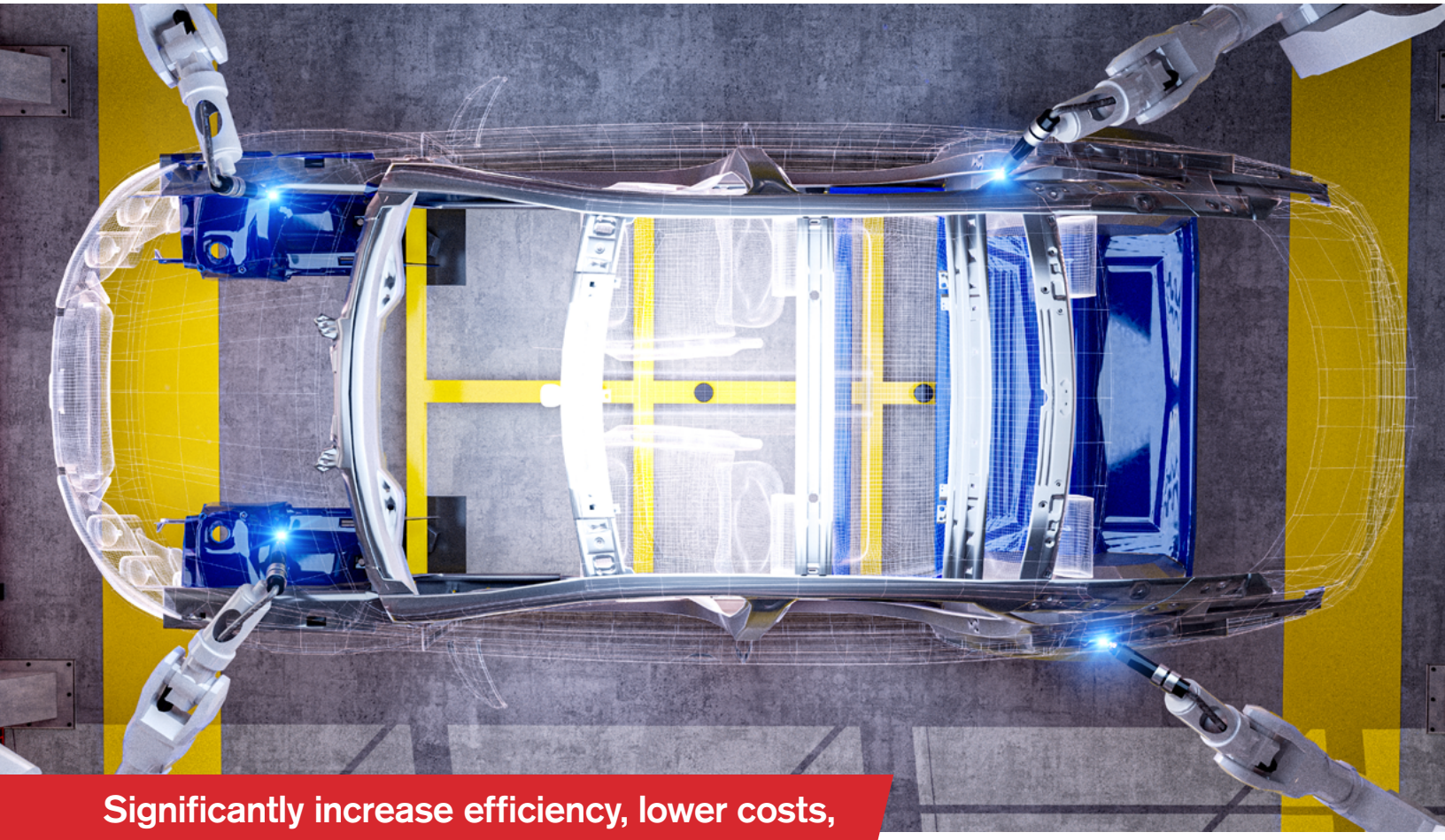
HYPERTHERM®
A Hypertherm Associates Brand

Cast trimming with robotic plasma cutting technology



Significantly increase efficiency, lower costs, and deliver superior cut quality

A new era of giga castings

Auto manufacturers must excel in quality, efficiency, and cost reduction to stay competitive. Profitability hinges on identifying opportunities to improve efficiency. That's why global auto manufacturers are increasingly adopting giga casting-large-scale frames with one cast- eliminating the need to weld dozens of body parts. Fewer parts decrease vehicle weight, enhance fuel efficiency, and accommodate the growing demand for battery-electric vehicles and more efficient internal combustion vehicles.

A better, more cost-effective way to trim large castings

Excess material from the mold must be removed once the cast part is extracted from the press. That's where robotic plasma-cutting technology is helping to revolutionize auto manufacturing.

> **Plasma cut speeds can match or exceed that of a fiber laser, especially on thicker gates**

Solve automotive cast trimming challenges with robotic plasma cutting

Challenge	Fiber laser	Robotic plasma cutting
Equipment cost	Fiber laser cells are expensive to purchase and maintain. They incur high capital costs and ongoing expenses for repairs, wear parts, nitrogen, and backup laser heads.	A robotic plasma trimming cell is typically less than half of the capital cost of an equivalent 3D fiber laser cutting cell.
Operating cost	Operating a fiber laser can be very expensive with maintenance, repairs, wear parts, and costly use of high-volume of nitrogen.	Plasma doesn't require expensive maintenance programs, so the carrying cost of spare torches and wear parts is lower. Many Hypertherm plasma system options also use air instead of nitrogen.
Part variation	Fiber laser requires a very close tool-to-part distance (<1mm) which is commonly within the profile tolerance of a cast part.	Plasma cutting has a greater tool-to-part distance (stand-off) for collision avoidance and greater uptime.
Machine downtime	Maintenance of the cutting head and wear part replacements leads to increased downtime, reducing overall productivity.	Robotic plasma drastically increases uptime, as it rarely needs to go down for maintenance and repairs like fiber laser. The plasma torch consumables last longer than fiber laser.
Cutting capacities and speed	Unless it is a costly, high-kilowatt laser, the system may not be able to cut thicker gates quickly and effectively.	Plasma cut speeds can match or exceed that of a fiber laser especially on thicker gates.
Surface finish	Lasers are sensitive to highly reflecting surfaces leading to poor cutting efficiency and risking the laser beam reflecting back into the machine or tripping a safety sensor resulting in machine shut down.	The plasma cutting process is not affected by surface finish characteristics of the part and consistent cut quality can be expected.
Floor space	A fiber laser cell with a proper enclosure can take a considerable amount of space on the factory floor.	A plasma cutting robot cell takes up less space than an equivalent fiber laser system.



Hypertherm Plasma is the trusted choice for auto manufacturers

Hypertherm® plasma systems are designed to easily integrate into robotic cells for cutting cast metal parts, significantly reducing time, labor, and operating costs compared with alternative technologies. Hypertherm has key differentiators from competitive systems and other technologies that make it the choice for leading auto manufacturers.

Learn more about the advantage of plasma cast trimming:

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