



Customer Requirements

A welding solution capable of supporting high volume, heavy structural fabrication.

Robotic Automation™ successfully supplied and commissioned a large scale Motoman Yaskawa robotic welding system at Gemco Rail's purpose built Karratha facility, enabling iron ore rail car manufacturing in the Pilbara for the first time.

The project forms part of a A\$150 million local manufacturing partnership between Rio Tinto, Gemco Rail and CRRC Qiqihar Rolling Stock Co. Ltd to produce 100 heavy duty iron ore rail wagons in Western Australia. The initiative strengthens regional manufacturing capability, supports skilled employment and reduces reliance on offshore rollingstock fabrication.

Instant Benefits

By enabling local production of high quality iron ore rail wagons, robotic welding improves weld consistency, enhances safety and supports sustainable regional growth.

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YASKAWA

Manufacturing Facility Optimisation

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Customer Challenge

Gemco Rail required a welding solution capable of supporting high volume, heavy structural rail fabrication while transitioning production closer to Rio Tinto's Pilbara operations.

Key Challenges

- Achieving consistent weld quality on large, load bearing wagon structures
- Maintaining weld integrity for fatigue critical rail components
- Supporting reliable production in remote Pilbara conditions
- Improving operator safety and welding consistency
- Establishing long term local manufacturing capability

Manual welding alone could not deliver the repeatability and throughput required for modern iron ore rail car manufacturing at scale.

Results and Outcomes

Robotic Automation™ designed, supplied and commissioned a Motoman Yaskawa industrial robotic welding system engineered specifically for heavy fabrication which delivered both immediate and long term benefits.



Operational Results

- Consistent, high quality welds across all rail wagons
- Increased production throughput and process efficiency
- Reduced reliance on manual welding for critical joints
- Improved operator safety and welding quality control

Business & Regional Impact

- First iron ore rail cars manufactured in Karratha, WA
- Wagons now in active service hauling ore from Pilbara mines to port
- Creation of up to 25 skilled local jobs
- Strengthened regional manufacturing and supply chain resilience
- Long term rail manufacturing capability established in the Pilbara



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