# BI Analyst

*Skills assessment test*

Before starting work, please reply to the email:

1. Set yourself a deadline.
2. Give an estimate to the complexity of the task, i.e. hours needed to finish it.

You can complete this assignment with the tools you see fit and to the best of your knowledge.  
Any questions should be sent to [martin.karu@ericsson.com](mailto:martin.karu@ericsson.com) as soon as possible. Other decisions, ideas and suggestions should be written in this document and discussed afterwards.

## Data

With this task you are given the documents:

* Robot – List of robots.
* Routes – List of mission routes. The naming convention changed on the 9th of March.
* Order Sheet – customer orders to move the components/goods on trolleys with the robots.
* Missions – robots’ activity logs

Additional information:

* Factory operates in shifts which start from 7:30 and 19:30.
* Factory is in Tallinn, Estonia.

## Task

The robots are underutilized; however, it is hard to quantify the extent of their use and pinpoint the causes. Create a report for the business user to address the problem.

Hint: The robots transitioned to the new naming convention gradually.  
Hint: You can ignore the period of the transition or add a disclaimer for it.

## Preprocessing

This is a one-time request – the processing can be done manually (*ad hoc*).  
Please describe the steps that you’re taking in the preprocessing phase.

*Jaroslav:*

*First, I visually explored the datasets to look for possible interconnections.*

*I removed all entries from Orders dataset with missing TrolleyID since orders do not move without attached trolley. This parameter also has direct corelation with presence of UserRequestTime, which reinforced my belief that orders with no Trolley\_ID can not be interpreted as valid orders.*

*I have excluded data that corresponds to the transition period in routing mission naming.*

*Regarding more technical aspects, I have stripped some of the column values as they contained unnecessary whitespaces.*

## Feedback and comments

If you have any suggestions or feedback, please write it here.

*Jaroslav:*

*Need to clarify how to interpret missing UserRequestTime and Mission form respective datasets. Based on the outcome the results of analysis might change.*

*Also, roughly 8% of Missions dataset didn’t have “Mission” field specified.*