ITALIAN MACHINE TOOLS, ROBOTICS & AUTOMATION INDUSTRY ~ NEWS

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FICEP

ENTERPRISE: FICEP'S GIRDER GANTRY DRILL REVOLUTIONIZES THE BRIDGE FABRICATION PROCESS

The construction of large-scale structures, such as bridges, requires an exceptional level of precision and efficiency, as well as the capability to manage substantial dimensions and weights. Historically, the methods employed to fabricate bridge girders have been exceedingly labor-intensive and have necessitated considerable working space. These traditional techniques often involve extensive manual labor and a significant time commitment, leading to inefficiencies and higher costs. However, FICEP's Enterprise line marks a revolutionary advancement in the field of bridge girder fabrication.

By incorporating cutting-edge technology, the Enterprise line has succeeded in streamlining the production process, significantly reducing the reliance on manual labor and optimizing space utilization. This innovative approach not only enhances productivity but also ensures a higher degree of accuracy and quality in the final product, setting a new standard in the industry.

The traditional fabrication of bridge girders has been a complex and time-consuming process and the conventional method involves several manual steps:

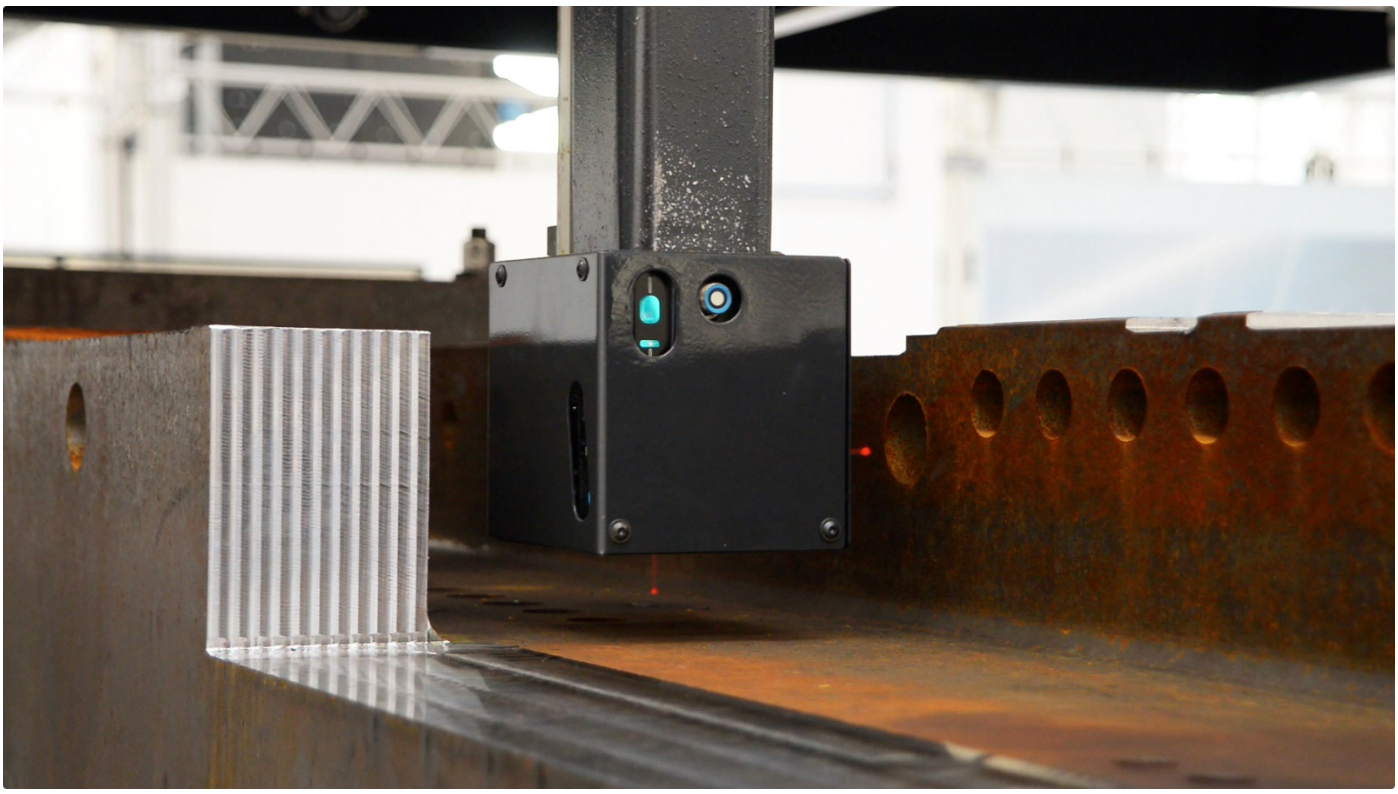
1. Manual layout of holes.
2. Using magnetic drills to generate holes at one end of the girder.
3. Bolting up the connection plates.
4. Aligning the next girder manually to the previously drilled and bolted girder.
5. Drilling connection holes at one end of the second girder.
6. Removing the first girder and moving the second girder into position.
7. Laying out and drilling the second end of the second girder.
8. Repeating these steps for subsequent girders.

This process requires up to 50 man-hours for each connection, resulting in significant labor costs and inefficiencies.

Recognizing the inefficiencies of traditional methods, FICEP took on the challenge in 2009 to automate and optimize the fabrication of bridge girders. The result is the Enterprise line, a series of advanced machines designed to meet the demands of modern bridge construction. The Enterprise line addresses the key challenges of traditional fabrication through several innovative features.

The Enterprise machines utilize a gantry structure, allowing the girder to remain stationary while the machine performs all necessary operations around it. This approach drastically reduces the required working space, as the total length of the CNC system corresponds to the maximum girder length, rather than the combined length of multiple girders. This is particularly important for handling girders up to 50 meters in length, which would otherwise require extensive floor space for manual operations.

Each girder is unique, with extensive camber, sweep, and dimensional variations. The Enterprise machines employ laser technology to probe the entire girder, establishing precise zero points for each specific girder. This eliminates the need for manual positioning and allows the CNC system to adapt to the girder's unique dimensions and tolerances.

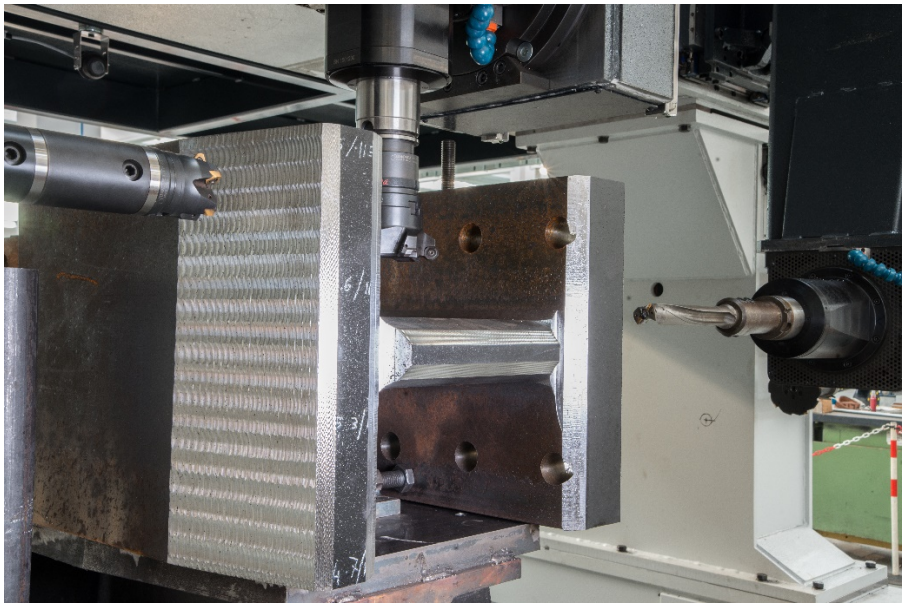


The Enterprise line features up to three Direct Drive spindles, each with an independent sub-axis. This design enables the machine to drill holes in all three faces of the girder, even if the holes are not aligned. The web spindle can rotate up to 90° in each direction, allowing for end milling and other complex operations.

The Direct Drive spindles are powered by 31 KW motors, delivering full power directly to the tool without loss due to a gearbox. This setup allows for aggressive milling rates, essential for preparing welds on large structures. **The modular design of the Enterprise machines ensures flexibility and efficiency in handling various tasks, including milling, drilling, and welding preparation.**

Automation of the fabrication process drastically decreases the need for manual labor, reducing the likelihood of human error and enhancing overall safety. This shift not only improves efficiency but also allows skilled workers to focus on more strategic tasks rather than repetitive, labor-intensive activities.

FICEP's development of the Enterprise line exemplifies its commitment to innovation and continuous improvement. By leveraging existing technologies and creating new processes, FICEP has demonstrated its dedication to advancing the field of structural fabrication and meeting the evolving needs of the industry. **As the industry continues to evolve, the Enterprise line stands as a testament to the power of technological innovation in driving progress and competitiveness.**



FICEP COMPANY PROFILE

FICEP is the world's leading machine tool manufacturer for the fabrication of structural steel and forging industry, with an experience of over 9 decades. Our extensive and innovative product range and its aggressive penetration of the world market has been achieved by the creation of many subsidiaries all over the world.

Located next to the Alps in Varese, Italy, we have specialized production facilities. The main location in Gazzada Schianno, which includes over 100.000 sqm, also contains Headquarters, R&D, Academy of Technology, Showroom and the main after sales service departments.

Our mission is to satisfy the demand of machinery and systems for the high quality processing of metal profiles in the most profitable markets, promoting the FICEP brand and trademark globally. Our wide range of machinery fully satisfies the demanding requests and covers all needs in the structural steel, fabrication and forging industry.

Find out more on https://ficepgroup.com/en/

The project Piattaforma India has been promoted by UCIMU – Association of Italian Machine Tools Manufacturers and AMAPLAST – Italian Plastics and Rubber Processing Machinery and Moulds Manufacturers Association. The two associations agreed on the idea that promoting a network of associations and entrepreneurs who have developed knowledge and experience on the Indian market, can be useful in favoring of new paths of development for business. The Indian companies who are interested to form JV, cooperation, technical tie up, purchase machinery etc from/with Italian companies can contact below mentioned address for any assistance:

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