Company: Philips

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Project title (or topic):
Predictive manufacturing on high-end mass production lines

Short project description:
The Philips factory in Drachten already uses data and machine learning to enhance productions processes. This enhancement improves overall process performance (increased quality, reduced fall-off, improved speed, etc.) making sure Drachten remains competitive on a global market. The Drachten data science team is looking for a graduate that can help build supporting models for our production processes. More specifically we see a lot of potential value in the field of trust-modelling, to help our operators understand current process performance, but also warn for upcoming (potential) failures. The key challenges are designing and operationalizing the model(s) as well as implementing said models within the operational structure of a production line or area.

Technical assignment:
Provide an operationalized model that is can collect and analyze multiple sources of data and summarize it into an easy-to-understand trust indicator. The indicator should capture time-series data, but other sources (both structured as unstructured) also exist. Main goal would be to provide production with an easy-to-use objective metric, and if possible, with predicting capability.

Business assignment*:
The Drachten factory is always under pressure to provide the highest quality for the lowest manufacturing costs. This has led to development of state-of-the-art manufacturing processes and collection of a lot of data. We consider data science to be one of the next steps to improve even further, and thus we are looking for ways to implement predictive capability within our production organizations and/or processes. Next to building and providing predictive models we are also looking for ways to assess value of these models, as well as a framework on how to implement these new technologies into existing business processes.

*This part is only relevant for graduation projects carried out by students of the EIT ICT Labs (www.ictlabs.eu) variant of the Embedded Systems program. In addition to the MSc thesis about the technical aspects of their graduation project, these students need to write a short additional report discussing the business-related aspects of their graduation project. Please fill in this part if you wish your project proposal to be considered for this option.