

Cluster 4

Research teams at the [Faculty of Civil Engineering, Slovak University of Technology in Bratislava](#) offer different expertise with added value for the following calls:

- [HORIZON-CL4-INDUSTRY-2025-01-HUMAN-61: Standardisation landscape analyses tool \(CSA\)](#)

Expertise in creation of methodologies for testing and certification of geodetic systems and drones and testing of structural materials as well as translation and implementation of relevant existing international standards to the local level mainly in the field of geodesy, cartography and geoinformatics and also in fields of loadbearing structures. They are interested in contributing as a **project partner**.

[More information](#)

- [HORIZON-CL4-INDUSTRY-2025-01-MATERIALS-42-two-stage: Innovative Advanced Materials \(IAMs\) for product monitoring, smart maintenance and repair strategies in the construction sector \(RIA\)](#)

Expertise in the design and experimental verification of the use of composite reinforcement (fibre reinforced polymers, timber-concrete, geopolymers composites based on aluminosilicates...) as an ecological alternative to steel-reinforced concrete structures. The team has experience also in sustainable and lightweight bio-based materials for simple, cost-effective and practical thermal energy storage applications. They are interested in contributing as a **project partner**.

[More information](#)

- [HORIZON-CL4-INDUSTRY-2025-01-MATERIALS-61: Technologies for critical raw materials and strategic raw materials from end-of-life products \(IA\)](#)

Expertise in re-use of steel fibers from end-life tires and re-use of timber fibers from end-life furniture as eco-friendly alternative to manufactured steel fibers for fiber reinforced concrete. In addition they focus on utilization of waste materials such as fly ash, coal slag, recycled aggregates, and various types of plastics as substitutes for binders and fillers with a lower carbon footprint in cement composites (concretes, autoclaved, aerated concretes) . They are interested in contributing as a **project partner**.

[More information](#)

- [HORIZON-CL4-INDUSTRY-2025-01-TWIN-TRANSITION-01: Integrated approaches for remanufacturing \(IA\)](#)

Expertise in re-use of recycled concrete- and brick aggregates, steel fibers from end-life tires with combination with low-carbon cement for sustainable concrete structures. In addition they

have extensive experience in the application of anthropogenic geomaterials such as coarse-grained bottom ash, materials from ore processing plants, etc., in interaction with standard geosynthetic and non-standard reinforcing materials in the construction of geotechnical structures. They are interested in contributing as a **project partner**.

[*More information*](#)

- [HORIZON-CL4-INDUSTRY-2025-01-TWIN-TRANSITION-11: Enhanced logistics and operations of construction sites \(IA\)](#)

Expertise in Digital Twins and Building Information Modelling tools (BIM). In particular in using BIM based design to achieve lower emissions through the design-based reduction of waste and energy usage and using photogrammetric monitoring of construction progress to detect exterior changes of the building and its surroundings in near real time. Furthermore they work also on data collection methodology using BIM principles, which enable the use of available systems for monitoring the progress of construction works on-site in order to record workforce productivity. They are interested in contributing as a **project partner**.

[*More information*](#)

- [HORIZON-CL4-INDUSTRY-2025-01-TWIN-TRANSITION-34: Smart integration of net zero technologies into Energy Intensive industries \(IA\)](#)

Experimental measurement directly on selected industrial buildings. Use of active integrated elements in the perimeter of industrial zones. Community energy. Shared energy systems. Intelligent control of energy flows. They are interested in contributing as a **project partner**. [*More information*](#)

On top of the above they can provide added value through their expertise in categorical methods in quantum computing and development of deep learning methods. [*More information*](#)

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