

This thesis is made in the company called NAPS Solar Estonia OÜ, the solar modules manufacturer from Estonia. Overview of company and solar modules is given in the first chapter of work. Thesis is made on the structure of tasks that are mentioned in Objective chapter. The main objective was to find bad sides in production process of solar modules and improve those.

By describing and analyzing production process of NAPS Solar Estonia OÜ deeply enough in the second chapter of thesis there were found issues that need attention and improvement.

Analysis of current state showed that management of company do not have any kind of overview on what is happening in production as there is no sufficient key performance indicators implemented in company. This could lead to the deeper problems in future. It appeared that something has to be done in order to reduce the throughput time of line, as there are couple of processes that just losing time because of huge waiting times for workstations.

Additionally, it became clear that company is losing resources money because of defective products and there is no any system that could track what defects present most often. After analysis of current state in chapter three there are generated ideas and proposals made in chapter four.

In order to improve throughput time by comparing different possibilities to each other, there was simple suggestion born: to change the layout of line by moving workstations around. This small modification theoretically could improve throughput time by 4,56%. The additional benefit from changing layout is colossal reduction of walking for one operator. Operator will travel 1400 *m* less than previously.

There are brought out suggestions about what KPIs to use in order to have an idea what is going right or wrong in production. Additionally, new KPIs will help to make decisions regarding production line in future.

To fight the defects rate there are suggestions on how to register the nonconformance to general database. By implementing this suggestion, it will become possible to reduce rate of defects as there will be knowledge what are the most common and the costliest ones. Additionally, author proposes the concept of solar module turntable. This will help to reduce physically hard job for operator in trimming section of workstation 3. As it appeared that operator handles during day over one ton of modules by hand. This kind of change will influence positively on employees' attitude to the company.

Objective of thesis is achieved as the problematic spots are found out and the suggestions for real improvements are offered.