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What is meant by open artificial intelligence? Openness in AI not only has to do with the availability of software, but also with key issues such as transparency, reusability and sustainability of systems, while respecting essential ethical constraints imposed by standards.

The first **Trento Open Festival has just rapped up.** For three days, June 6-8, 2024 at the University of Trento's School of Innovation hosted the first edition of the TRENTO OPEN FESTIVAL – Freedom to Innovate. The event, which is part of the European project ZOOOM with focus on the three **O's of Open Data, Open Hardware and Open (source) Software** and the opportunities for innovation they enable, offered opportunities for in-depth discussion, involving experts in the field and hosting activities for **businesses**, **PA and the research world as well as popular workshops for kids.**

The festival was promoted by **Fondazione Bruno Kessler**, with **Maurizio Napolitano** on the organizing committee, together with the **University of Trento**, **HIT** and **Ampioraggio Foundation**. The collaboration of a wide local network of associations: **Speck&Tech, CoderDolomiti, FabLab Unitrento, Minds Hub and Verona FabLab** added to the cultural offer. Sponsor of the initiative: **PagoPA**.



Among the keynote speakers at the event on Thursday, June 6 – an opening night curated by Speck&Tech – were **Andrea Borruso** (President, **OnData**) and **Marina Latini** (Software

Release Engineer, **SUSE**). The former, addressing open data, centered his presentation on the culture of entitlement: requesting access to information held by the PA is a daily exercise of active citizenship to ensure that the regulation, existing both in Italy and in Europe, is effectively applied, to the benefit of the community. The second, addressing open software, described the importance of interoperability standards, a challenge that intertwines organizational, syntactic and semantic as well as technical aspects.

Friday the 7th featured three events.



Maria Morena Ragone, starting with the case study of the **Apulia Region**, described the role of the Digital Transition Manager, a sort of superhero of innovation in PA. Digitizing PA has to do with complex instances such as cybersecurity, data governance and document management, the heart of the infrastructure, think for example of the monitoring of the PNRR and related contracts. A professional figure who networks and, through shared paths, fosters the adoption of useful methods, models and tools to gradually implement open approaches and solutions, such as the Puglia Partecipa platform, the Kosmos document management system and the new regional competence center on AI.



Alessandra Poggiani described the role of **CINECA**, a public and powerful supercomputing infrastructure with a history of more than 50 years. A few days ago, ITALIA, **an** Italian **LLM** (Large Language Model), created in collaboration with iGenius, was unveiled. Every generative AI is derived from a specific culture that expresses it. It takes millions of language texts and images to train a model. Because diversity is richness, a national LLM becomes an important building block for digital sovereignty. Humanists, alongside experts in the hard sciences, are needed to accomplish this feat. Breaking disciplinary silos is critical to generating opportunities with supercomputing, and this applies to all sectors of the economy. Openness is critical for two reasons. First, to be able to allow access to the services available at Tecnopolo Bologna that would not be feasible otherwise due to size and cost, not only in economic terms but also in terms of energy impact. Secondly, since the benefits produced impact society as a whole, any results achieved are shared in a promptly manner with PA, the scientific community and the production/industrial fabric. An example of application is digital twins. In a small scale, as with the City of Bologna, and in the large scale, such as the planetary model built in collaboration with ESA, the European space agency.



Uljan Sharka spoke about **iGenius**‘ journey and the company’s underlying vision: to build people-centered AI, aiming to close the skills gap between data and users. An advocate of Made in Italy as a competitive advantage, he predicts the natural leadership of Italy and Europe in the next 20 years, a momentous opportunity, as long as it fits into a context of growing need for technology, which cannot be centralized, and does so with its own DNA, i.e., without chasing foreign English-based models. This is how, in collaboration with CINECA, Model ITALY was created, with 1 trillion words and 9 billion parameters. Released under an MIT license, a guarantee of transparency, it responds to an open source approach, not only a choice but an enabling factor. If the underlying question is “how do models impact language and culture?” the answer lies in the digital renaissance, a strategic opportunity also to make the Italian way to AI emerge.



Saturday 8, in the morning, Stefano Pampaloni (CEO, Seacom Ltd.) discussed the link between open source software and AI, focusing in particular on the need to integrate the open innovation ecosystem and commenting on the Cyber Resilience Act, an European Union regultion that establishes horizontal cybersecurity requirements for products with digital elements, with the aim of improving security, managing vulnerabilities and ensuring transparency and compliance to protect consumers and businesses from cyber threats.



In the afternoon, to close with an eye toward the future, coding and thinkering workshops were held, that were promoted by the CoderDolomiti association, FabLab UniTrento, FabLab Verona and MindsHub "**open dojo**" for the 7-17 age group: to build a video game with Scratch, control robots, play on a fruit drum with Makey-Makey, experiment with micro electronic boards, create an electric motor, publish a website and model virtual objects by 3D drawing.

The topics covered attracted a diverse, largely young audience, with more than 100 participants per day.

In his talk, **Paolo Traverso (FBK)** discussed the many benefits that generative AI is proving to offer, bringing two iconic examples to the attention of the audience: the opportunity to pool health data from healthcare institutions for the benefit of citizens to help doctors in research and

diagnosis, giving hope in the fight against diseases, e.g., rare diseases, for which there are few funds available for prevention; and the possibility of optimizing the use of water in agriculture: thanks to the IRRITRE project in Trentino, 70% of water resources for irrigating fields could be saved. Alongside the advantages, AI systems also show sustainability limitations: economic, environmental and social ones. In this sense, the Open approach can be an answer, a way to preserve the benefits while solving the sustainability problems. Technology cannot and should not be stopped, but it is important that new solutions are also accessible for the Italian production fabric, which is characterized by small and medium-sized companies. The LLM developed by iGenius is very promising because thanks to an open AI paradigm it is able to enable a large market with high added value.

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