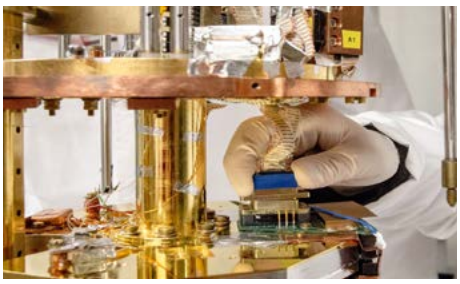

TECHNOLOGICAL RESEARCH

DART WARS: QUANTUM AMPLIFIERS FOR COMPUTERS OF THE FUTURE

Developing new ultra-sensitive quantum amplifiers capable to improve data and qubit transmission in the computers of the future, including the quantum supercomputer to be built in the U.S. at Fermilab in Chicago. This is the challenge faced by the project "Dart Wars" (Detector Array Readout with Traveling Wave AmplifieRS) to be carried in collaboration by Milano Bicocca University and INFN, thanks to a 1 million euro funding approved by the INFN CSN5's Call "Development of quantum technologies for the physics fields of interest for INFN". The three-years-long project will be developed by the researchers of the Cryogenics Laboratory of the Physics Department "Giuseppe Occhialini" of the Milano Bicocca University. Among the partners, also INRIM (National Institute of Metrological Research) and the Bruno Kessler Foundation of Trento.

The activities that will be developed within "Dart Wars" have strong synergies with the projects led by American SQMS Center (Superconducting Quantum Materials and Systems Center), which sees INFN as the only Italian partner. The U.S. project has recently received funding of $ 115 million from the U.S. Department of Energy, to develop in five years a cutting-edge quantum computer, with performance and computational speed never reached before. ■