FONDAZIONE BRUNO KESSLER
MAGAZINE

FBK for Human-Centered AI

February 23, 2024

8 episodes, 8 experts, 8 stories: tangible examples of the big digital transformation of Artificial Intelligence, with profound technological and social impacts. Every Friday, starting Feb. 23, on FBK channels, immerse yourself in our stories for a human-centered AI

Remarkable advances in machine and deep learning algorithms have opened the door to unprecedented opportunities. New ways of working are developing in every sector of the economy, shortening the distance between human and machine operators. The goal is not to replace people, but to empower them through design choices that give them control over technology. This is what we refer to when we talk about human-centered AI.

Since the 1980s, advancing a direction that goes back to the Istituto Trentino di Cultura and its pioneering efforts in Artificial Intelligence experimentation, with the first top experts of the time, **Fondazione Bruno Kessler has focused on integrative, widespread, reliable AI, becoming a leading player in national and European research.**

FBK has always conducted research on sensors, photonic, optical, micromechanical, and electronic devices at the forefront of biomedical research, space exploration, digital industry, and the environment, now pushing into quantum applications. One of FBK's challenges for the next decade will be to bring quantum technologies – with immediate and far-reaching effects on all fields of science – into the Italian manufacturing network.

In the area of sensing, crucial to all AI-based developments, Fondazione Bruno Kessler is a world leader in the production of silicon-3D detectors used in fundamental physics experiments. This production of excellence is possible thanks to the Clean Room – a nearly 1,500-square-meter laboratory, more sterile than an operating room, where 1mm silicon wafers are processed to obtain radiation detectors, MEMS (Micro-Electro-Mechanical Systems), for materials characterization and micro-nano-fabrication – and to the silicon processing skills of its technicians.

For the coming years, the Foundation has set concrete and measurable goals to verify its commitments in the 2024-2027 strategic plan through a new organization that brings together the 12 research centers in the areas of AI for **Health**, AI for **Industry**, AI for **Society** and **Sensors** for AI.

The 2024-2027 mandate is characterized by unprecedented opportunities and challenges to be intersected with the very high level of expertise that the Foundation, thanks to its history and resources -researchers, technical staff and PhD students, laboratories, scientific and business partners – is able to provide.

To recount this journey, but above all to give an account of FBK's commitment in AI for Society, AI for Health, AI for Industry, and in sensors applied to this technological and social revolution, we asked 8 researchers to tell us how artificial intelligence will be integrated into each of these areas, and to describe what FBK's concrete contribution may be in each application context.

A necessary evolution, a challenge of adaptation and change at the same time technical and social that will unfold in the immediate future.

Starting February 23 and for the next 7 episodes (every Friday) follow our social channels to find out more!

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