

HORIZON-CL5-2026-02-D4-02 – Smart Buildings as Part of the Energy System (Societal Readiness Pilot)

BRAINEST – Innovation Partnership of the Bratislava Region is an association of legal entities established by the Bratislava Self-Governing Region, the Slovak University of Technology, the Slovak Academy of Sciences and Seed Starter SK (member of Erste Group). Its mission is to serve as a joint platform for developing a strong, resilient and internationally connected regional innovation ecosystem.

BRAINEST connects universities, research organisations, public authorities, schools and companies to coordinate projects in research, innovation and technology transfer, support talent and education, and modernise public policies in the fields of innovation, competitiveness and resilience.

BRAINEST brings together the expertise and capacities of universities, academia, public authorities, industry and financial institutions. This unique ecosystem enables the piloting of innovative solutions across multiple domains — industry and manufacturing, education, healthcare and social services, mobility, building management and construction, energy efficiency and the environment — with a strong focus on practical implementation, user adoption and EU-wide scalability.

Our Pilots for This Call

1. Experimental Greenhouse & Bioenergy Lab – Bernolákovo Campus

Project overview: Bernolákovo is being developed into a modern campus focused on bioenergy, sustainable agriculture and climate adaptation. The core pilot consists of a new experimental greenhouse with full automation and rainwater reuse, and a bioenergy laboratory integrating PV, biomass heating, wind turbines, battery storage and a central control system.

Timeline: Classroom modernisation completed in 2025; greenhouse construction 2026–2027; deployment of RES, storage and smart control systems 2026–2028; full testbed operation from 2027.

Relevance to the call: Smart building automation, hybrid RES integration, storage, flexibility testing, interoperable control systems, and strong societal engagement through a living-lab environment.

2. Social Services and Educational Facilities – Bratislava Region Portfolio

Project overview: BSK manages a wide range of social care homes, special schools and administrative buildings, several of which are scheduled for energy modernisation and digital upgrades.

Relevance to the call: Smart sensors and automation, improved indoor comfort for sensitive users, user acceptance and behavioural research (SSH), and high replication potential across the region's building stock.

3. Health & Sports Campus – Petržalka

Project overview: A new regional campus dedicated to public health, sports science, prevention of chronic diseases, lifelong learning and applied research. The campus combines sports halls, classrooms, labs and community facilities with substantial energy needs.

Timeline: Innovative programme development 2026–2028; primary infrastructure construction 2026–2027; full campus build-out and equipment installation 2027–2029; smart energy management systems deployed from 2028 onward.

Relevance to the call: Smart energy systems across diverse building types, HVAC optimisation, RES and storage integration, and large-scale societal readiness through engagement of students, athletes, healthcare professionals and the public.