



**Monday, August 25, 2014 (Half-day / afternoon)**

## TUTORIAL ANNOUNCEMENT

22nd IEEE International Requirements Engineering Conference  
(RE'14) – Karlskrona, Sweden – <http://www.re14.org>



**Thomas Fehlmann**

### T08 – Requirements elicitation for agile projects using lean six sigma

When startups and innovative enterprises create new products, collecting requirements is crucial for making the product successful. Limited resources, both financially as also lacking skilled marketing people, is typically a problem for startups. They cannot spend too much money, although investors are keen to know what's being done in promoting the new product.

This tutorial teaches participants how to use Lean Six Sigma in requirements engineering. With Lean, requirements are not only collected but also checked for waste, accuracy and variation. They must be optimized towards meeting customer's needs, and because the product is new, the future customers don't know their needs yet. You cannot simply ask them. However, unnecessary requirements are waste and need to be sorted out. Six Sigma provides tools, called Transfer Functions, which allow anticipating customers' needs before they become apparent to customers themselves, and engineer new products towards market acceptance. Listening to your future customers eliminates waste.

What you collect when listening to your future customers is not related to your new product. It rather reflects the values that govern your market. To adapt your product to these values requires mapping the transfer of your new technology features to those values. We show how this can be done, and how a lean agile development team adapts their effort to the feedback received from the market.

The tutorial will go through a sample mobile app development for controlling household devices linked to the Internet (the now famous 'Internet of Things'). Possibilities are many; however, when it is perceived as a gadget that is expected for free, and when do people perceive value and are ready to pay for? We show how this can be solved with Lean Six Sigma product management, and we'll develop a working sample product together with the tutorial participants.

**BIOGRAPHIES**

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## BIOGRAPHIES

**Thomas Fehlmann** is a senior expert in software metrics and project cost estimation, a Lean Six Sigma Black Belt for agile software development and promoter of customer-oriented software product design. He runs the Euro Project Office since 1999, is internationally recognized as Quality Function Deployment (QFD) expert since 2001, and serves as software metrics expert of swissICT since 2003. Since 2004, he is Swiss delegate in the International Software Benchmarking Standard Group (ISBSG) and became vice-president in 2013.

Thomas Fehlmann published on Six Sigma for Software, QFD, Software metrics and measurements, and Transfer Functions together with Eberhard Kranich.

**Eberhard Kranich** studied Mathematics and Computer Science with a focus on Mathematical Programming/Optimization, Mathematical Statistics and Complexity of Algorithms, and has more than 30 years of industrial experience in oil, food, and automotive industry, and in telecommunications. Until 2013, he worked as a Six Sigma Black Belt at T-Systems, a Deutsche Telekom AG company, with an emphasis on software process improvements in the context of (early) effort estimation, defect containment, inspections, and on software quality assurance in general.

Together with Thomas Fehlmann he published papers on Design for Six Sigma transfer functions applied to Lean Six Sigma, the Quality Function Deployment methodology and Taguchi methods.

