

ThyssenKrupp System Engineering GMBH Robotized Engine Assembly line for KIA Motors Zilina, Slovakia

CLIENT

KIA Motors headquartered in Seoul, is South Korea's second-largest automobile manufacturer, following the Hyundai Motor Company, with sales of over 3.3 million vehicles in 2015. KIA specializing in passenger cars, vans and buses.

Thyssenkrupp System Engineering is an internationally acting affiliate of the Thyssenkrupp Industrial Solutions AG, a system partner for all important components of the process chains car body and powertrain in automotive industry. The product range also includes automation solutions for electrical storage and drive systems, solutions for innovative lightweight designs as well as lines and test systems for aviation industry.

TASK

Programming and commissioning of four engine assembly station for testing 3 new KIA engine models. Main components of machine are: 3 Fanuc Robots, 5 PLC controllers, 2 Sinamics Drives with positioning, 12 Bosch tightening Spindles, 80 actuators, 10 RFID readers and many other devices controlled by Simatic PLC and visualized on 5 HMI Panels.

Most significant features of control system was:

- Commissioning line with NOK strategy in case of part or process errors,
- Read-write and set process according to RFID and MESS system informations,
- Commissioning of Fanuc Robots; handling/gluing applications with changeable tools and NOK strategy,
- Cycle time optimization: all movements are programmed with maximum possible level of simultaneity,
- Precise alarm profibus diagnostics,,
- Favis vision part verification system,
- Advanced safety functions.



TECHNICAL SPECIFICATION:

- 5x Siemens PLC Type S7 317-2 PN/DP
- 2x Siemens Sinamics Control unit,
- 3x FANUC RJ-30iB Controller,
- 5x TP1200 Comfort HMI Panel,
- 30x IM 154-4 PN HF IO Module,
- 50 other Profibus/Profinet devices.

PHOTO:

