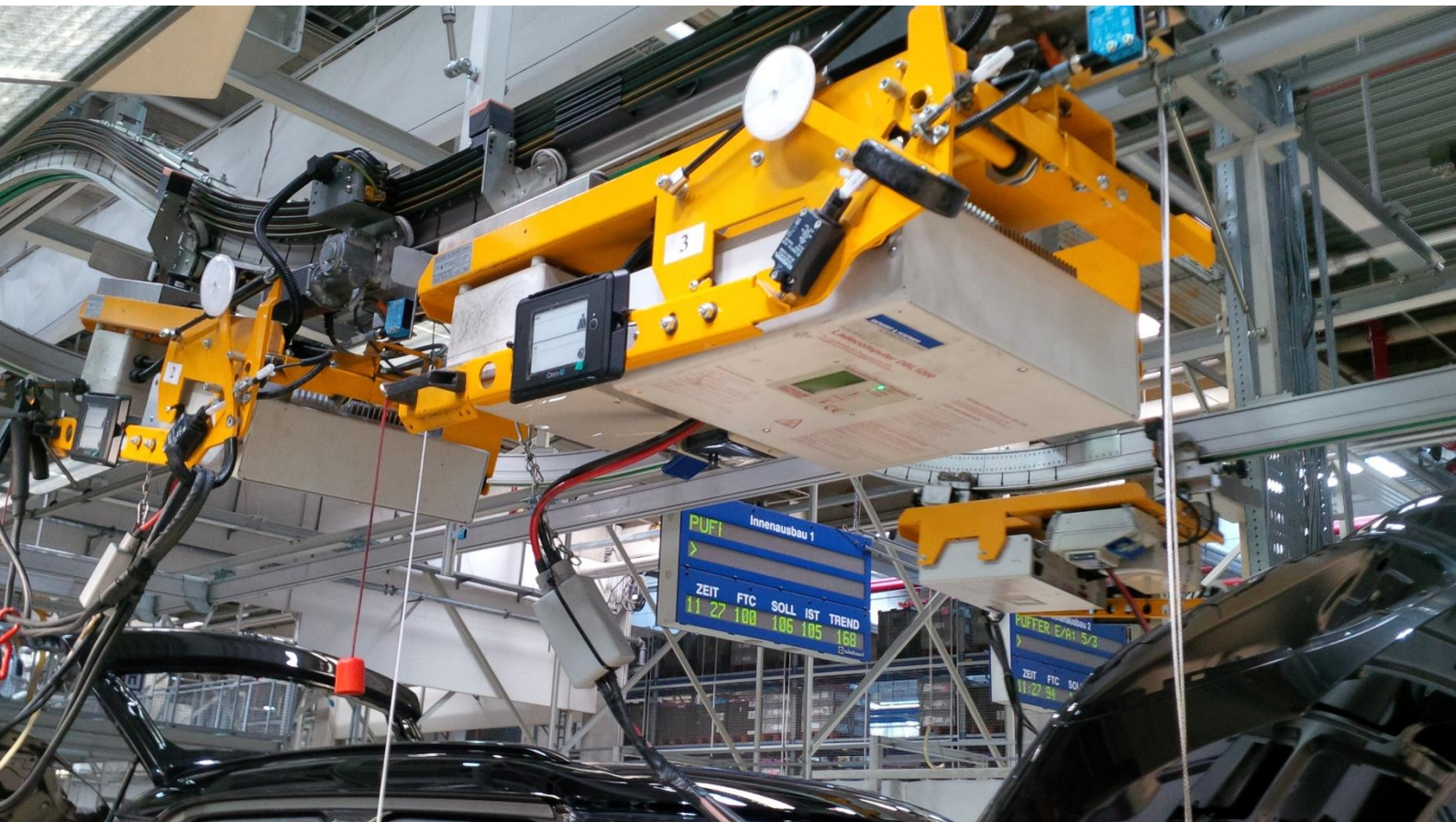


AUTOMOTIVE 4.0

Proof of Technology



SITUATION

Individualization challenges the automotive industry. Instead of offering few variations of a vehicle for the mass market, consumers are nowadays able to order individual cars with nearly open-ended combinations of color, form and functionality. As a consequence, the complexity within the production of automotive suppliers like Magna increases dramatically. Rather than producing a car in-sequence, several parts like engine, doors and axles need to run through individual manufacturing steps depending on a customer's order. At the moment, Magna equips those separated components with printed papers carrying the production and the vehicle identification number. Since that approach is sensitive for dirt as well as damage and is furthermore waste of material, 7iD Technologies has been instructed to optimize the production process by developing a paperless, elnk based IoT solution.



KEY BENEFITS

- Digital solution instead of paper
- Save costs by replacing paper
- Have an easy extendable system due to a visual passive UHF RFID display

SOLUTION

In order to provide a fully automated IoT solution, 7iD Technologies developed and installed a RFID system consisting of two points, as well as visual passive UHF elnk tags with appropriate battery life time.

The passive transponders are mounted on hanging carriers moving along separate supplying circuits within Magna's production cycle.



Before those hanging carriers come into operation, the mounted visual tags pass the first point where they receive all relevant information from the current vehicle on the line. This communication is done via passive UHF RFID technology in combination with a pre-installed template mechanism on the tags in order to be extremely energy-efficient. From that point on, the carriers are digitally and visually linked to one car and run through additional process steps. After those separate tasks have been finished, the carriers are brought back to the production line where they pass a second RFID point that resets the information on the visual UHF RFID transponder and cuts the digital linkage. The hanging carriers are now available again for components of the next car in the line and the circulation starts again.



During the proof of technology, we started equipping a few carriers of the "Checking and Programming Line". And this is just the beginning, since the pattern of linking carriers to the production line is the same for other sub processes within Magna's production.

COMPONENTS

- 7iD's IoT DIP Platform™
- Passive visual UHF RFID tags to display human readable information
- UHF RFID point to write car relevant information on the tag
- UHF RFID point to reset the tag information
- Tailor-made business processes
- Interface to Magna's IT system



tagged for success.



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