

Master's Thesis

In the Department of Business Administration, within the working group of Resource Management in the Built Environment a thesis is available on the following topic:

Towards a Circular Economy - Design of an innovative Recycling Center for Technical Plastics and Mineral Construction Waste.

■ Background

Technical plastics are of great value due to their versatile applicability and excellent technical properties. They are found, for example, as insulation materials or in the form of composite materials in the construction industry. Unfortunately, after their useful life, these plastics rarely find their way into new products but are disposed of according to the principle of a one-way economy. The same applies to mineral building materials, which are still often disposed of in landfills after reaching their maximum service life. The return and processing of these material flows under the guiding principle of a circular economy could conserve fossil resources, reduce emissions into the environment, and potentially lower costs. This requires innovative and future-oriented approaches that pave the way from a linear to a circular use of raw materials.

■ Content of the Thesis

For the master's thesis, a local Resource Center is to be designed as part of a case study. The Resource Center is intended to process technical plastics and mineral construction waste together at one location. The recycling of the different material streams should be integrated and designed to be as efficient as possible. Subsequently, the Resource Center will be evaluated in terms of its technical parameters such as process stability and maximum recyclable material quantity, followed by an examination of economic aspects.

■ Requirements

The thesis is aimed at students of industrial engineering as well as related fields of study. A systematic and results-oriented approach is a prerequisite for the allocation of the master's thesis. The application should include a current transcript of records and a brief application text (maximum 10 lines). A CV is optional.

Start / Duration

Now, 6 months.

Contact

Rafael Bischof, M.Sc.
Tel.: 0721 608-44571
email: rafael.bischof@kit.edu



Source: <https://eltrawmaterials.eu/too-good-to-waste-king-of-the-netherlands-opens-new-state-of-the-art-recycling-plant-in-delfzijl>



Source: <https://recyclinginside.com/recycling-technology/separation-and-sorting-technology/eggersmann-anlagenbau-implements-recycling-plant-in-dubai-for-commercial-waste-from-the-worlds-largest-offshore-industrial-park/>



Source: <https://www.bcg.com/publications/2019/plastic-waste-circular-solution>



Source: <https://blog.klarx.de/recyclingbeton-betonrecycling-in-der-baubranche>