

# Master Thesis – Start-up Track

## Smart Innovation Matching Platform for a more Sustainable Construction Industry

**Assessing the potential of Data Analytics and AI for matching sustainability innovations and start-ups with construction projects and stakeholders, to make the construction industry substantially more sustainable.**



Image: TUM

### Project-/Topic description

#### The Better Building Initiative

Despite the growing interest in more sustainability and circular economy in the construction industry, the speed at which innovations are being deployed into practical and scalable solutions that reduce the environmental impact of our built world is far too slow. On the other hand, there is a plethora of high-potential innovations (becoming) available from start-ups and research institutes. However, these are often not known or appreciated by the (rather traditional) construction industry stakeholders. The Better Building Initiative was founded to act as catalyst for stimulating the awareness and deployment of innovative sustainability solutions by key industry players (building material providers, property owners and investors, architects, regulators) that also drive the shift to circularity. The focus is on materials, design and construction processes, rather than on improving sustainability during the use phase of constructions.

One of the key success factors for the Initiative is the development of a well-structured database of innovations and smart matching technology to suggest relevant innovations for individual construction projects.

#### Focus of work

To develop such a solution, the following areas of work are envisaged:

1. Develop the right set of indicators that enable an effective description of both innovations and individual construction projects, including their potential sustainability impact, as enabler for smart matching.
2. Define a structure (database) to store this type of information about innovations and construction projects.
3. Design a (self-learning) system to recommend the most suitable and impactful innovations for specific construction projects.
4. Validate the overall approach, through a demo system or prototype, with stakeholders from the construction industry.

### Requirements

- Current enrolment in a master's degree program at TUM, i.e. TUM-BWL, Management, Engineering, Architecture or Informatics with strong affinity to digital platforms and AI.
- Fulfilment of all pre-requirements for registration of a master thesis
- Interested and ideally actively involved in sustainability and affinity with the building industry
- Affinity with interpersonal, team collaboration, motivational and leadership aspects
- Strong motivation and independent, entrepreneurial working style
- Close collaboration with the founders of the Better Building Initiative
- Seriously interested in developing a viable business model to commercialize the solution (start-up)
- Practical experience with data acquisition, data analysis, data bases, data science and AI concepts

### What we offer

- Participation in the TUM Entrepreneurial Masterclass (separate application process required) and application-oriented Master thesis with real value add to the startup eco system around Munich.
- Close cooperation with the founders of the Better Building Initiative, highly experienced and networked in the international innovation and sustainability world.
- Opportunity to become Co-Founder of a start-up with high potential to scale fast and become category leader in Europe and beyond.
- Chance to actively contribute to make the global construction industry substantially more sustainable.

#### Contact Better Building Initiative

Willem Bulthuis  
willem@betterbuilding.com

#### Contact TUM Entrepreneurial Masterclass

David Nawrath, Niclas-A. Mauß  
masterclass@tum.de

