

SUMMARY

This thesis objective is to increase the supply chain surplus through both increasing the customer value and decreasing the overall supply chain cost. The latter is achieved by optimizing information and process flows in Ramirent Baltic AS Module Factory. Value stream mapping 4.0 method from chapter 2 assisted to identify information logistic wastes as well as digital improvement opportunities which were the basis for developing IT system architecture.

Lean production was implemented in factory T2 and factory T1 on the other hand remained the same. The comparison of factories is presented in chapter 3. Labor efficiency in factory T2 was 108% while labor efficiency in factory T1 was 90% in April 2018. Efficiency is calculated by aiming that one factory worker is producing one module per month. Despite the lack of all necessary equipment, being in implementation phase and takt time is imbalanced, the efficiency in factory T2 was 18% greater than in factory T1. Also, if the layout allocation in factory T1 would have been the same as in factory T2 there would have been a production space to produce all the elements by ourselves. Therefore, RMF potential saving in April 2018 could have been 10 735 € if the lean production would have implemented in both factories. In conclusion, comparing factory T1 with factory T2, the latter have better distribution of labor and inventory allocation, more transparency in process tracking, shorter production lead time and distinct layout areas.

Digital improvement opportunities which are derived from value stream mapping 4.0 and implemented through customized IT system are described in chapter 4. The main purpose of developing customized IT system as Microsoft NAV interface is to increase the efficiency and improve the transparency in the supply chain. The calculated ROI from the digital development after deployment is 55%. Also, the indirect benefits from digital development are increased production transparency, on time material delivery, reduced material shortages, increased quality, decreased information loss and improved traceability.

The best results come from the lean 4.0 which is a combination of both implementing lean production and digital development. Currently the lean production is in the implementation phase and digital development in the analysis phase. Therefore, after integrating the IT system with the lean production the efficiency increases even more. As a conclusion, this thesis objective was achieved.