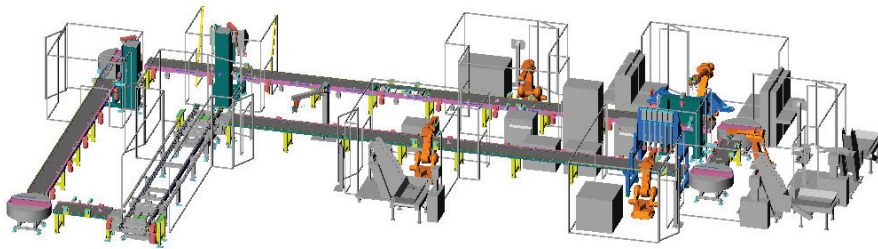
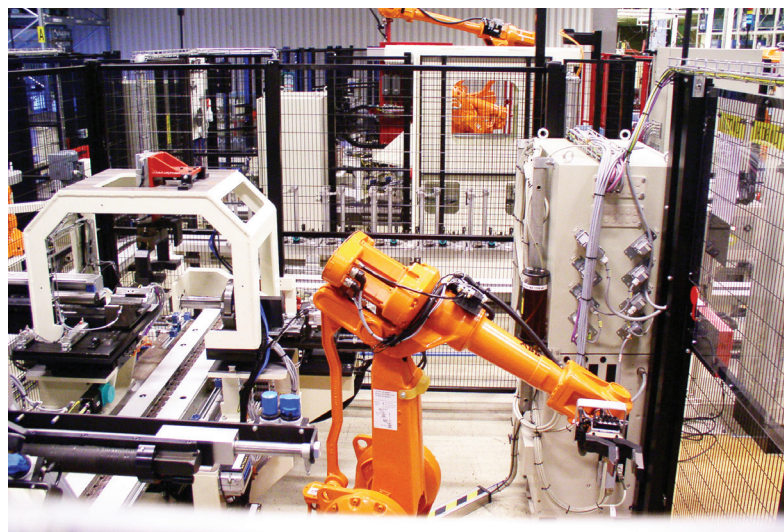
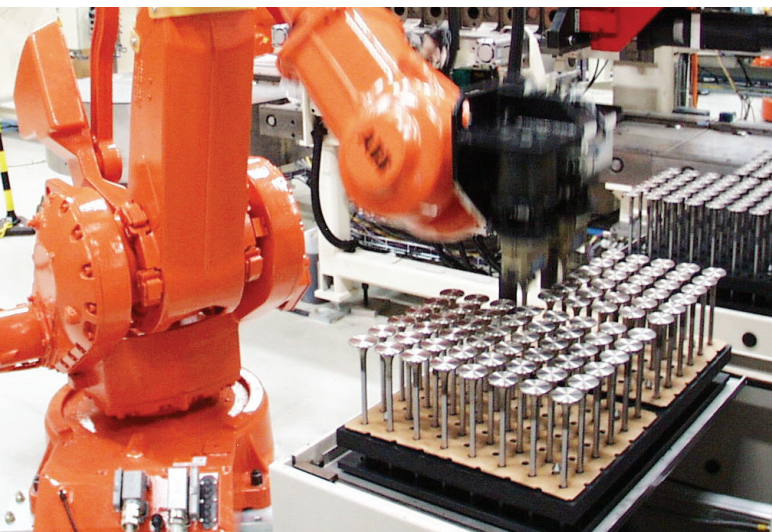


ROBOTICS

Diesel Engine Assembly Line



Facts	
Industry	Automotive OEM
Product	Diesel Engines
Installation Date	November 2005
Description	<p>Diesel Engine assembly line is based on ABB standard modular concept. This line consists of three conveyor systems, one for short block assembly, one for piston sub assembly and one for cylinder head sub assembly. The assembly lines are a mix between manual, semi automatic and automatic stations, between some of the assembly stations is a buffer station placed.</p> <p>Currently assembles 13 liters (6 cylinder) engines with weekly production reaching 1000 units with two shift operation.</p>
Equipment	<p>21 Automatic stations 23 Manual stations 4 Semi-auto stations 15 robots ABB leakage test for injector assembly ABB automatic assembly of piston rings</p>
Customer Benefits	<p>High quality assembly processes to assure product quality and production Cost effective solution High flexibility Easy and low cost startup of new variants ABB service close to customer</p>



Facts	
Technical Data	Capacity: 50,000/year (2-shift production) Cycle time: 183 seconds
Unique Elements:	Leakage test station of cylinder head. Robot assembly of cylinder liner gasket Automatic adjustment of valve clearance.
Customer Provided Equipment	N/A
Project/Steps to Implementation	Concept design Concept approval Engineering (Detail design) Project management Manufacturing Installation Training
Project Responsibility:	Powertrain
Video/Photos/Reference:	Can be supplied by ABB