

Smart Altitude: on the slopes for an ever more sustainable winter tourism

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FBK, Trentino Sviluppo and Funivie Madonna di Campiglio SpA present the first results of the experimentation of new solutions for energy efficiency and sustainability in alpine ski resorts

An innovative integrated management system that, in addition to monitoring flows and parameters of ski lifts, snow-making and snow grooming systems, will provide useful information to optimize energy consumption in the ski area, providing for the integration of renewable sources.

It is the first concrete result of [Smart Altitude](#), a cross-border project started in April 2018 from the joint effort of 11 Alpine regions from 6 European countries – Austria, France, Italy, Germany, Slovenia, Switzerland – to **accelerate the development of policies and instruments in favor of a progressive transition towards an innovative and sustainable energy model**.

Fondazione Bruno Kessler and **Trentino Sviluppo** Spa are among the Italian partners of the project.

*“Today only a few Alpine ski areas are enhancing the multiple opportunities available for energy efficiency and sustainability” **Diego Viesi**, researcher at the **FBK – Ares Unit**– explained. In fact, there are barriers of an economic nature (costs and financing), organizational (involvement of shareholders) and strategic (objectives, priorities and risks) that interfere with implementation. Smart Altitude intends to overcome these barriers by supporting ski resort managers and local policy-makers in the selection of new technical-managerial models“.*

The model developed by *Smart Altitude* starts from the use of **advanced monitoring systems, performance indicators and energy management systems** to provide a complete and detailed picture of energy consumption in the ski areas, allowing for **systemic identification and management of efficiency interventions and of integration of**

renewable sources. It has been tested in three Living Labs (Madonna di Campiglio in Italy, Les Orres in France and Krvavec in Slovenia), three ski resorts where the various instruments are validated by analyzing the technological and economic effects and the impacts on the operation of the ski area.

Funivie Madonna di Campiglio SpA represents the Italian *Living Lab* of the project and, in June 2019, it began to experiment with the new management system developed in Smart Altitude with the aim of being at the forefront in **new models of sustainability in the energy management of alpine ski areas.** The system tested at Madonna di Campiglio will integrate into a single database, displaying on a single dashboard, the main operating parameters of the ski area, with particular focus on efficient energy management, including energy consumption, slope status and grooming, lift systems, snowmaking system, weather conditions and forecasts.

The trial of the new system will be followed, from 2019 to 2021, by a study to improve the efficiency of artificial snow production and the introduction of renewable sources for the operation of ski lifts and for electric mobility.

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AUTHORS

- Salvatore Romano