**Master Thesis “Change Detection in Multi Dimensional Telecommunication Data” – 00067261**

**Description:**
The mobile telecommunication system is considered a critical infrastructure with more than 4,5 Billion GSM only subscribers around the world. The GSM system has been developed during 20 years and continuous to be enhanced. Over the years this has resulted in a complex system. One way of supervising that the GSM system behaves as expected is with statistics and counters. In the Ericsson BSS system (the radio part of the GSM system) there are over 2000 different counters that track the behavior of the system. Ericsson is currently releasing new software for the BSS system twice each year. Each of these software releases changes the behavior of the system. Sometimes the changes are unnoticeable in the counters and sometimes they are not. Observing the changed system behavior in the counters is sometimes easy and requires little effort and sometimes hard and require greater effort.

**Content of Diploma work:**
- Find out if it is possible using multivariable regression analysis or other mathematical methods to identify which of the counters in the GSM BSS system that are impacted due to the new software releases
- Compare different mathematical methods and evaluate them in this context
- Perform a prototype implementation of a selected method
- Evaluate the prototype.

**Qualifications:**
Mathematics and/or Statistical program.

**Size:**
30 ph. This is a thesis work for preferably two students of a Master of Science program.

**Time frame:**
The study should be started in fall 2012.

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