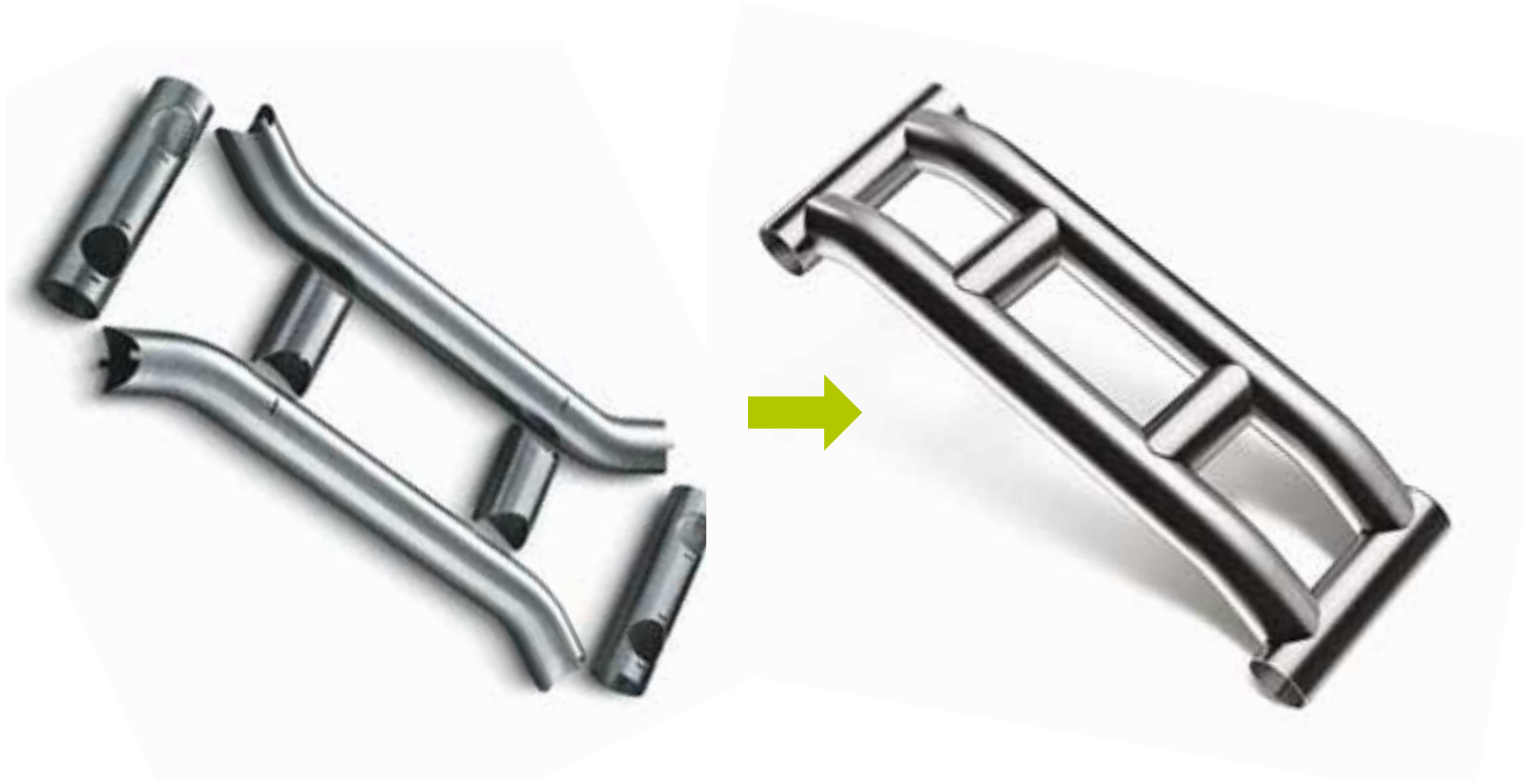


Saving material

The LT-FREE can make cuts very close to each other. Nest multiple parts on a single bent tube and then use the laser to separate them. Save up to 25% material compared to other trimming techniques.

LT-FREE

- Trimming and feature cutting right on the bend
- High cut quality and accuracy - parts ready for subsequent robotic welding
- Trim or cut features in hydroformed parts
- Feature cutting or trimming anywhere on a bent tube. No limit to part access.
- Trim formed sheet metal parts
- Cut features in assembled frames or components



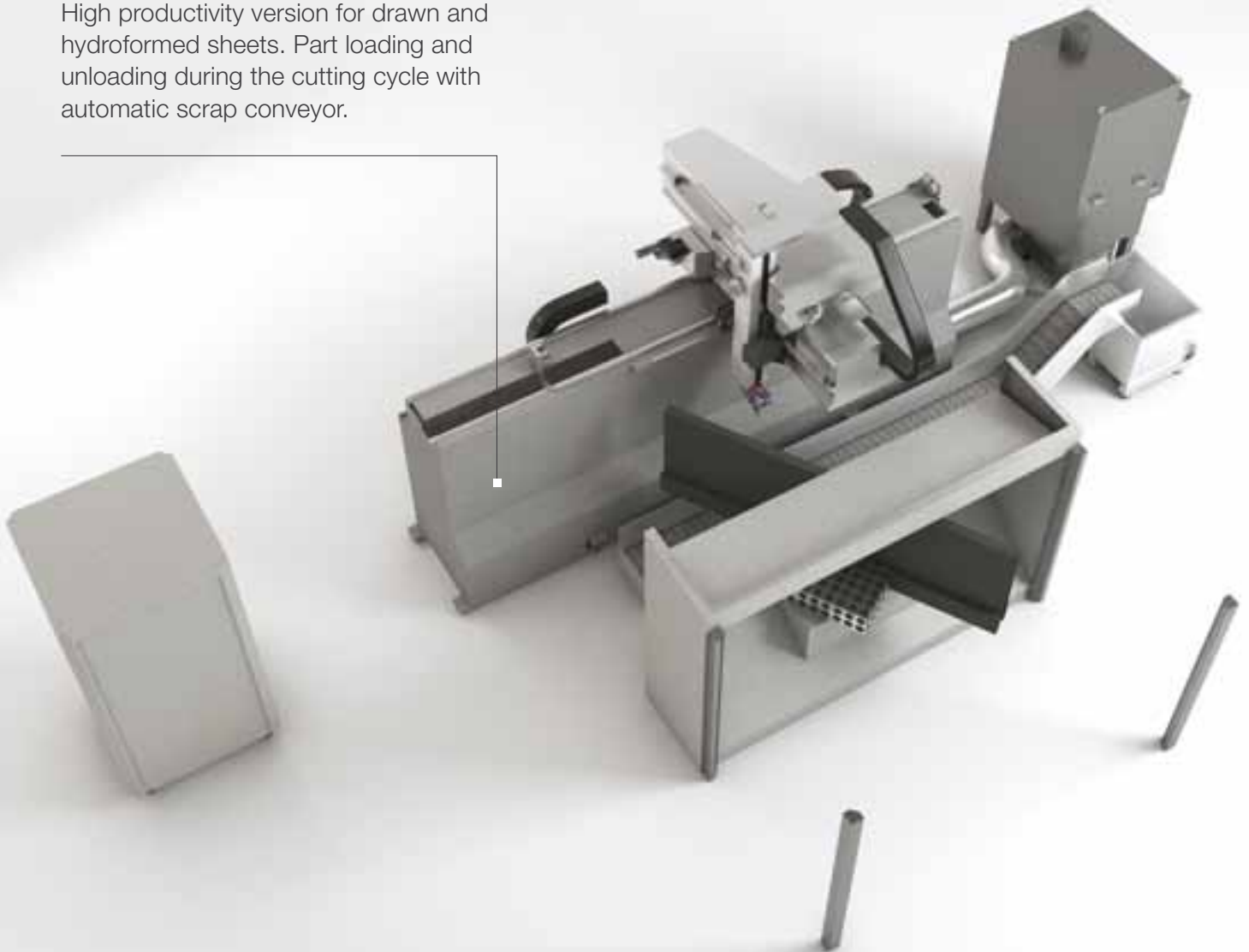
Machining quality

Using laser technology prevents part deformation. This is critical for processing thin walled tubes. Laser cut parts are both accurate and repeatable making them ideal for subsequent robotic welding.

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Multiple system configurations

Rotary turn table part handling.
High productivity version for drawn and
hydroformed sheets. Part loading and
unloading during the cutting cycle with
automatic scrap conveyor.

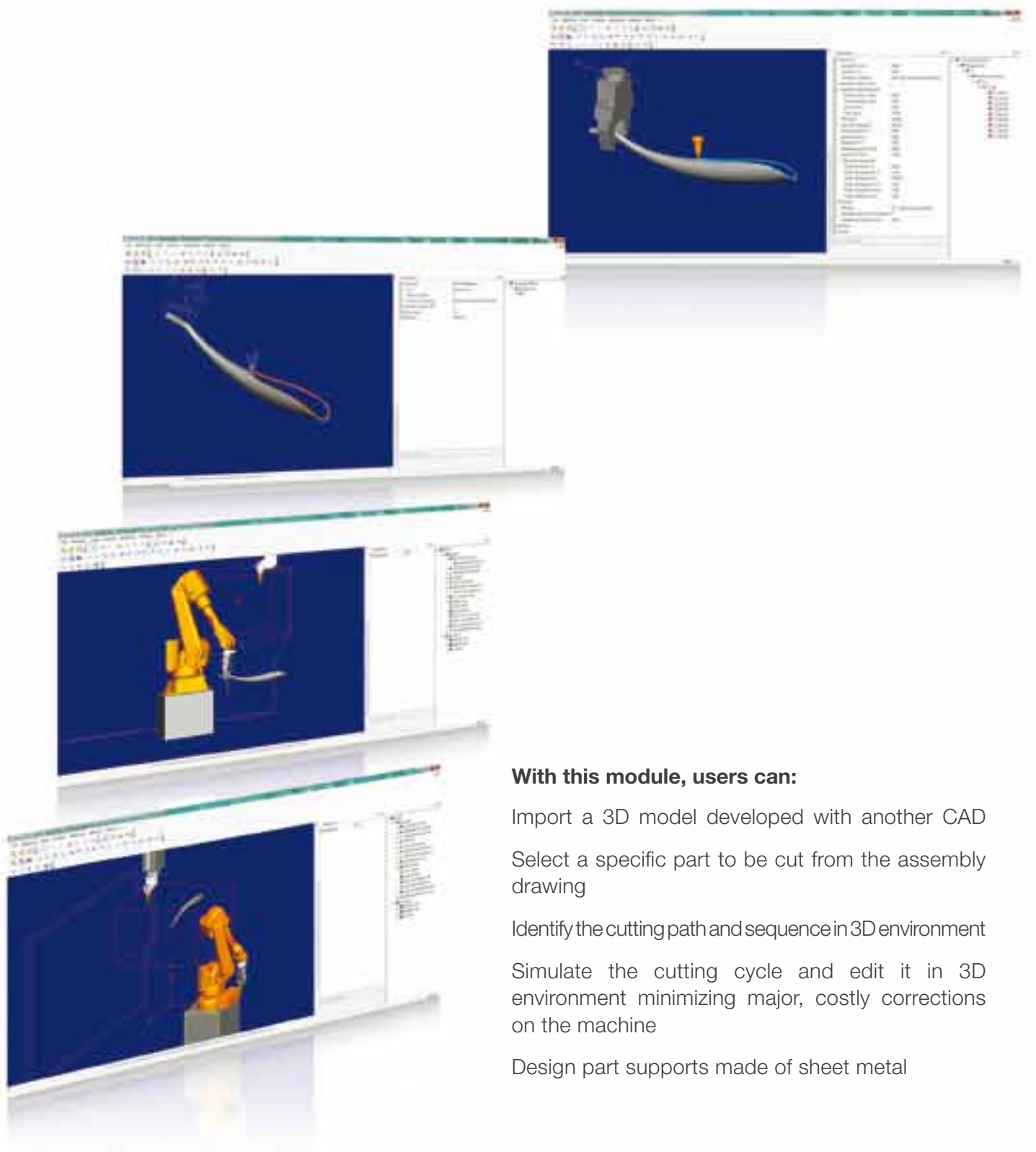




Dual fixed table system for use with dedicated part-positioning supports. Suitable for use on a wide variety of part configurations.

SOFTWARE

Programming and simulation: from CAD drawings to parts



With this module, users can:

Import a 3D model developed with another CAD

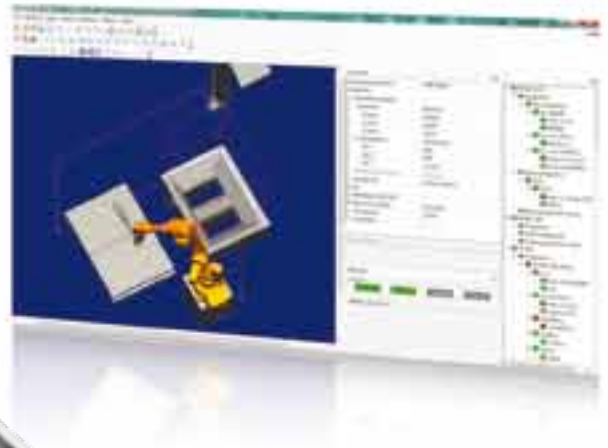
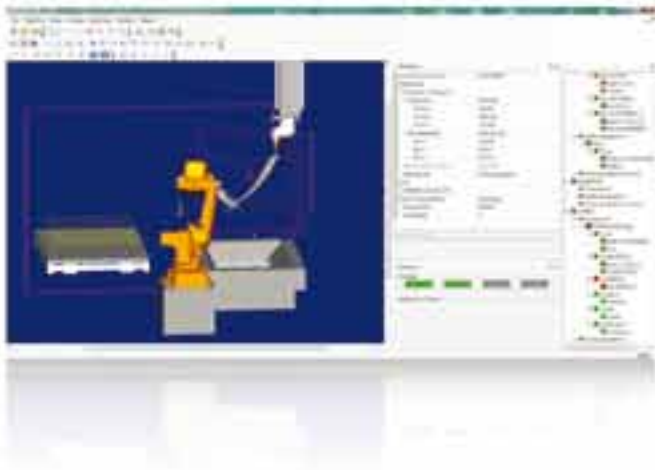
Select a specific part to be cut from the assembly drawing

Identify the cutting path and sequence in 3D environment

Simulate the cutting cycle and edit it in 3D environment minimizing major, costly corrections on the machine

Design part supports made of sheet metal

BLM GROUP software can be used to create part programs of any complexity in a simple, user-friendly 3D graphical environment. Software simulates the entire cutting process to check feasibility while monitoring eventual collisions.

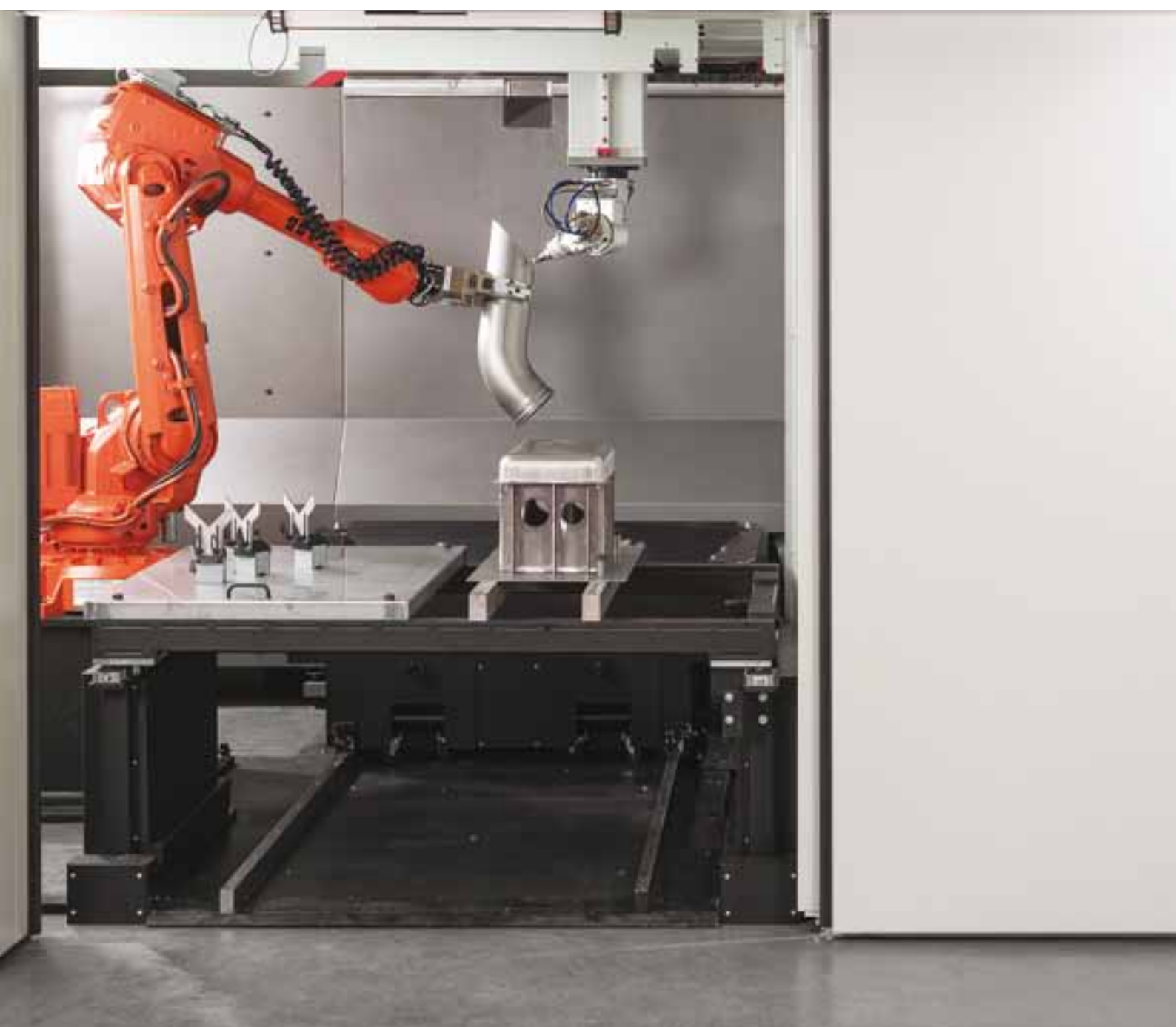


Define cutting positions for the handling robot

Check for collisions and solve them using dedicated automatic routines or manually

Generate the program for the complete cell (cutting head and robot movements) using a dedicated post-processor

Generate 2D sheet cutting programs including nesting



LT-FREE

Technical information

Axis strokes	X= 2950 mm - Y= 950 mm - Z= 750 mm - C= continuous - B= +/- 140°
Axis speed and acceleration	X, Y, Z = 90 m/min - 0,9 g - C,B = 120 rpm - 100 rad/s ²
Accuracy (VDI 3441)	X, Y, Z = 0,05 mm - C,B = 0,006°
Table dimensions	1500 x 1000 mm
Maximum table load	400 Kg
Robot model capacity	ABB IRB 2600 20 Kg Absolute Accuracy
Robot working load	13 kg (load may decrease in certain high inertia applications)
CNC	Siemens 840 sl
Fibre laser	IPG 1000 W or 2000 W (available up to 5000 W)
Material types	mild steel, stainless steel, aluminium alloys, galvanized, copper, brass, titanium, Ni-Cr alloys

Machine dimensions

HIGH FLEX	5500x4250x3950 mm 18" x 14" x 13"
PIECE VALUE	5500x3415x3950 mm light curtains excluded 18" x 11" x 13"
ENTRY LEVEL	5500x3415x3950 mm 18" x 11" x 13"



LASERTUB CUTTING SYSTEM

tube bending
endforming
sawing, deburring and washing
cutting & end machining
combined sheet and tube laser cutting
handling
3d measuring
manufacturing cell
non touch measuring systems
process control software



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