

South Africa's automotive suppliers industry can be defined by flawed lean adoption, low technology embracement, and poorly skilled workers. These suppliers heavily rely on pan & paper data collection. Therefore, these suppliers can be scaled on industry 2.0. This creates a hurdle and increases the gap between the South African and the western economy, which is (slowly) adapting the industry 4.0 standard.

During the thesis, supervised by ACE Mobility, the following questions was answered:

“What is the impact on Gemba focused improvement projects by a production data acquisition interface during the transition from industry 2.0 to 4.0, in a South African context?”

Since the thesis was timeously restricted to five months. The thesis was limited to a proof of concept of a real time location system and qualitative customer interviews.

In order to be relevant for manufacturers the real time location system adhered to the following requirements: indoor utilization and sub meter accuracy. The choice was made to use Bluetooth low energy for its long battery life and relative strong signal strength.

Oversimplified the real time tracking used a beacon and several receivers. The receivers have fixed locations and the beacon, pocket sized, was able to move around. The location is calculated through beacons signal strength triangulation.

The research concluded that real time location system, part of the production data acquisition interface, are relevant for both South African as well as Western manufacturers. Since it represents a key component for any manufacturing company interested in data driven movement waste analysis. The location system proved to be a key component in the Industry 4.0 paradigm. Since it allows the transition from industry 2.0 to 4.0, through connectivity and electronic data acquisition.

The recommendation for this project is manifold. It is advised that during further research the impact and the long-term effect on the operators is analysed. It should not be forgotten that operators are the value creators of any manufacturing plant. Therefore, respect for people cannot be under emphasized. In addition, further research should focus on implemented case studies for a representative sample size.