



Cooperation for European sovereignty and competitiveness:
The role of the quadruple helix in the development of the Quantum Industry

As we experience the fourth industrial revolution, key enabling technologies (KET) are at the heart of the European sovereignty and competitiveness strategy. Indeed, KET are of utmost importance to guarantee an interconnected, digitalised, and resilient Europe while securing its position in the global economy. In this context, quantum information science and quantum sensing are key research domains for the performance of quantum industry relying on four main challenges:

- **Research and Innovation.** Impulse public-private partnerships adopting a cross-collaboration approach between RTOs and the industrial sector
- **Infrastructure.** Build and share large infrastructures providing resources and services for research communities to conduct research and foster innovation.
- **Continuum between research and training.** Develop appropriate curricula and lifelong training to secure the European expertise
- **Securing Europe's sovereignty.**

Université Côte d'Azur was built on the interdisciplinary nature of its academic environment while being rooted in its territory to enhance its comparative advantages. To do so, the site decided to focus on a limited number of societal and industrial challenges in coherence with its strengths and territorial context. As a result, Université Côte d'Azur supported key areas providing a strong originality, thus participating the global efforts: quantum being one of it.

Indeed, benefiting from interdisciplinarity of its research and from close cooperation with key industries, Université Côte d'Azur and its partners have developed an operational quantum cryptography bridge, working full-time and continuously on the Alpes Maritimes Territory. This ongoing interdisciplinary achievement will shortly be extended towards a space bridge in cooperation with major industrial partners, such as, but not limited to Thales. In parallel, Université Côte d'Azur actively contributes to the education of a new generation of quantum scientists by providing trainings profoundly irrigated by research.

Relying on the European political context and under the prism of cooperation, this workshop will focus on the four main challenges sub mentioned: public-private cross-collaboration, infrastructures, continuum between research and training and European Sovereignty.

Programme

9h – Welcome

9h15 - Opening address

Jeanick Brisswalter, President, Université Côte d'Azur

Virginia D'Auria, Maître de conférences, Université Côte d'Azur, Institut Universitaire de France

9h45 – 10h30. Panel 1: Public support for a site strategy: challenges of European cooperation

Noel Dimarcq (chair), Vice President research, Université Côte d'Azur

Sébastien Tanzilli, Scientific Deputy-Director at CNRS, in charge of Quantum Science & Technologies & CNRS Research Director, Université Côte d'Azur, Institut de Physique de Nice (INPHYNI)

Pascal Maillot, Deputy Head of Unit, High Performance Computing and Quantum Technology

10h30 – 10h45 Coffee Break

10h45 – 12h15. Panel 2: Quantum strategy between international cooperation and European Sovereignty.

Industrial sovereignty and competences

Virginia D'Auria (chair), Associate Professor, Université Côte d'Azur, Institut de Physique de Nice (INPHYNI) and Junior member of the Institut Universitaire de France.

Franck Balestro, Professor at Université Grenoble Alpes (UGA), in charge of the French national consortium QTedu

Sébastien Canard, Research Engineer at Orange Labs R&D.

Robin Kaiser, CNRS Research Director, Université Côte d'Azur, Institut de Physique de Nice (INPHYNI), Grand Prix 2020 en sciences physiques - Institut grand-ducal Prix Paul WURTH

Apostolia Karamali, Head of Unit, Academic R&I, DG RTD, European Commission.

Enrique Lizaso (CEO of Multiverse Computing and Treasurer & Member of the Governing Board at European Quantum Industry Consortium (QuIC)).

Mathias Van Den Bossche, Director, research, development and product policy at Thales Alenia Space.

Space industries and Quantum strategy

Mathias Van Den Bossche, Director, research, development and product policy at Thales Alenia Space

Sébastien Tanzilli, CNRS Research Director, Université Côte d'Azur, Institut de Physique de Nice (INPHYNI)

Gilles Lequeux, Team leader, DG DEFIS, Quantum Technologies for space based applications - Technology Policy development, European Commission.

Noel Dimarcq, Vice President research, Université Côte d'Azur, Observatoire Côte d'Azur.

12h15-12h30. Closing of the Quantic days. **Virginia D'Auria**, Associate Professor, Université Côte d'Azur, Institut de Physique de Nice (INPHYNI) and Junior member of the Institut Universitaire de France.

Muriel Dal Pont Legrand, Vice President European strategy and Territories, Université Côte d'Azur.

12h30. Lunch