

## **Industrial Internet Plan for an Aluminium Company – Master thesis (30 hp) at Gränges AB**

*Gränges is a highly automatized company producing rolled aluminium coils and strips. The on-going industrial internet revolution opens up opportunities for Gränges to further improve its efficiency and develop new business opportunities. The study will investigate how Gränges can use industrial internet and suggest an activity plan moving forward.*

### **Thesis Objective**

Industrial internet (IoT), and digitalization are becoming increasingly important for industrial companies. The technology covers functions within internal vertical operations processes, as well as horizontal partners along the value chain.

Your task will be to investigate how Gränges can use and explore business opportunities with the technology. The study will outline a structured plan for how to implement the technology and what resources will be needed.

### **Work Plan**

The work plan will be divided into three parts:

- 1) Do a mapping of the present manufacturing process at Gränges and make an assessment of tools and systems available to manage manufacturing data. Assess the present organization capabilities and capacities in relation to IoT technology.
- 2) Research other similar process industry for idea and development opportunities of industrial internet. It could be paper mills, metal rolling mills and process industry in general.
- 3) Develop an industrial internet activity plan for Gränges. The plan could be divided into two parts:
  - Identify and quantify 2-4 short term opportunities (Capex, Savings, IRR...)
  - 2-4 long-term activities and opportunities for utilizing IoT technology in the company, including activities to develop an organization capable of managing future IoT technology opportunities.

## **Student Background**

We are looking for an engineering master's student who is interested in writing a master's thesis about industrial internet in a rolled aluminium process industry. The student is likely having a background in studies of production technology, digitalization or similar areas. It is required that you are proficient in English, both verbally and in writing.

## **Time & Location**

The extent of the Thesis is 20 weeks for one student and it should preferably be done during first half year of 2017. The work could partly be done at the Gränges facilities in Sweden (Stockholm and Finspång). It will be needed to initially spend two to four weeks at the Gränges production plant in Finspång in order to get a good understanding of the rolled aluminium process and possibilities with industrial internet in the process.

## **Confidentiality**

In order to proceed with the study it will be needed to sign a confidentiality agreement. Gränges also has to approve the final report and other presentation before any publication. Any innovations and intellectual properties related to the study will be deemed to follow Gränges Innovation policy.

## **Application**

Your application should include a personal letter, CV and possible references. The last day for application is April 13, 2017. We will review applications continuously so send your application as soon as possible.

Send the application to:

Stefan Wass, Technical Director

[stefan.wass@granges.com](mailto:stefan.wass@granges.com)

## Contact Persons

For further information about the thesis contact:

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## About Gränges

Gränges is a leading global supplier of rolled aluminium products for heat exchanger applications and other niche markets. In materials for brazed heat exchangers Gränges is the global leader with a market share of approximately 20%. The company develops, produces and markets advanced materials that enhance efficiency in the customer manufacturing process and the performance of the final products; brazed heat exchangers. The company's geographical markets are Europe, Asia and the Americas. Its production facilities are located in Sweden, China and the United States, and have a combined annual capacity of 400,000 metric tonnes. Gränges has some 1,500 employees and net sales of more than SEK 10 billion. The share is listed on Nasdaq Stockholm. For more information <http://www.granges.com/about-granges/our-operations/>