

Delft Declaration

Delft, November 16, 2023 – On the occasion of the **21st Erasmus-Descartes Conference**, which brought together French and Dutch government officials, industry leaders, startups, researchers, and educators, France and the Netherlands discussed the path to secure Europe's technology leadership in Deep Tech industries for future generations. The conference, opened by **Minister Robbert Dijkgraaf** and with a recorded message of **Minister Jean-Noël Barrot**, along with **Dr. Thomas Skordas** from the European Commission, aimed to assess the current state of Franco-Dutch relations and envision the future of cooperation among France, the Netherlands, and Europe across various aspects: strategy and funding, support for startup projects, research and its applications, and talent development and mobility.

The impetus was provided by President Emmanuel Macron's state visit to the Netherlands in April 2023, during which several significant bilateral scientific agreements were signed, including a "**Pact for Innovation and Sustainable Growth**". Participants underlined the importance for accelerating joint activities in the coming months and years; to be supported by the Pact's working group on key technologies.

The participants identified the following actions to be jointly addressed in close cooperation with other stakeholders in the EU:

- **[Strategy]**

Participants acknowledged the need to expedite efforts in supporting **strategic autonomy in critical infrastructures and supply chains** for emerging fields like quantum silicon and photonics. Discussions centred on finding a balance between cooperation and competition at the European level, aspiring to build a vibrant and dynamic ecosystem towards **European champions of quantum computing**. To achieve this, it requires education, research, engineering and industrialisation efforts transcending national boundaries, pooling our strengths and complementarities to compete globally while staying open to our European and international strategic partners. Collaborating is essential to establish ourselves as a global leader, reducing dependencies on critical materials and technologies, and developing applications for the benefit of our planet and future generations, while, at the same time, taking a lot of care in explaining and engaging the citizens in such an endeavour.

- **[Startups and funding]**

The declaration emphasises the need to support startups in the EU, especially in semiconductors, photonics, and quantum technology, by maintaining open markets and safeguarding them from unwanted foreign interference. Given the anticipated challenges in funding rounds over the next 2-3 years during the scaling-up phase, there is an **urgent call** to involve a growing number of EU investors, a challenge that Quantum Delta NL and France are eager to solve via investment vehicles like Quantonation and QDNL Participations. In addition, quantum startups should benefit greatly from more (tax) incentives for industry to invest in deeptech innovation.

France, the Netherlands and Germany are keen to support cross-border projects fundings (www.quantumwithoutborders.org). This trilateral programme "**Quantum Without Borders**" aims to support proofs of concept and breakthrough R&D initiatives, that will help paving the way for creating European tech champions like the Franco-Dutch startup Pasqal.

- [Talent development and mobility]

The declaration calls for joint investments in talent growth and innovative educational initiatives bridging different academic levels and disciplines using an interdisciplinary approach. **Campus France** and **NUFFIC** signed a **strategic action Plan** to promote balanced mobility of students. Specific scholarship programmes will be developed to improve the mobility of students and researchers in Quantum. **QuanTEdu-France and Quantum Delta NL (QDNL)** decided on new joint initiatives around talent and learning centres. These include a range of activities such as apprenticeships, connected MA programmes, life-long learning, and outreach campaigns to end-users and the wider public. Companies should also be involved in talent development, through internships and providing students with opportunities for hand-on experience, by sharing knowledge and building on regional hubs and ecosystems. Incentive schemes such as CIFRE grants in France could be used. The “**TU Delft – France Initiative**” contributes to talent development and mobility and supports joint research projects with a first call for projects in the field of sustainable aviation, using deeptech (AI, quantum technologies, new materials and concepts). The initiative will start beginning of 2024 thanks to a first major partnership with Air France KLM E&M.

- [Research, Applied and Fundamental, and Infrastructures]

The participants stressed the importance of building a European ecosystem and shared manufacturing and research facilities in the scale-up phase of emerging technologies like quantum and photonics. This includes the development of “**Houses of Quantum**” and complementary “pilot lines” in France and in the Netherlands that are truly European in nature, as they are open for all users within the EU.

By sharing good practices and exchange programmes, France and Netherlands play an important role in developing major infrastructures, citing the exemplary future **Jules Verne Consortium** to develop the **first EuroHPC Exascale hybrid machine** coupling HPC partitions with **quantum accelerator units** but also private initiatives like OVHcloud allowing wide access to quantum computing capacities in a secure cloud environment. The **hybrid HPC-Quantum platform (from HQI initiative)** is expected to share best practices and tailor computing solutions to very different specific needs.

The **MetriQs-France programme**, conducted by LNE, about metrology, evaluation and standardisation, aims to establish trust and accelerate the adoption of quantum technologies by industry, market, and society. As part of the programme, the **BACQ project**, led by Thales, targets application-oriented benchmark suite for multi-criteria evaluation of quantum computing performance meaningful for end-users, with collaborations with the Netherlands actively sought (TNO, TU Delft, ...).

Lastly, a letter of intent between **Airbus and TNO** was signed, paving the way for research on the role of space in the development of a long-distance secure quantum internet.



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