



The **Chair of Business Administration** of the Universität des Saarlandes and the **Infineon Technologies AG** are looking for an interested and qualified student to conduct his/her

## **Internship followed by a Master Thesis**

on the topic

### **Artificial Intelligence by Dynamic Hysteresis Application on a Supply Chain Segmentation Process**

#### **Description**

The focus of the thesis is the application of artificial intelligence via a dynamic hysteresis application for the segmentation of Infineon's supply chain. A segmentation approach is developing distinct supply chains, which are able to meet a wide range of customer needs more efficiently and profitably. Nevertheless, a segmentation approach should provide enough flexibility to handle all the market conditions and customer requirements in a joined up single method. Since the input factors are highly volatile, the segmentation could be optimized by a dynamic hysteresis application using artificial intelligence.

Infineon Technologies AG is Europe's second-largest semiconductor manufacturer that develops semiconductors and systems for automotive, industrial and multimarket sectors, chip card, and security products. Its products are developed to make life easier, safer and greener with technology that achieves more, consumes less, and is accessible to everyone.

First a two month internship should investigate supply chain segmentation processes by hysteresis implementations. Based on that, the master thesis should enhance an existing approach to cluster the different products and/or customers taking into account attributes, manufacturing and supply capabilities and business value of the company in order to provide the most profitable supply chain.

#### **Outline:**

The thesis (located at Infineon in Neubiberg) focusses on the implementation of a segmentation framework to Infineon's portfolio using a simulation-based model by the following steps:

- Collection, preparation and analysis of data from selected products and customers
- Transfer of the analyzed data as input in a segmentation to cluster the products and customers.
- Implementation of a systematical approach to segment the whole portfolio using artificial intelligence via a hysteresis

#### **Requirements:**

This thesis is suitable for business administration and engineering students with a major in the area of operations and supply chain management. Candidates must have a strong analytical background, be able to work independently and must show absolute reliability. Very good MS-Office skills (Word, Excel, and PowerPoint) are mandatory. Experience and knowledge in simulation (Java-based Anylogic) are clear advantages.

The thesis has to be conducted in English. During this thesis employment within Infineon Technologies AG is provided.

Begin:	instantly
Advisor (Universität des Saarlandes):	Prof. Wolfgang Maaß
Mentor (Infineon):	Hans Ehm/Tim Lauer

Any interested student, please send by email your application together with your curriculum vitae and transcripts of records to Tim Lauer (tim.lauer@infineon.de).