

Open Thor Living Lab- Business-Technology-Science Park working on Energy

Our living lab

[Thor park](#) in Genk (Belgium) has been a mining site until it's closure in the 80's. Today, Thor park has been developed as a business, technology and science park where renowned research institutions, start-ups, growth companies and global players in the energy sector, manufacturing industry and smart city applications come together. Thor park is the innovation hotspot for science, technology and entrepreneurship for the energy sector in Belgium. Developing, testing and validating innovative energy solutions in interaction with the entire energy system, that's what happens at Thor Park.

As one of the key features to support open innovation on Thor park, a strategic living lab called "[Open Thor Living Lab](#)" has been created. A permanent testing infrastructure has been set-up in which innovative energy solutions can be developed/tested/validated and in which all quadruple-helix stakeholders (governments, policymakers, industry, academics and citizens) get connected. VITO, which together with KU Leuven, imec and UHasselt forms the basis of [EnergyVille](#), is one of the driving forces behind the "Open Thor Living Lab".

Thor park and the "Open Thor Living Lab" offer a state-of-the-art test environment and are constantly growing. Besides the current business and science park, the Open Thor Living Lab is expanding, in collaboration with the city of Genk and local partners, by integrating a number of neighbouring residential areas and the adjacent KRC Genk site (soccer stadium, training complex, parking) into the living lab. This gives all stakeholders access to a state-of-the-art infrastructure, knowledge and an extensive ecosystem to validate innovative energy solutions in a real, safe environment with end users. This co-creation is crucial to put the pieces of the puzzle around the energy transition together.

In 2020, the Flemish government granted the city of Genk for Thor Park a Sandbox Regulation framework. As part of the Open Thor Living Lab, Thor Park is the first and only regulatory sandbox for energy in Flanders. Deviations in the energy regulation offer the opportunity to conduct experiments with some more degrees of freedom and to accelerate innovations. Current research topics within the regulatory sandbox focuses on new market organisation models, multi-energy systems and smart grids. Companies at Thor Park are automatically part of the regulatory sandbox and can benefit from the regulatory deviations.

Watch [here](#) video of the Thor Park Living Lab.



We are

[VITO](#), the Flemish Institute for Technological Research (Belgium) and member of knowledge centre [EnergyVille](#). VITO is the largest Flemish technological research organization with a multi-disciplinary team working on sustainable solutions for different research domains like materials, energy and environment. VITO supplies innovative and high-quality solutions, whereby large and small companies can gain a competitive advantage, and advises industry and governments on determining their policy for the future.

The **business unit Energy Technology** focuses on “smart systems for intelligent energy networks” and has a proven track record on research, development and demonstration projects in the field of innovative energy technologies in general, and smart grids and the integration of Renewable Energy Sources in energy systems in particular. The technical expertise in this unit is organized in four complementary research domains: sustainable electrical energy devices; thermal energy systems; algorithms, modelling and optimization; and the energy market research domain.

In previous and ongoing projects, VITO developed and demonstrated its competence in power system and energy market modelling tools, grid management tools and associated software containing advanced algorithms and models. VITO/EnergyVille has also practical experience with hardware solutions (e.g. power electronic components) in both lab and real-environment, up to TRL 6/7.

VITO is continuously analysing the evolution of power systems and energy markets in order to analyse the impact of technological and new/adapted market design options while investigating potential new business models for smart grids.

What does the living lab have to offer you?

With access to this unique combination of infrastructure and knowledge, we offer you:

- an “easy access” to innovation: you are part of a unique ecosystem with a high innovation ambition.
- a direct link with linked research labs: services or technologies can be extensively tested at both material and system level in our research labs. This can be done within a regulatory sandbox, which makes it possible to perform tests that deviate from the current regulations.
- high-quality technical support: our specialized researchers guide you from A to Z.
- an international base of knowledge: the Open Thor Living Lab can count on the knowledge and expertise of more than 400 international researchers. Through an extensive link with industry, governments and research, we always obtain the latest insights.
- a “safe” and real innovation environment with real residents and users: the Open Thor Living Lab offers a safe test environment across the entire quadruple helix (research, society, industry and government). Not only does this give you the opportunity to extensively test your products and services, it also gives you unique insights into the validation process of your product or service.
- Access to our network of researchers and participating companies.
- Possibility to use data for own analysis, testing and simulations.

We are looking for

Partners that are interested to work with us on various aspects of living labs. Interested? Contact us at openthor@energyville.be.

Specifically for interreg proposals, please contact Annick.Vastiau@vito.be or Johan.Desmedt@vito.be.