Master Thesis: Evaluation of operational constrains in the naphthenic production units

About Nynas
Nynas is a different kind of oil company. We use oil to create sustainable value. Our business is specialised oil applications and within our field we’re a world leader. We have over 800 employees; we maintain production facilities in Europe, North and South America and have offices in some 30 countries. All this generates a € 2 billion turnover and stable growth.

Background
Nynas produce different type of specialty oils at the Nynäshamn refinery. The demand for products is high and we always try to maximize throughput. Production will be limited by different constrains like maximum capacity of feed pumps, quality targets, maximum design temperatures of reactors etc. It is important to identify these constrains and calculate the cost of deviating from the overall constrain to encourage operators to optimize capacity.

Main scope
The basis of the project is to identify constrains in the naphthenic production units (3), as well as for the different qualities produced in the units (> 10). The constraints shall be formulated mathematically to allow calculations of costs for lost opportunities, when production is deviating from maximum. The master thesis will involve the following main steps:

- Studies of the hydrotreater process.
- Acquire knowledge about Nynas specific units for hydrotreating units and the way they are operated.
- Identification of constrains. Selection of constraints to be modeled.
- Data analysis of process and quality data.
- Development of a process model
- Master thesis report

We believe you are a student interested in industrial catalyse, chemical reaction technic, separation process distillation, reaction technic or organical chemistry.

- Finally, this project will be an opportunity for you to add value to Nynas Manufacturing. At the same time it will provide you with the feel of how working for a multinational petrochemical company can be. Your Master Thesis work will start in Nynäshamn, September 1st 2013.

Contact & Application
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