

# Smart Energy for Industry 5.0

## Geoside

### Background

Industry 5.0 is the new paradigm promoted by the European Commission, in a report published in January 2021. Industry 5.0 nests the Industry 4.0 approach in a broader context, providing a regenerative purpose and directionality to the technological transformation of industry for people-planet prosperity (sustainability, resilience and human-centricity) rather than the simple value extraction for shareholders. Energy technologies for resilience, sustainability, and cost reductions as well as a modern policy framework are needed to manage energy transition, while keeping energy intensive industries competitive at global level. This is accomplished by optimizing plant technologies and integrating data analytics technologies into processes using IoT sensors. These cyber-physical infrastructures help us to collect data of these systems, monitor them, understand energy waste patterns, and other KPIs to optimize energy usage and make industries more resilient and sustainable.

### Focus Area

Geoside is looking for innovative solutions in the following areas:

- Solutions that exploit 4.0 technologies, such as IoT, Big Data analytics, AI, for the optimization of energy and energy-intensive systems (Air Handling Units & HVAC, Cogeneration - CHP, Compressors and Pumps);
- plant technologies and equipment for improving energy efficiency of industrial assets, such as high efficiency electric motors, innovative cooling systems, innovative high temperature heat pumps, heat recovery systems, smart valves, and smart meters;
- solutions for the optimization of energy assets thanks to the use of digital twins and simulation platforms of the energy system and assets of the building or plant. These solutions should enable to simulate improvement scenarios leveraging on heterogeneous data sources, such as IoT data, energy consumption data, BIM data, etc;
- data-driven solutions that leveraging on data analysis methodologies, such as AI-based predictive analytics, can support plant owners to set up a predictive maintenance of energy and energy-intensive systems (Air Handling Units & HVAC, Cogeneration - CHP, Compressors and Pumps), in order to minimize maintenance problems.

### Who can apply

Proposals for Innovative Solutions TRL market ready:

- Innovative startup and SMEs;
- spin-offs from University and research centres.

## Selection process

Innovative Solutions Proposals will be evaluated by an Advisory Board composed of 3 members appointed by the General Manager of Lazio Innova: 1 member representing Lazio Innova and 2 members representing Geoside.

The Advisory Board will evaluate the Innovative Solutions at its sole discretion and then select the finalists, that can access the co-design path. During the co-design phase, selected applicants will work on the solutions proposed to improve and fine-tune them according with the needs expressed by Geoside.

Both Lazio Innova and Geoside provide experts who will support the Innovators in the process of finalizing the innovative solutions during the mentorship path.

The Advisory Board evaluates the Innovative Solution Proposals received based on the following evaluation criteria:

	<b>Maximum score</b>
<b>Team competences</b> Quality of the Team (and/or company structure) - articulation, skills and experience	40
<b>Company presentation</b> Business model, market size and economic potential	20
<b>Level of innovativeness</b> Innovativeness of the idea / of the approach proposed to meet the objectives of the Challenge	40

The first 6 proposals in the ranking will be admitted to the mentorship phase, having reached a minimum score of 60 points, given by the average scores expressed by each member of the Advisory Board. Based on the level of the candidate proposals, Lazio Innova, in agreement with Geoside, as its sole discretion reserves the right to admit to the mentorship phase a number of proposals higher or lower than 6 (among those who have reached a minimum average score of 60 points). The decision and the reasons to admit a number of proposals higher than 6 to the co-design phase will be published by Lazio Innova on its website, together with the publication of the results of the assessments following the decisions of the Advisory Board .

## Prizes and awards

- I. **Co-design**, structured in at least 4 meetings aimed at focusing on the Innovative Solutions concerning the needs expressed by Geoside;.

2. **Prizes:** At the end of the mentorship phase, Innovative Solution Proposals will be presented during a pitching session. An Advisory Board will evaluate the solutions and the best three solutions will be awarded during the Geoside Innovation Day.

Lazio Innova will assign:

to the 1st classified:

- The best solution will receive a cash prize of €20,000 from Lazio Innova;
- specialized services provided by Lazio Innova Spazio Attivo

To the 2nd and 3rd classified:

- specialized services provided by Lazio Innova Spazio Attivo.

Geoside will assign to the 1<sup>st</sup> classified

the possibility of carrying out a pilot project (PoC) for a minimum value of €10,000

Prizes will be awarded according to Annex I – Regolamento Challenge(Challenge's Rules), with specific reference to art. 11.

## Commitment of participants

The selected candidates commit to:

1. participate in the co-design path, structured in at least 4 meetings aimed at focusing on the Innovative Solutions concerning the needs expressed by Geoside;
2. accept what was established on Annex I – Regolamento Challenge (Challenge's Rules);
3. if not yet established in Lazio, selected candidates shall open at least one operational headquarters in Lazio if they are awarded with the prizes according to article 10 of the present Regulation.

## How to submit applications

Applications must be submitted through the following Challenge Landing Page [www.lazioinnova.it/innovazione-aperta/iniziativa/smart-energy-for-industry-5-0/](http://www.lazioinnova.it/innovazione-aperta/iniziativa/smart-energy-for-industry-5-0/); the deadline for submitting the Innovative Solution Proposals is October 9<sup>th</sup>, 2023 at 12.00 AM.

### Annexes:

- Annex 1-Regolamento Challenge Geoside (Challenge's Rules);
- Annex 2- Information on the processing of personal data.