

# M-DAB

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## **Analyzation, Digitalization and Sustainable Management of Anthropogenic Resources within the City (M-DAB)**

Current knowledge about quantities and qualities of bound resources or waste materials is insufficient. 70% (about 44 million tons) of Austria's annual waste volume originates from the building industry. In this research project we investigate how digital technologies can support the determination of existing and future material resources in the construction industry qualitatively and quantitatively. As a result, higher transparency of follow-up costs in waste removal and material recovery arises. The results of the research project can be used to determine material resources and disposal costs in terms of time and space. Within planning scenarios, it will be simulated how resources can be used in a more sustainable way, how a better recycling balance can be achieved and how the future built environment can be made resource-efficient in terms of economic and environmental aspects. A planning tool is developed, which visually prepares the automated calculation and simulation results. Furthermore, a process is designed, which enables a practical input/collection of component- and building-specific raw material resources. Practically this is realized by an extension of the BIM interface IFC. The process designed in the project leads to a constant increase of the level of detail in the database and enables automated simulation and thus precise forecasts over the entire lifecycle process of the building stock.

### **Project partners:**

TU Wien - [Institute of Spatial Planning – Research Unit Local Planning \(TU-IFOER\)](#) – Projektleitung

TU Wien - [Institute for Water Quality and Resource Management - Research Unit Waste and Resource Management \(TU-IWR\)](#)

TU Wien - [Institute of Architectural Sciences – Research Unit Digital Methods in Architecture and Spatial Planning \(TU-DAR\)](#)

[SIDE - Studio for Information Design \(SIDE\)](#)

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### **Funding agency:**

[Austria Research Promotion Agency \(FFG\)](#)

### **Project Information:**

[from the Funding Agency](#)