At the Chair of Logistics and Supply Chain Management of TUM School of Management we are looking for an interested and qualified student to conduct his/her

**Master Thesis**

In cooperation with Arnold & Richter Cine Technik GmbH & Co. Betriebs KG (ARRI)

In the area of:

**Inventory Management**

The optimization of logistics costs is a topical issue that ARRI deals with like many other companies. Beside the optimization of the logistic processes, the activities are currently directed on sustainably reducing the inventory levels of the ARRI Group. In addition to the optimization segments of demand planning and production, this work will focus on the disposition. The selection and optimization of appropriate planning strategies but also the influence of the necessary master data are part of this work.

With the implementation of SAP in 2013, ARRI has introduced the Dispo-Cockpit tool of the company G.I.B. Gesellschaft für Information und Bildung mbH ([www.gib-dispo-cockpit.de](http://www.gib-dispo-cockpit.de)). Using this add on, the stock and the stock availability can be simulated by setting freely definable rules based on mathematical algorithms. The thesis should aim at assessing new simulation rules and settings to answer the following questions of the customer:

**How can the stock situation of Arnold & Richter Cine Technik GmbH & Co. Betriebs KG be optimized?**

The inventory of finished and merchandise goods, subassemblies and raw materials should be lowered without creating supply bottlenecks for customers and production. Therefore the SAP-add on G.I.B.-Controlling should be used to analyze the current stock situation through ABC/XYZ clustering etc. and simulate MRP profiles to find the adequate inventory model. An action plan/a program of measures should be developed, containing short-, medium- and long-term actions to optimize the inventory level of ARRI effectively and altering the acceptance of the measures within the company.

**Selected research tasks (more possible and can be discussed upfront):**

- Perform literature reviews of existing inventory models
- Analyze and evaluate the current stock situation at ARRI
- Simulate and adapt the found inventory models to the case on hand to find the best fitting model
- Elaborate an action plan for implementing the inventory measures at ARRI effectively

**[Deutsche Version]**


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Company description:
Located in Munich, Germany, ARRI was founded in 1917 and is the largest manufacturer of professional motion picture equipment in the world. Throughout its 97-year history, ARRI has been associated with constant innovation and revolutionary technologies in all of its core businesses. The company is involved in all aspects of the film industry: engineering, design, manufacture, production, visual effects, postproduction, equipment rental, laboratory services and studio lighting solutions. Manufactured products include cameras, lighting fixtures and digital postproduction tools. In addition to camera systems for 16 mm, 35 mm and 65 mm film, ARRI leads the field in digital acquisition with its ALEXA digital camera system, which delivers the highest quality images with minimal noise, wide dynamic range and workflows. Lighting products encompass traditional technologies as well as the latest advances in LED illumination, while the ARRISCAN film scanner and ARRILASER film recorder have become ubiquitous, indispensable tools in postproduction facilities all over the world. Film and digital image manipulation, restoration, archiving and preservation are addressed with products such as the ARRISCAN Wetgate and various archive tools.

The ARRI Group has over 1,200 highly trained employees worldwide. Half of them are based in Germany, where the company has its headquarters in Munich and where the largest part of its business is concentrated. ARRI's award-winning product range is distributed to film industry centers from Hollywood to Bollywood and everywhere in between.

Requirements:
This thesis is particularly suitable for candidates who have a strong interest in operations research and ideally have a major in supply chain management and/or attended the courses of Modeling, Optimization and Simulation and Inventory Management at LOG-SCM. Previous experience with SAP is a plus.

Begin: as soon as possible
Advisor: Miray Közen
Application: Email with curriculum vitae and transcripts of records to logtheses.wi@tum.de