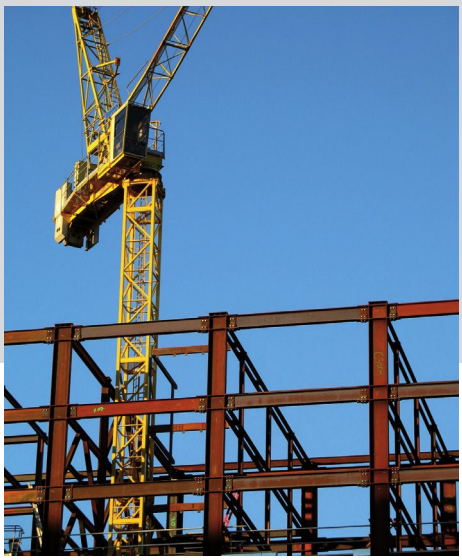
VANGUARD / LIBERTY

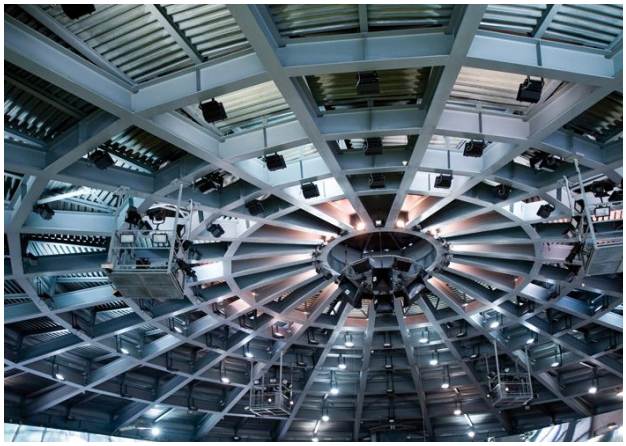
Automatic CNC lines for drilling, milling, marking, sawing and coping for beams, channels and flats

FICEP

MADE IN ITALY

VANGUARD / LIBERTY
BEAM PROCESSING LINES



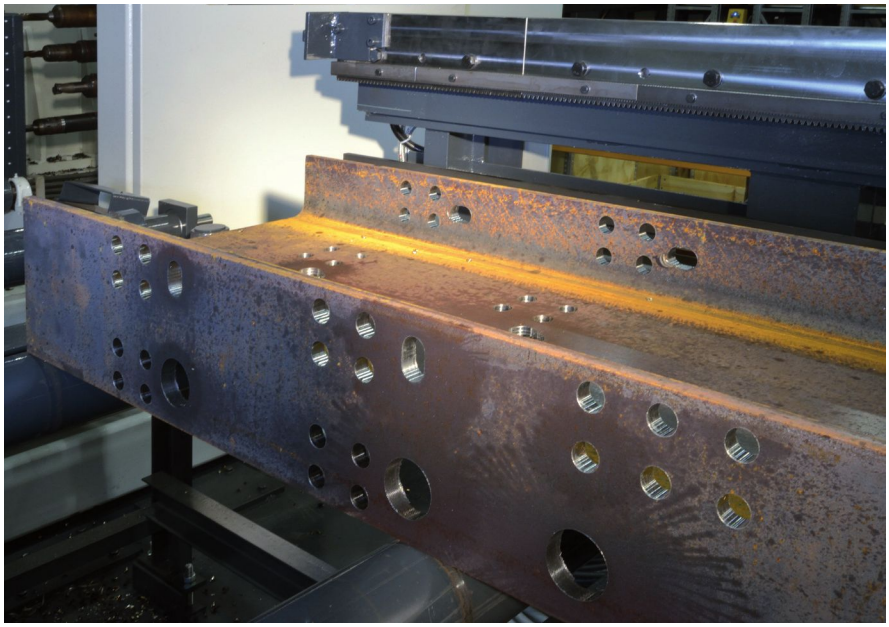


The latest in beam processing

Ficep three spindle drilling line for the processing of both large and small structural sections is the one of the latest technological development of the company with simplified design and greater performance and reliability. This amazing yet simple modular design is implemented into six different models ranging in capacity of 610mm x 305mm to 2515mm x 1015mm.

Aesthetics

The technology greatly reduces the required components by employing elements like 'Direct Drive' spindle motors. The power of these spindle motors and the speed of the spindle positioning achieved by employing rack and pinion systems is another of the company innovation.
In addition, the implementation of the mechanical devices above the pass line permits the incorporation of a chip conveyor without foundation pit.
The Vanguard and Liberty drilling lines can be easily coupled with saws, coping robots and marking units.



DRILLING LINES

Higher productivity

New innovations have been engineered and implemented in the designs to improve the productivity.

- Faster drilling speeds at minimum cost
- Higher RPM's for faster scribing speed
- New universal tool holder
- Automatic detection of the section size
- Processing of tapered welded beams

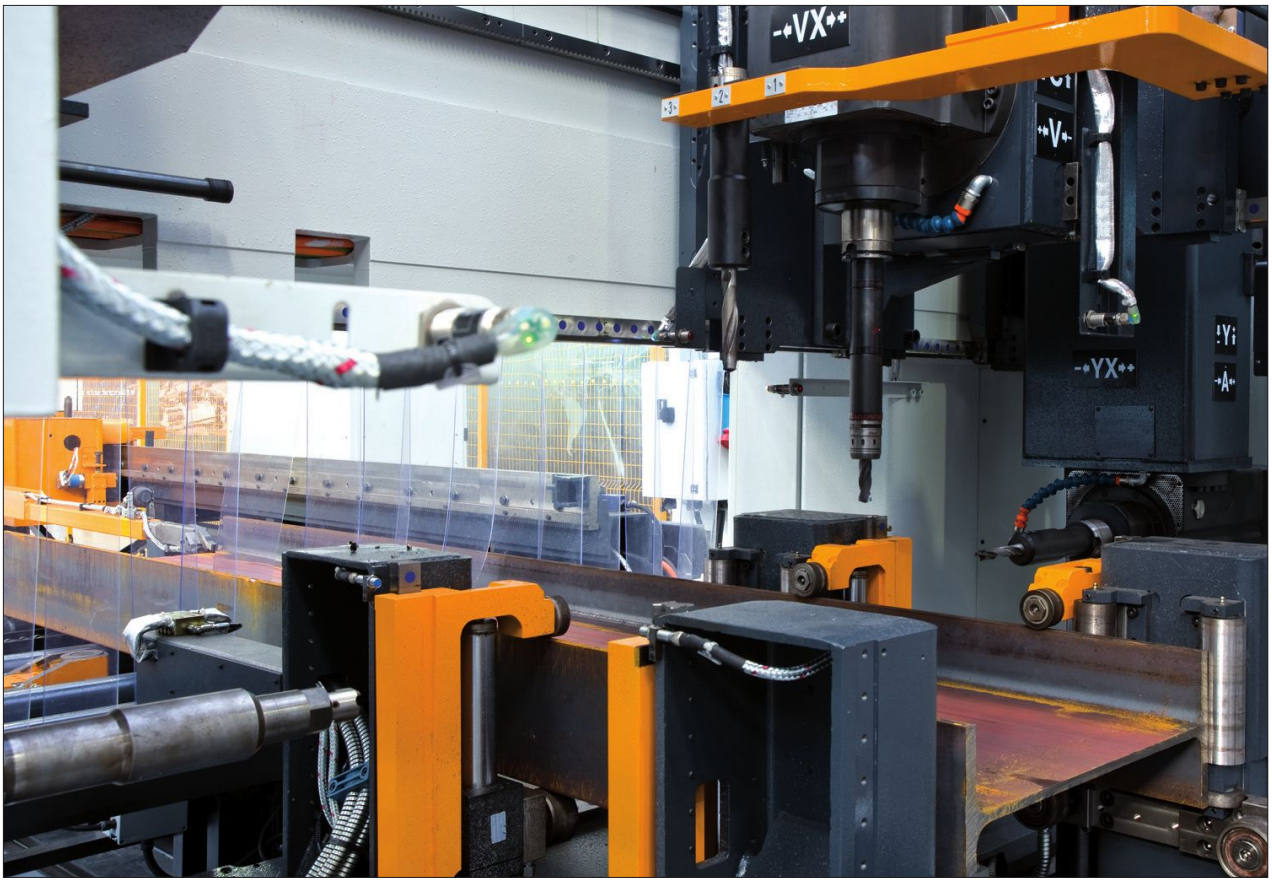
Usability:

- Easy access to the working units and tool changers
- New chip collector design
- New clamping system for increased milling performance
- Angled, uncluttered surfaces facilitate removal

Safety

Safety is built inside! Our engineers were challenged to think about the various functionalities of the Endeavour to reduce the potential operator involvement with the different machine cycles. The result is that typical machine cycles are achieved with predictable cycle times as the operator involvement is greatly eliminated.

Fast drilling, scribing, tapping, milling for all three drills independently.



MODEL		VANGUARD		LIBERTY	
		603 DDV	1103 DDV	1203 DDE	2003 DDE
Web height min/max	mm	80/610	80/1115	80/1220	80/2030
Flange width min/max	mm	10/305	10/500	10/610	10/610
Drill heads	No.	3	3	3	3
Tools per spindle	No.	6	6	6	6
Max hole diameter	mm	40	40	40	40
Max drilling thickness	mm	100	100	100	100
Spindle power	kW	17	17	27	27
Spindle speed	rpm	5000	5000	5000	5000
Spindle horizontal/vertical positioning speed	mt/min	12/30	12/30	12/30	12/30
CNC axes	No.	7	7	7	7

Underside scribing

COMBINED WITH A CNC SAWING UNIT

The Katana range of saw lines represents the latest technology in High Performance band saws for the structural steel industry. With the increased cutting speed, the Katana saws represent a significant step forward in beam processing. These extremely fast saws can carry out sawing operations at 90° or at miters by program command. The saws can be delivered for stand-alone installations or as combined lines with the Ficep beam drilling units.

The main advantages that the combined drill/saw configuration offers are:

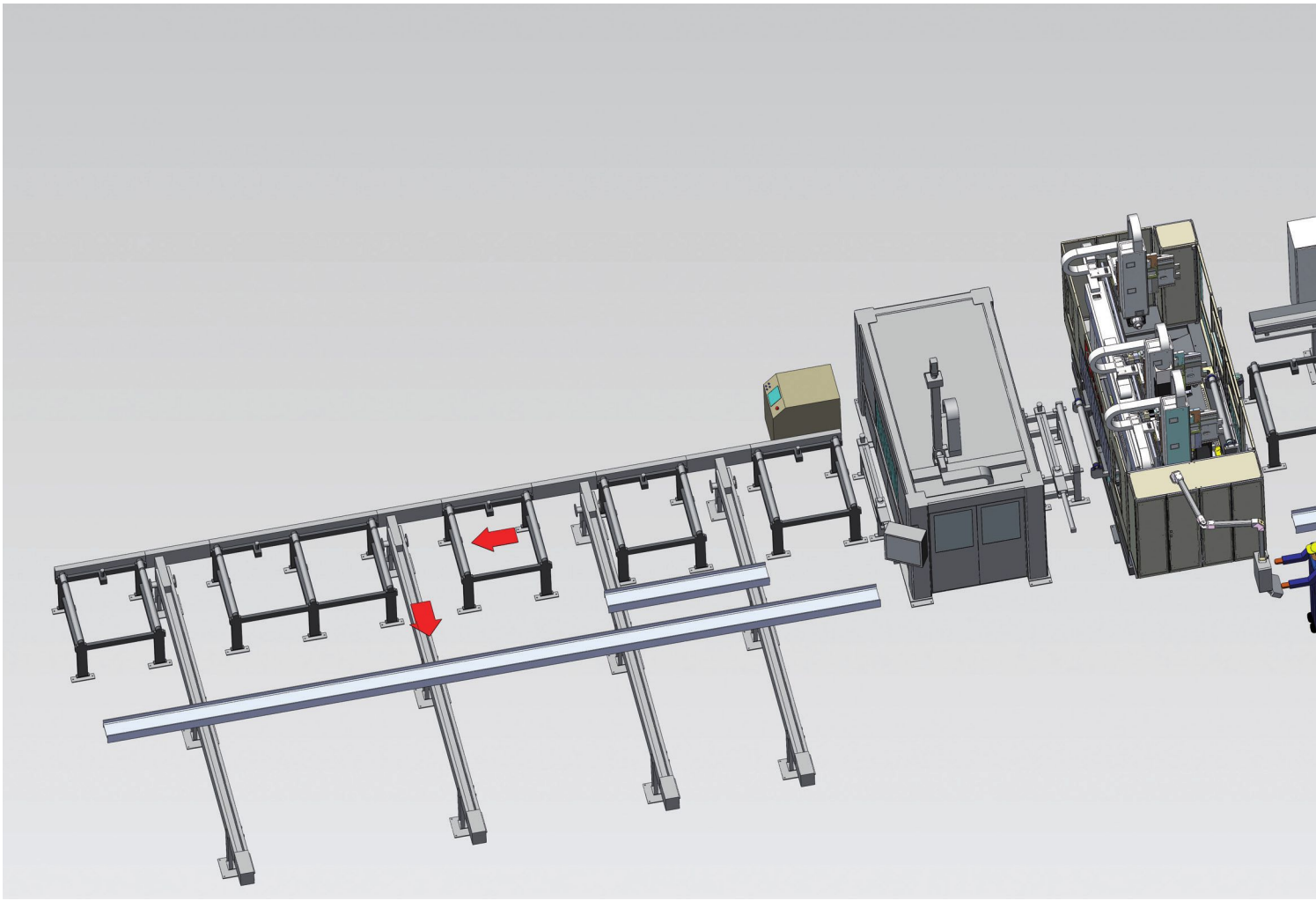
- Consolidated layout minimizes the required shop space.
- Lower man hours per ton are achieved by the elimination of one operator.
- Reduction of the investment costs as the combined system requires less material handling elements.
- Reduction in material handling steps.
- Ability to drill and saw short parts and even handle trim cuts automatically without operator intervention.
- The high structural integrity of the cutting head is achieved with a welded one piece, totally enclosed bridge type structure.
- Prismatic sliding ways guide the cutting head on both sides of the two bridge structure.
- The blade guide system adjusts automatically as section sizes are changed as part of the CNC program.
- Spray mist blade lubrication and cooling system.
- Non ferrous motorized chip brush is incorporated for blade cleaning.
- Chip conveyor
- Automatic saw mitering at +45°/-60° or at +60°/-60° as an optional

MODEL		VANGUARD			LIBERTY	
		603 DDVB	1003 DDVB	1103 DDVB	1203 DDEB	2003 DDEB
Drill head	No.	3	3	3	3	3
Spindle power	kW	17	17	17	27	27
Sawing capacity at 90°	min. mm	60 x 10	80 x 10	80 x 10	80 x 10	200 x 10
	max. mm	610 x 310	1015 x 450	1100 x 510	1250 x 610	2000 x 610
Blade size	mm	34 x 1.1	41 x 1.3	54 x 1.6	67 x 1.6	67 x 1.6
Blade speed	mt/mm	150	170	170	170	170
Band saw motor	kW	7	9	15	15	18
CNC axes	No.	7 + 2	7 + 2	7 + 2	7 + 2	7 + 2

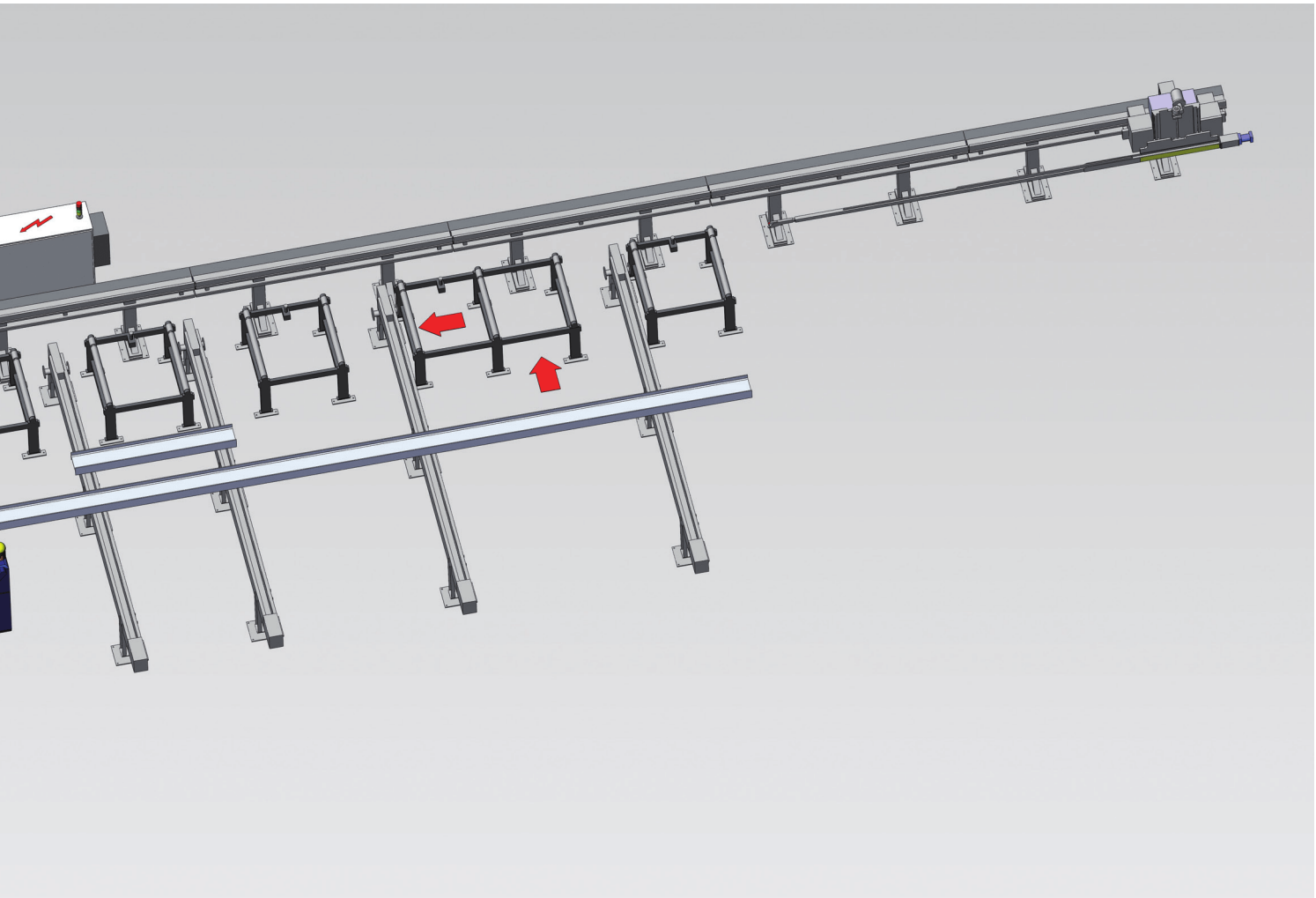
COMBINED WITH A COPING ROBOT

Ficep three spindles drilling lines can be combined with plasma or oxy robotic thermal cutting units (FRC) to automatically generate such typical task as coping, flange thinning, rat holes, weld preps, and splitting of beam into tees.

This combination of drilling and cartesian robotic coping represents a unique solution. If there is a unique or difficult torch path requirement, even on a long profile, the Ficep Robot is up to the challenge.



MODEL		VANGUARD		LIBERTY
		604 DDVFRC	1004 DDVFRC	1204 DDEFRC
Web height min/max	mm	80/610	80/1115	80/1220
Flange width min/max	mm	10/305	10/500	10/610
Drill heads	No.	3	3	3
Oxy-fuel torch	No.	1	1	1
Plasma torch (optional)	No.	1	1	1
CNC axes	No.	7 + 6	7 + 6	7 + 6

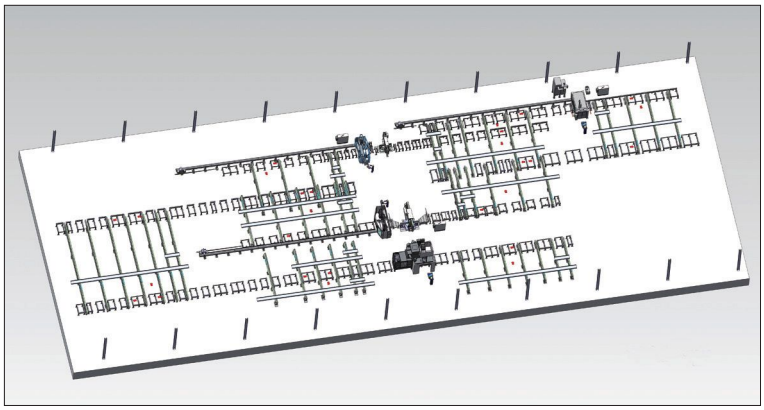


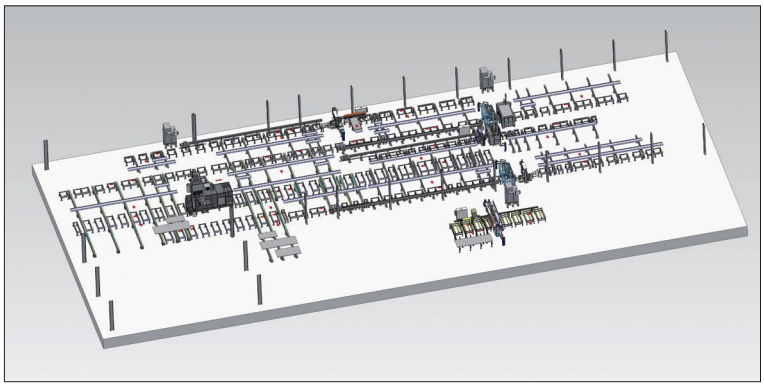
AUTOMATIC SYSTEMS

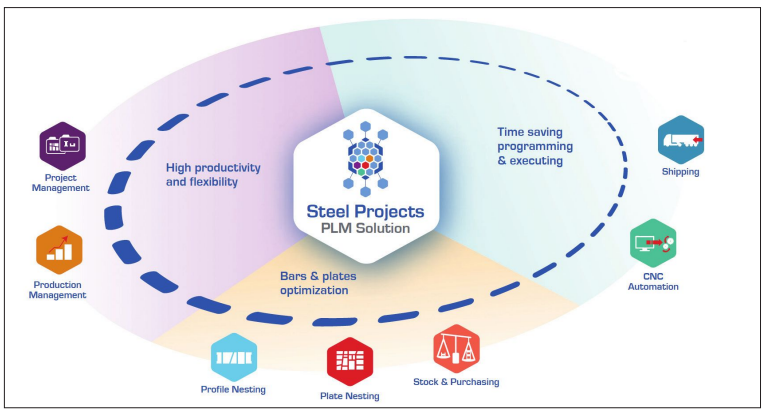
Ficep is the world leading supplier of fully automatic systems for structural steel industry. We have sophisticated software in use to carry out challenging production capacity calculations based on each project's requirements and layout proposals. This way we can study the optimal solution for each type of customer.

For operating sophisticated automatic systems FICEP Group has a software division, Steel Projects. The PLM software is an integrated solution is to Manage, Automate and Optimize the steel fabrication workflow from the BIM (Building Information Model) trough Production planning and Management of logistics to the erection site.

The real-time information feedback from the workshop can be used to create reports of individual machines or the overall workshop. This data is invaluable for managing revisions, time scheduling, stock control, purchasing, nesting, cost analysis and to be able to get most out of the CNC machinery.







PEGASO SYSTEM

Pegaso is the new generation CNC for Ficep machines. PC, CNC and PLC are all integrated on a single board, to have the maximum reliability. Pegaso is based on field bus technology: CanBus and EtherCAT, with up to 32 axes controlled.

The CNC is positioned on a mobile control panel, so the operator can have a complete view of the machine. The most of the input / output interface devices and brushless motors drives are located on the machine.

Programming

- Simplified data input with graphical direct preview
- 3D piece view
- Diameter programming with automatic tool assignment
- Linear, matrix and flange patterns
- Programming in feet, inches and fractions, millimeters or inch decimal
- Linear nesting

Processing

- Automatic tool assignment
- Unit offset automatic summing
- Automatic grouping and ordering of operations
- Setup modification lines generation
- Rototraslation of executing program to follow sheet orientation

Execution

- Automatic cycle stop for tool setup modification
- Probing capability to adjust program quotes to actual material position
- Automatic software to prevent machine unit collisions
- Automatic software to prevent tool collisions against material
- Tool management with operating parameters and tool life management
- Messages and alarm notifications to the operator using customer language with history log
- Graphic screens to display machine pieces handling tables
- Production times recording

since 1930

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