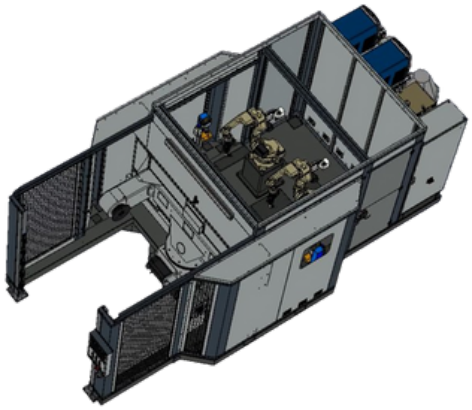
OTC DAIHEN EUROPE GmbH

Joining forces

Reference

Case Study: CUBE04



The high-precision OTC welding robot and the 180° horizontal positioner ensure that the workpiece is reoriented synchronously during the welding process, enabling particularly efficient cycle-based production with optimized cycle times.

Customer Requirement	OTC Solution
Annual peak capacity: 1,000,000 pieces/year	**Annual peak capacity: 1,050,000 pieces/year**
Required cycle time: Max. 15.7 sec/ piece	**Required cycle time: Max. 12.3 sec/ piece**
Max. duration for variant change (return time): 10 min	**Max. duration for variant change (return time): 10 min**

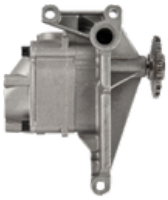
Lean Manufacturing

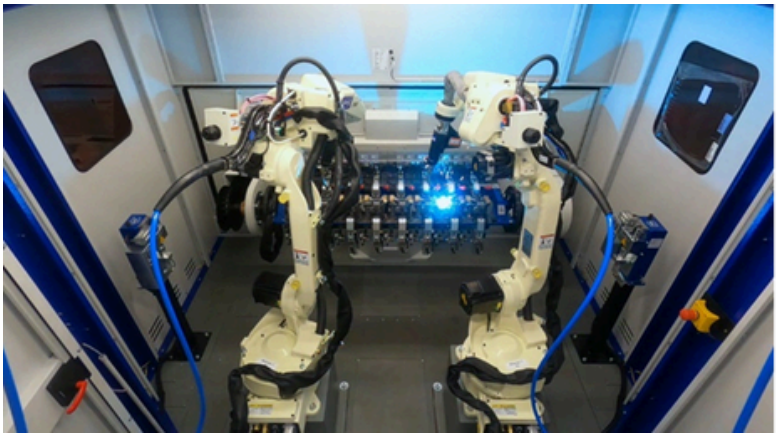
- Principles of “lean production” and “one piece flow”.
- Ergonomic removal positions are taken into account in the layout of the system design
- The pick-up containers are arranged ergonomically at the workstation, i.e. short pick-up and joining distances. (max. up to 40 cm); the gripping height should be below heart height approx. 130 cm

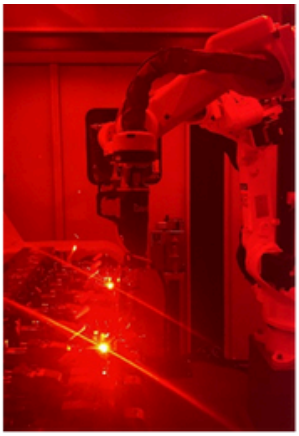
OTC Quotation

TOTAL Project Costs	**On request**
OTC Components	
OTC Service Package	
Extern Welding Fixture (2x)	

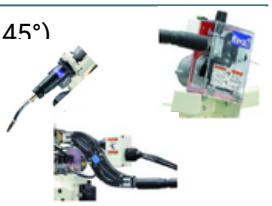
Industrial Sector:
Automotive supply indsutry

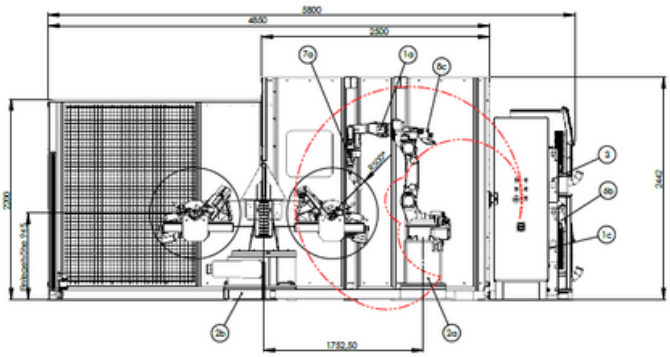


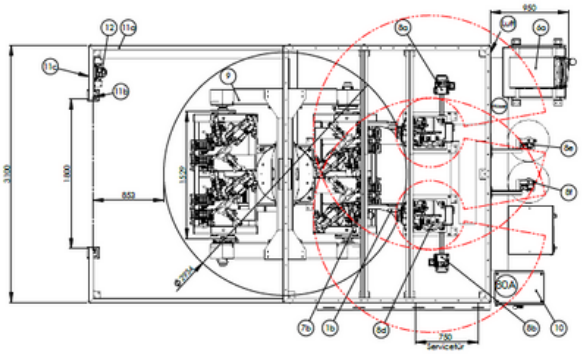




Quotation - OTC Components

OTC Components		
2 x Welding Roboter, Type FD V8	• R: 1.042 mm • Load capacity: 8 kg • Repeat accuracy: ±0,08 mm • AC servo drives, digital servo system for low maintenance	
1x FD19 Controller	• Memory capacity: 160,000 points • 40 digital inputs and 40 digital outputs • Incl. welding parameter monitoring • Weight of controller: 60 kg (without transformer unit)	
2 x Welding Machine, Type WB 502L (MIG/MAG)	• Welding current: 30 - 500 A • Welding voltage: 12 - 25 V • Stable arc start due to digital inverter technology • High welding speed with minimized spatter formation	
2 x SynchroFeed Pro Weldingsystem	• Water-cooled MIG/MAG welding torch (Torch neck 45°) • Load up to 500 A with CO^2 (up to 80% ED) • Load up to 500 A with mixed gas (up to 60% ED) • Factory wire diameter 1.2 mm • Encoder-controlled pull unit	
Positioning technology, Type HWP 1500	• Max. payload capacity: 200 kg • Turning speed 180°: 7,5 sec. • Rotating speed: 2.49 rad/s {140°/s} • Work piece radius: 500 mm	
CUBE04 Basis	• 1 x base frame (T-base frame) • 2 x robot base, 500 mm high • 1 x control extension, 8-axis system • 1 x software, Multi Synchromotion • 1 x control cabinet • 1 x safety housing • 1 x Standstill monitoring, positioner • 1 x Station detection • 1 x Service door with safety switch • 1 x Light curtain	





Quotation - OTC Service Package

OTC Service Package	
Pre-assembly and pre-approval	• The system is assembled at OTC DAIHEN EUROPE in Mönchengladbach to ensure smooth commissioning at the production site. After pre-acceptance, the system is made ready for dispatch. The following tests are carried out: ◦ Assembly and function test of the robot technology, welding technology, positioning technology, safety technology and the entire system • Preliminary approval in Mönchengladbach
Training package	• FD- Generation (Basic course no.: 001) ◦ Basics of programming technology ◦ Programming with control commands ◦ Programming external robot peripherals ◦ Modification of programs ◦ Application function in welding operation ◦ Safety instructions • Welding parameters - Training ◦ Basics of OTC welding technology ◦ Component programming as part of the training, if possible. ◦ Explanation of welding parameters ◦ Determination and modification of welding parameters ◦ Carrying out welding tests ◦ Safety instructions
Transportation/freight costs	• The compact design allows for easy transportation of the turnkey cell by truck and ensures quick commissioning without additional installation work (only fork lifter is needed).
Commissioning and final acceptance	• Commissioning of robot technology, welding technology and positioning technology • Electrical wiring of the OTC components • Commissioning of system components • Instruction of the operating personnel on site