

Tech Venture Challenge

Developing a Cost Accounting System for a Bio Resin within a Research Transfer



Picture created with DALL-E

Challenge description

The widespread use of petroleum-based resins, particularly phenolic resins in fire-resistant applications like aerospace, has significant environmental and health drawbacks. Recycling these resins is challenging, further amplifying their negative impact. Bio-based alternatives, such as furan-based resins, offer promise due to their high fire resistance but are hindered by brittleness. BioResin, an innovative startup, addresses this with FlexFuran – a sustainable, high-performance furan resin that is more ductile and suitable for demanding applications. FlexFuran reduces the CO₂ footprint by 75% compared to fossil-based phenolic resins. The initial target market, maritime and sports applications in Europe, is valued at €33 million annually, growing over 5% per year.

Thesis Focus

Within your master thesis, you will work on research related to:

- Analysis of existing and estimated cost structures
- Design and implementation of a cost accounting and controlling system that supports strategic decision-making
- Development of a Target Costing framework to align product design, pricing, and profitability goals
- Integration of cost management tools with production planning, budgeting, and performance measurement systems
- Evaluation of digital solutions and data analytics for cost tracking and process optimization
- Identification of barriers and enablers for establishing effective and sustainable cost management systems in industrial contexts

Profile and process

You apply with a motivation letter and a CV (but no project draft) and write a master thesis suitable to your study program. You should have:

- Motivation to develop and implement innovative cost management systems that enhance strategic and operational performance
- Background in business administration, industrial engineering, management & technology, or related fields
- Knowledge or strong interest in cost accounting, controlling, or financial management
- Analytical thinking and structured problem-solving skills
- Willingness to work independently and manage complex interdisciplinary topics
- A collaborative mindset and proactive working attitude

Upon successful application, you will become part of the TUM Entrepreneurial Masterclass and enjoy all its benefits.

**TUM Entrepreneurial Masterclass
and
Chair of Materials Handling, Material Flow, Logistics**

Tim Bernhard
tim.bernhard@tum.de