The Chair of Operations Management of TUM School of Management and Infineon Technologies AG are looking for an interested and qualified student to conduct their

**Interdisciplinary Project (IDP)**

on the topic

**Further Development of a Decision Support System for the Selection of Supply Chain Projects**

**Background:**

Infineon Technologies AG is a world leader in semiconductor solutions that address the main challenges facing society today – the need for energy efficiency, mobility and security. In the 2014 fiscal year, the company reported sales of Euro 4.3 billion with about 29,800 employees worldwide. In January 2015, Infineon acquired US-based International Rectifier Corporation with revenues of USD 1.1 billion and approximately 4,200 employees.

The semiconductor industry is known as one of the most challenging businesses in today’s economy. In this context, Infineon considers its global supply chain as one of its competitive advantages. The complexity that characterizes manufacturing and planning processes is also reflected in the projects that are conducted within the supply chain organization. Most of these projects require highly skilled employees whose scarce resources need to be carefully allocated.

**Project description:**

Infineon regularly undertakes projects in order to improve the performance of its supply chain. New project proposals are evaluated in terms of costs, multiple benefit criteria as well as dependencies and synergies with other projects. Quarterly meetings are conducted to decide on the release of new projects subject to budget constraints.

In cooperation with the Chair of Operations Management of TUM School of Management, an intranet-based decision support system has been developed to aid the project selection process. The tool is called ESSIP, which stands for Evaluation and Selection of Supply chain Innovation Projects. ESSIP tool incorporates Microsoft .net technology, a MS SQL database as well as the Microsoft Solver Foundation library for mathematical programming. The system frontend makes use of the jQuery JavaScript/Ajax library.

As of today, ESSIP tool is used to record and visualize past, current, and future projects with related business and implementation information that covers the entire project life cycle: from project idea, to project selection, to project implementation, and finally to project closing. It also includes additional features to graphically depict the breakeven points of the projects as well as a portfolio explorer. While ESSIP tool is now established for several years as one of the main pillars for the supply chain roadmap process, various areas of improvement have been identified to further intensify its usage.
This interdisciplinary project shall pursue two objectives:

- further develop ESSIP tool to make it consistent with the new company-wide project management framework, and
- further develop ESSIP tool to allow for a better tracking and management of the project resources.

The student will be awarded 6 ECTS for the above mentioned development. Further, the developments and results shall be documented in a written report and presented to the supervisors. Both the report and the presentation will account for 2 ECTS.

In accordance with the practical assignment, the IDP candidate shall participate in the course “Project Management” (WI000264, 6 ECTS), offered by the Chair of Operations Management. The course covers aspects such as Project Stakeholder and Project Organization, Planning Project Deliverables and Cost, Project Scheduling with Resource Constraints, Project Controlling, Project Valuation, Project Portfolio Planning and Project Planning Considering Risk. These academic insights will be needed by the candidate in order to successfully further develop ESSIP tool. The candidate must pass an oral exam on the course topics at the end of the interdisciplinary project.

**Project Timeline:**
The following timeline is meant to provide a guideline for keeping track of the progress of the project:

- Phase 1 (end of October): Get familiar with Infineon’s supply chain processes, supply chain roadmap, and ESSIP tool.
- Phase 2 (mid November): Define a conceptual design of ESSIP tool that includes features from the new project management framework – namely: roles/responsibilities and project classification.
- Phase 3 (end of November): Implementation and testing of the conceptual design as defined in Phase 2.
- Phase 4 (beginning of December): Documentation and dissemination of the changes as a result of Phase 3.
- Phase 5 (before Christmas): Define a conceptual design of ESSIP tool that includes features for a better management of the project resources – e.g. milestones tracking, project completion visualization.
- Phase 6 (mid January): Implementation and testing of the conceptual design as defined in Phase 5.
- Phase 7 (end of January): Documentation and dissemination of the changes as a result of Phase 6.
- (end of February): Oral exam on course “Project Management”

**Begin:** As soon as possible

**Advisors (TUM):** Alexander Döge, M.Sc. (alexander.doege@tum.de)

**Mentors (Infineon):** Dr. Thomas Ponsignon

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