AUTOMOTIVE 4.0
Wireless E-Ink Dispaly

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, E-Ink based solution.

KEY BENEFITS

- Digital solution instead of paper

- Save costs by replacing paper

- Have an easy extendable system due to a visual E-Ink display

SOLUTION

In order to provide a fully automated solution, 7iD Technologies developed and installed an system consisting of two read points as well as visual E-Ink tags with appropriate battery life time.

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

Before those hanging carriers come into operation, the mounted displays pass the first read point where they receive all relevant information from the current vehicle on the line. This communication is done via wireless communication in combination with a pre-installed template mechanism on the display 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 read point that resets the information on the display 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.

COMPONENTS

- Visual E-Ink display for human readable information
- Read point to write car relevant information on the e-ink display
- Read point to reset the display information
- 7iD's IoT middleware DIP Platform™
- Tailor-made business processes
- Interface to Magna's IT system

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