

From construction to validation: the INBUILT demo in Pfeffenhausen enters its operational phase

PRESS RELEASE

Pfeffenhausen, June 18th 2026 - What began as a concept for testing circular and energy-efficient construction solutions under real-life conditions is now a fully functional validation environment for innovative building materials developed within the project. The INBUILT demonstration site in **Pfeffenhausen, Germany**, has reached a major milestone: all demonstration buildings have been successfully completed and are fully operational.

[Leipfinger-Bader](#), on whose company site the demonstrator buildings were constructed, is responsible for the overall realisation and coordination of the demo-site. In close collaboration with the INBUILT project partners, the company coordinated the implementation process and managed the assembly and construction of the demonstration buildings.

The demonstration site consists of **several complementary buildings** designed to assess and compare innovative construction approaches. At its core are the **“Reference” and “Office Plus”** twin modules, which will enable a direct comparison between conventional construction materials and the innovative solutions developed within the INBUILT project.

With construction finalised, the next project phase begins: long-term operational monitoring under real environmental conditions. For this purpose, a **comprehensive sensor network** has been installed by the [University of Stuttgart](#) throughout the buildings, including sensors embedded within wall structures as well as indoor climate monitoring systems. Over the course of a year, parameters such as temperature, humidity, and electricity consumption will be continuously recorded across all seasons. The resulting dataset will provide valuable insights into the behavior and performance of circular and energy-efficient construction systems beyond laboratory-scale testing.

The **INBUILT tiny house** has also been fully completed and integrated into the monitoring system. The building combines several innovative materials developed within the project, including reclaimed wood wall elements, straw-clay boards, insulation elements, reused and recycled fired bricks, and smart window technologies. Sensors embedded within the building envelope and indoor spaces will continuously monitor thermal performance and indoor environmental conditions under real operating conditions.

With all systems installed and operational, the Pfeffenhausen demonstration site now enters its most important phase: generating **long-term performance data** that will help evaluate the real-world potential of circular construction materials and technologies. The findings gathered over the coming months will contribute to the further development of sustainable, resource-efficient, and climate-conscious building solutions for the future.

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PROJECT INFORMATION

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FULL NAME: Innovative bio/geo-sourced, re-used and recycled products coupled with BIM-based digital platform for very low carbon construction, circular economy, energy and resource efficiency

CALL TOPIC: HORIZON-CL5-2022-D4-02-05

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DURATION: 42 months

