The Space industry of tomorrow

Background
RUAG Space Group AB (RUAG Space) is a key player within the space industry whose vision is to be the number one individual space product supplier. The production facility in Gothenburg manufactures products for the space industry with components of very high quality, specifically designed to accomplish a low failure rate on component level. The production is based on low-volume manufacturing with manual handling and quality controls to a high extent.

Indications from the space industry tell that there will be a change in matter of costs, volumes and lead-time for communication satellites. For RUAG Space, a contender on this market, it implies a need to evaluate how they should adapt the manufacturing process to achieve product manufacturing with shorter lead-times and lower costs per part produced.

Work content
A joint research project between Chalmers and RUAG Space has been initiated. The project has three main deliverables; a current state analysis, a high volume and a flexible volume scenario. A current state analysis has been described and the production system has been mapped and simulated to support a high volume analysis. The next step will be to analyze the flexible volume scenario, which will require a deeper analysis of the system.

The thesis will require a deeper analysis of the production system to advice RUAG Space how a production system should be adjusted to meet the future flexible volume. In order to do this, already performed work and data collected will support, but there are data parameters that have been identified as missing. It will be crucial for the project to identify how these should be collected in order to build a new, more detailed simulation model. This simulation model should serve to assess different possible scenarios of the RUAG Space´s production. It is beneficial if the students have prior experience in simulation of production systems in a simulation software such as Automod or similar. The thesis will be performed at RUAG Space, Delsjömötet.

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