

**Jeder Erfolg hat seine Geschichte.**



The **Chair of Operations Management** of **TUM School of Management** and **Bosch Diesel Systems** is looking for an interested and qualified student to conduct his/her

## Master's Thesis

on the topic

### Development of an Efficiency Analysis Approach for Setting Process Improvement Targets

#### Description:

Robert Bosch GmbH is a leading supplier of automotive components worldwide. In order to sustain competitiveness both direct and indirect manufacturing (sub-)processes are regularly screened for potential of improving efficiency and reducing cost. Improvement is achieved by translating strategic improvement goals derived from competitive market environments into specific, measurable and achievable targets for each (sub-)process. Decision makers hereby have to consider both the current level of performance and potential of improvement. Research in the area of decision analysis has brought forth a toolset to support such decision making problems and provides guidance in defining rational and transparent decision making processes.

Data Envelopment Analysis (DEA) is a decision analysis approach used to determine the efficiency of a set of similar decision making units (DMUs), which transform multiple types of input into multiple types of output. Besides determining efficiency or inefficiency of each DMU, DEA determines benchmarks for each inefficient unit which provide specific and quantified improvement targets.

This Master's Thesis shall investigate the potential of DEA in supporting the described decision making process at Bosch Diesel Systems. Based on a brief specification of the practical decision making problem literature on applications of DEA by itself and in combination with other multi-criteria decision analysis approaches shall be categorized and screened for suitable decision support concepts. After a thorough analysis of process evaluation data provided by Bosch Diesel Systems one or more approaches shall be assessed and compared in a case study. No presence is required at Bosch.

#### Literature:

- Eilat, H., B. Golany, A. Shtub. 2008. R&D project evaluation: An integrated DEA and balanced scorecard approach. *Omega* 36(5) 895–912.
- Lozano, S., G. Villa. 2009. Multiobjective target setting in data envelopment analysis using AHP. *Computers & Operations Research* 36(2) 549–564.

**Begin:** Immediately

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Any interested student, please send by email your application together with your curriculum vitae and transcripts of records.