

AN INNOVATIVE SMART ENERGY PLATFORM

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Fondazione Bruno Kessler and Trentino Sviluppo have chosen Madonna di Campiglio to test a software system aimed at improving energy efficiency in Alpine ski resorts

It's called Smart **Altitude IEMS** (Integrated Energy Management System) and is now operational at Funivie **Madonna di Campiglio SpA**. A new integrated energy management platform to monitor and optimize the use of energy in one of the most innovative ski resorts in the Alpine area.

A research product resulted from the collaboration between **FBK** and **Trentino Sviluppo** as part of the European **Smart Altitude*** project which aims to encourage a transition towards new and sustainable energy models for Alpine ski resorts, supported by specific policies and actions. Funivie Madonna di Campiglio SpA represents the Italian living lab of the project.

Smart Altitude IEMS collects and processes data flows from various monitoring systems located within the ski resort in a single virtual environment, offering real-time energy usage feedback. Ski lifts, snowmaking systems, snow packing, weather stations and electricity grid thus become smart data generators which, when integrated, provide a valuable decision support system for energy optimization strategies." *Smart Altitude IEMS aims to demonstrate how advanced and innovative tools allow to improve the sustainability profile of modern ski resorts*" – **Luigi Crema**, head of FBK's ARES unit explained – *"and to increase their energy efficiency. The existing complex monitoring system has been further enhanced with new remote reading meters for ski lifts and new hi-tech probes for temperature monitoring of Lake Montagnoli. Thousands of real-time data require an integrated and advanced model capable of organizing, processing and comparing information, generating graphs, performance indicators and personalized reports, on energy parameters strongly interconnected with system operations. The technical department of Funivie Madonna di Campiglio SpA therefore has a new ally to combine operational efficiency and energy efficiency."* *"Trentino Sviluppo's efforts in the ropeway industry"* – **Nicola Polito**, operational director of Trentino Sviluppo, said – *"focus, on the one hand, on support*

to local ski resorts devoted to beginners, especially kids, and family skiing that allow to create the future skiers and winter sports enthusiasts, while, on the other hand, on strategic investments in terms of sustainability and innovation for wider areas. Furthermore, thanks to our hydroelectric resources, Trentino already has a sustainable model in energy management of ski resorts. Smart Altitude promotes further advance in energy efficiency through the integration of artificial intelligence. At this time, our ambition is that the experience of Madonna di Campiglio become an example to be replicated in other Trentino ski resorts, with the aim of making our region increasingly competitive and attractive “. **Bruno Felicetti**, deputy director of Funivie Madonna di Campiglio SpA, stresses the innovative potential of the new platform: “Testing Smart Altitude IEMS in Madonna di Campiglio puts us at the forefront of energy management in our ski area. We intend to innovate the traditional model by using new management and organizational solutions and adopting increasingly efficient technologies with a view to integrating renewable energy and electric mobility. Our goal is to reduce CO2 emissions to zero by 2026, the year of the winter Olympics which will see an important involvement of Trentino – South Tyrol. ‘2026: Our mission zero emission’ will be the leitmotif that will guide us, with Trentino Sviluppo and FBK, in defining a roadmap of actions for an increasingly intelligent and sustainable management of the ski area of Madonna di Campiglio Dolomiti di Brenta “. * funded by the **European Interreg Alpine Space program**.

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