Software platform to monitor, analyse and optimise energy consumption and environmental parameters of retail shops is offered by Italian SME under Commercial agreement with technical assistance

Summary

Profile type	Company's country	POD reference
Business request	**Italy**	**BRIT20230113015**

Profile status	Type of partnership	Targeted countries
PUBLISHED	**Commercial agreement**	• **Lithuania** • **Croatia** • **Estonia** • **Ireland** • **Belgium** • **Finland** • **Denmark** • **Latvia** • **Bulgaria** • **Greece** • **Austria** • **Cyprus** • **Spain** • **Sweden** • **Poland** • **Czechia** • **Luxembourg** • **Germany** • **Slovenia** • **Netherlands** • **Malta**

- **Slovakia**
- **Romania**
- **Portugal**
- **Hungary**

Contact Person	Term of validity	Last update
Doriana Prudel	**16 Jan 2023** **16 Jan 2024**	**16 Jan 2023**

General Information

Short summary

An Italian company is offering retailers a non-invasive and easy-to-use solution for the field monitoring, AI-based energy analysis and HVAC (Heating,Ventilation,Air Conditioning)
optimisation.
The system unable beneficiaries to monitor the energy usage, reduce wastes and ensure a great customer experience. The solution is tailor made to the needs of each beneficiary and the offeror will ensure technical assistance for the implementation of the solution, in the frame of a Commercial agreement.

Full description

The offeror is an Italian innovative start-up founded in 2017 with high knowhow and technological content born from the synergy between energy managers, electric engineers and IT experts in
energy measurements and analysis. They offer tailormade solutions for monitoring energy consumption and analysing the collected data using Artificial Intelligence.

The company has designed a software solution for the monitoring and optimizing power consumption of retail shops without sacrificing customer satisfaction. It transforms the clients' energy consumption into a competitive advantage, giving more value to the collected data with the goal of
optimizing the electrical and thermal withdrawal levels and reducing the relative operating costs.

The product is part of the Energy Management System suite developed by the Italian company. Alongside the small and big retails shops solution, they have created dedicated solutions for
offices, buildings, production plants and ski resorts. The energy consumption is a current major concern worldwide and the company is trying to use its expertise in relevant sectors of the industry and trade.

The highlight and uniqueness of the solution is that the KPIs to be analysed are both energy consumption and comfort level of customers to ensure an optimal condition and deliver a
great customer experience.

It is a software solution representing the touchpoint between the final consumer and the collection of specialized hardware, like smart energy meters.

The product is built upon three main pillars:
• Energy analysis and diagnosis: AI-based algorithms to analyse and optimally configure equipment (HVAC, cogenerators, boilers, refrigerators, chillers) with the final aim to reduce the energy footprint of buildings and plants
• Energy monitoring: monitoring of every device consuming electricity, gas, hot and cold water,

compressed air, etc.
• Big Data analysis: Artificial Intelligence engine applied to Big Data able to identify the optimal regulation of every possible energy consuming device.

Temperature, humidity, and CO2 sensors will be installed to enable the final goal of dynamically finding the best settings to maintain optimal levels for customers in the shops. The solution uses a noninvasively system of sensors in the existent plant of shops. Consequently, the installation costs are more restrained.

Thanks to AI, the solution is able to provide retailers an understandable report of the energetic consumption, highlighting the most and less performing device, spotting anomalies. Besides, managers will have at their disposal a WebApp and a Mobile App in which they can monitor, regulate and configure remotely the building's parameters in real-time.

The software allows the users to operate directly on the HVAC systems of the retail shops, giving them a great degree of control on the setting of parameters, like the desired temperature and humidity levels. Moreover, the AI analytics included in the platform can automatically configure HVAC to optimize the comfort index (EN 16798) while minimizing the energy needed to reach this goal.

Over the years, the company has work with clients in the retail market, especially in the fashion industry. They are now interested in expending their collaboration, focusing on sectors like electronics, general stores, sports equipment retailers, pharmacies and retail space renters, addressing the more increasing need of energy use regularisation.

The company is willing to support the retail sector in a sustainable and environmentally friendly development, by the use of the intelligent energy management solution. The collaboration will be under the form of Commercial agreement with technical assistance.

Advantages and innovations

The company has developed the solution, composed of a cloud platform and edge nodes that can be installed in retail shops, to gather field data and run AI models and advanced analytics.

The solution is non-intrusive (wireless technologies) and easyto- use (plug-n-play), giving the chance for the user to monitor and to optimally regulate remotely the Heating, Ventilation and Air Conditioning (HVAC) systems in real-time.

The product was developed with (and is used by) one of the biggest Italian companies in the retail sector, which owns more than 5,000 stores worldwide and ranks ninth among clothing brands in the EU.

The main standpoint is that the KPIs to be monitored are both energy consumption and comfort level of customers to ensure an optimal condition and deliver a great customer experience. Moreover, the solution integrates employee engagement and gamification features, to maximise the energy efficiency. A current weakness of most Energy Management Software (EMS) concerns their capability of involving final users in the medium to long term. This is due the fact that, very often, the analysis platforms are complex and oriented exclusively to energy managers. On the contrary, reaching end users (e.g., factory maintenance workers and shop assistants) has an immediate and direct impact.

The product is part of the Energy Management Software suite developed by the Italian company. From small retail shops to office buildings and banks, extensive production plants, they offer dedicated solutions for energy monitoring and analysis through the EMS suite.

The impact of the suite in numbers:
• 58Billions - Variables managed every year
• 284GWh - Annual electricity monitored
• 54+Mln Sm3 - Annual methane gas monitored
• 92GWh - Annual thermal energy monitored
• 26+Mln Sm3 - Annual compressed air monitored

Having affordable and clean energy as a goal, the company inserts itself in the frame of the European 2030 agenda on CO_2 emissions, aiming at reducing them by 40%.

Technical specification or expertise sought

The company doesn't seek any technical specification or expertise

Stage of development

Already on the market

IPR Status

Secret know-how

Sustainable Development goals

• Goal 3: Good Health and Well-being

Partner Sought

Expected role of the partner

The Italian company is looking for collaboration partners, from the field of retail, interested to optimize their power consumption and deliver, in the same time, a great customer experience.

More specifically, they are interested to develop partnership with small, medium or big retail shops in the area of:
• fashion
• sport equipment
• electronics,
• pharmacies
• general stores
• retail space renters
to implement the smart Energy Management System solution in their respective premises.

The collaboration will be under the form of Commercial agreement with technical assistance.

The energy management solution will be customised according to the client's needs and a non-intrusive installation will be ensured within the existing plants of the retail shops. This includes hardware (IoT fanless gateway, WiFi smart meters – energy, power, current, voltage, LoRa probes – temperature, humidity, CO2) and software (Software-as-a-Service cloudedge solution).

The values for the customers could be both strategic and operational ones. The operational benefits for organisation will be based on real-time analysis and immediate feedbacks/actions for employees according to their daily behaviour, allowing direct impacts on energy savings and improved well-being of customers and employees. Based on experience we estimate at least 15% reduction in energy costs and 12% in management costs, and a general improvement in well-being due to the immediate identification of issues in monitored environments. The strategic impact for the solution adopter organisation will be a more energy efficient design of the shops, data-driven decision-making process, flexibility capability and a new value proposition.

Type of partnership

Commercial agreement

Type and size of the partner

- **Big company**
- **SME 50 - 249**
- **SME 11-49**
- **SME <=10**

Dissemination

Technology keywords

- **004006001 - Energy management**
- **004006002 - Lighting, illumination**
- **04007005 - Heat pipes**

Market keywords

- **06006002 - Metering and monitoring**

Targeted countries

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Sector groups involved