PRESS RELEASE

ARTIFICIAL INTELLIGENCE AND OPEN DATA TO SIMULATE CLIMATE CHANGE IN THE ALPS

**GreenVengers (University La Sapienza of Rome) are the winners of the "Alpine Climate Data Challenge" promoted by TELT with the startup Open Data Playground.
160 participants, 37 universities, 13 countries.**

Turin, 12 March 2025 **– Simulating the effects of climate change in the Alps between France and Italy by 2050 to develop sustainable and resilient strategies and guide citizens, businesses, and institutions towards a new approach to the "High Lands." This is the goal that TELT and Open Data Playground (ODP), in collaboration with Lazio Innova, Palantir, Fourth Age, AWorld, and ZeroCO2, have set with the Alpine Climate Data Challenge 2025, the first hackathon on alpine climate involving university students and researchers from around the world.** TELT, the bi-national public promoter responsible for the construction and the management of the cross-border section of the Lyon-Turin railway line thus aims to be a key player in the transition towards a more sustainable world. This hackathon is the first step to connect minds with the entrepreneurial world, develop ideas, and transform them into reality within a shared vision of the future.

WINNERS
Nicolò Quartararo, Alessandro Rem Picci, Filippo Volante, and Alessandro Zocchi from the GreenVengers team (University La Sapienza of Rome) are the winners of the international competition with the project 'Tête-à-TELT: harnessing data and innovation for real environmental impact.' The jury recognized the team's ability to analyze data not only related to climate change description but also in relation to the environment, fauna, and biodiversity, engaging citizens and the territory through the development of smart apps

STUDENTS, DATA AND TECHNOLOGIES
Launched in February and reaching its final phase, the hackathon hosts groups of students and PhD candidates competing in the creation of predictive models and visualization tools to anticipate the impact of climate change. **There were 160 participants in the hackathon, 37 universities and 13 countries of origin.** Exploiting the capabilities of the **Foundry-Palantir data analysis platform**, participants managed the entire project, from data integration to visualization and the development of innovative solutions through **Generative AI.** Specifically, the challenge was to use the **main public sources of climate and meteorological data** (such as Copernicus, NOAA, Arpa Piemonte, Météo France), **employing artificial intelligence** to speculate on the evolution of key variables – such as temperature, rainfall, wind, humidity, atmospheric pressure, snow cover – and the potential future impact of climate change on both sides of the Alps.

THE FINALIST PROJECTS
The teams of the 5 finalist projects – involving **students of Italian, Ethiopian, Iranian, and Vietnamese origin, and from the Universities of Catania, Messina, Milan, Palermo, Pavia, Rome, and Turin** – have developed **innovative and practical solutions** to address the assigned task: detailed analysis and method reports; interactive dashboards; prototypes of software applications/apps/interactive videos to provide useful and predictive information to local communities; climate maps; papers supporting scientific documentation.
Several interesting specificities emerged. In particular, among the presented projects are climate models studied for the Susa and Maurienne valleys, which aim to **analyze local weather trends and predict future conditions through machine learning algorithms** that outline possible warming scenarios for the Alpine region and potential environmental impacts on the analyzed territories; the **development of an app interface dedicated to environmental sustainability, designed to actively engage citizens,** encouraging the adoption of ecological behaviors, providing daily updates, personalized goals, and scientific insights; an **avalanche prediction project based on predictive models and machine learning techniques** that simultaneously proposes practical solutions

for risk management, from reforestation to physical barriers, to personal safety tools for hikers and industry operators.

PARTNERSHIP

This journey, designed and carried out with young people, **is undertaken with several international partners who compose the jury and the scientific committee**: CERN, International Thermonuclear Experimental Reactor (ITER), Fondazione LINKS, Collège des Ingénieurs, Société des Grands Projets, Associazione Camere di Commercio dell'Euroregione Alpmed, Open Data Playground, Tecne Gruppo Autostrade per l'Italia, Intesa San Paolo Innovation Center, Pop AI, Université de Savoie Mont Blanc, Università di Torino, Palantir, Machine Learning Reply, Fourth Age. The Scientific Committee is chaired by the founder of Pop AI, **Emanuela Girardi,** together with the director of Rail division and deputy general director France of TELT, **Lionel Gros,** while the jury is chaired by the meteorologist **Andrea Giuliacci** together with the director of Sustainable Development, Environment, and Safety and deputy director general Italy of TELT, **Manuela Rocca.**

The finalists and the winners will have access to internships and collaborations with the partner companies. The hackathon aims to identify **new skills in climate data management and in the use of AI**, and it offers growth and job opportunities to the best talents.

The Alpine Climate Data Challenge 2025 is part of the program of events that TELT promotes to celebrate its first 10 years of activity (2015-2025).
The project is carried out with the technical/organizational support of: Sobig data, Data science CINI Lab, Aworld, ZeroCo2, Open Search Network, Boston Consulting Group Italia, Lutech, Matchguru, Moviri.

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