

NaiS

NaiS (Nachhaltige intelligente Sanierungsmaßnahmen – sustainable smart restoration measures) optimises restoration activities in the construction industry with digital analysis tools.

Project description

The solution approach of the NaiS research project is focused on residential housing and office buildings. The initial aim is to digitalise information, e.g. that is available in PDF format or as image files and is not machine-readable. This is intended to allow documents like floorplans and energy performance certificates (EPCs) to be prepared with machine learning models and transferred into the Industry Foundation Classes (IFC) standards. The information is then checked for completeness and supplemented with further digital data. In the next step, a platform with open-source standards and interfaces is put to use to add sustainability-related information from external data platforms to the digitalised existing building records. Following this, smart analysis tools for sustainable restoration are put to work: once digitalised, information can be used to assess existing buildings and restoration needs, make alternatives comparable and formulate recommendations, e.g. in the form of a roadmap for the restoration. The results can then be used as a starting point for digital building resource passports and for the new EPC.

Expected results and use

The project team has specific partners and use case scenarios in mind for the transfer of its research to the market: the German Sustainable Building Council (Deutsche Gesellschaft für Nachhaltiges Bauen – DGNB e.V.) is set to add the newly developed platform to its range of products, where the platform will serve as a neutral provider and key point of contact for objective indicators for assessing sustainability in the construction industry. Project partners CAALA GmbH and Concular GmbH will also integrate the new digital tools into existing software solutions. In contrast, the pilot projects underway with Ed. Züblin AG are expected to greatly expand awareness of the project throughout the construction industry. The project can thus also have an indirect effect on strengthening the competitiveness of German construction companies as well as on perception of Germany as a hub for AI.

FIELD

Sustainable smart restoration measures

PROJECT PARTICIPANTS

- 1. Karlsruhe Institute of Technology – Institute of Technology and Management in Construction (TMB)*
- 2. Ed. Züblin AG*
- 3. Karlsruhe Institute of Technology – Institute for Automation and Applied Informatics (IAI)*
- 4. German Sustainable Building Council (DGNB)*
- 5. CAALA GmbH*
- 6. Concular GmbH*
- 7. Hof University of Applied Sciences*

COORDINATOR

Dr.-Ing. Svenja Lauble, Philipp Zielke
svenja.lauble@kit.edu, philipp.zielke@kit.edu

TERM

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HOMEPAGE

www.nais.tech

MORE INFO

