

TECHNOLOGY: ... **Microsoft .NET**
 FRAMEWORK: ... Bespoke IoT
 INDUSTRY: ... Manufacturing

REGION: ... **South Africa**
 REACH: ... International
 SCOPE: ... Process Improvement

TYPE: ... **Project**
 ENGAGEMENT: ... Fixed Scope Delivery
 COST: ... Fixed

Overview

MAHLE is a leading international development partner and supplier to the **automotive industry** as well as a pioneer and technology driver for the mobility of the future.



MAHLE's dual technological strategy is the further optimization of internal combustion engines and, at the same time, we will push ahead with the development of electromobility.

In order to optimise the quality control process in their South African operations, MAHLE asked First Digital to **modernise an existing line-side process**. The solution generates product labels based on the outcome of their quality assurance checks conducted by automated PLC jigs.

First Digital delivered a modern **.NET** based solution, with **central** configuration and **data recording** capability and future centralised **device** and **IoT** integration capability.

Approach

Working closely with MAHLE, First Digital replaced a decentralised system with a modern **.NET** based solution. After undertaking an SDLC based **Plan, Design, Execute** and **Deploy** methodology for application development, a solution meeting for following key objectives was delivered:

- A solution that can **incrementally** replace the old system on a per-production line basis
- Centralise the configuration, **audit**, and reporting capability
- Offer way to change or implement new product labels without requiring technical or developer level intervention
- Better handle the **integration** with line-side devices by offering the ability to remove the need for bespoke hardware in the future
- A solution that offers **multi-language** and **non-Latin** character sets
- Deliver a solution that is modern, maintainable, and future proof

Crucially, the new solution allows end-users to create, design and apply new label designs **without technical or device specific knowledge**. The solution also supports multiple languages and non-Latin characters – an important requirement given the international client base of MAHLE.

First Digital introduced device driver level printing which allows MAHLE to use any Windows compatible label printer in the future. The solution was further hardened by introducing an software interpreter between the text jig and the system, to standardise the messages received by the system.

Offering complete **end-to-end auditing**, every part can be tracked back to a date & time, operator, test jig, production line and production batch – an important requirement for industry trackability. Historic labels can also be re-printed.

Summary and Benefits

First Digital and MAHLE migrated multiple deployments of a line side qualify assurance process. The new solutions provided the following benefits:

- Offering end-user focussed configuration, audit, and reporting functionality
- Modernise and simplified the solution to be able to centrally manage the QA
- Reduction in technical debt and the removing a dependency on external capability and propriety code and software modules



See More

SITE: ... [Mahle South Africa](#)
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 VIDEO STUDY: .. <https://youtu.be/oos35XKlwOo>

About

First Technology Digital is a First Technology group company. We are a future enablement partner specialising in product development, digital transformation consulting and the design, development, and deployment of enterprise solutions to various international clients. We are a Microsoft Gold partner and a proudly South African company.