le lab quantique

Le Lab Quantique (LLQ) is a Think Tank and a network of **bottom-up** initiatives in support of the deployment of Quantum technologies worldwide. LLQ aims to **create synergies** within the quantum community by producing content (position papers, MOOCs, etc.) and by developing close links between academic, industrial and private equity players. While rooted within the French quantum eocystem, LLQ critically weaves relationships with comparable initiatives all around the world.

LLQ is **a nonprofit association** that works for the general interest by accelerating the emergence and development of an ecosystem that will help France and partners not to miss the quantum revolution.

LLQ is **an open innovation environment** in which students, researchers, engineers, business developers, entrepreneurs and investors co-create the future of the quantum industry.

Our conviction: while academic research remains the foundation of the quantum industry, we are convinced that the time has come for the creation of startups, the industrialization of products, the search for use cases, the recruitment of talents and the constitution of patent portfolios. Le Lab quantique's vocation is therefore to:

- **Accelerate**: in the global technological race, France is not lagging behing but far from being ahead. In order to remove the barriers to innovation and the creation of startups, it is imperative to accelerate skills development and access to venture capital, including at the international level. Few startups have been created in France at this stage, but the embyonic ecosystem in place is recognized internationally and has the potential to scale up (incubation, acceleration, funding).
- **Decompartmentalize**: to encourage the mixing of skills and initiatives .
- **Support** the emergence of quantum computing software in France: it is necessary to simultaneously build up expertise in the whole stack, hardware on which France already has competitive initiatives at the international level but also software, to accelerate the creation of a French "QC as a Service" offer, a vector for dissemination and competitiveness.
- **Help:** the State to focus on the sovereignty issues related to these technologies in order to set the main orientations of a national quantum policy; academia to focus on research to remain competitive in the international race.

The LLQ program is built around **four main axes:**

- **Densify the network of relationships** between industrial players (customers), startups (offer) and academics (expertise) with awareness and continuing education modules, market approach strategies, demonstrations, generate documents and content to show thought leadership.
- **Establish gateways** with international parties (Europe, Canada, UK, etc.) and increase bandwidth (Talents / VCs / sharing best practices) in order to establish international visibility of all national quantum resources and skills (attractiveness). Issues and markets are global and much is to be learned from other, often more advanced ecosystems.
- **Guide the development** of entrepreneurial initiatives through a program to accelerate quantum startups from France and abroad.
- **High-level annual conferences** that bring together all stakeholders in the ecosystem, as well as **International Awards** (talent attraction).

LLQ will be based in Paris (place to bedefined). The content of the LLQ programme will be validated by a committee of international experts made up of academics, industrialists and financiers.

Its history: in 2018, LLQ started operations at the initiative of its 3 co-founders,

- **Christophe Jurczak**, founder and Partner at Quantonation, the world's first venture capital fund specializing in "deep physics" and quantum technologies, and partner of the Creative Destruction Lab (CDL) accelerator in Toronto.
- **Jean-Christophe Gougeon**, sector expert in charge of quantum technologies at Bpifrance.
- **Robert Marino**, co-founder and CEO of Deeptech Founders, a training and acceleration program for deeptech project leaders. Born at the end of 2018, in collaboration with Bpifrance and under the high patronage of the Ministry of Higher Education, Research and Innovation and the Ministry of Economy and Finance, Deeptech Founders has supported in 18 months nearly 100 entrepreneurial projects, 250 people (researchers, entrepreneurs, PhD students, etc.) and 6 French quantum startups.

First results:

- LLQ started in 2018 as **Meetup Le Lab Quantique** in Paris, with evening events (>100 participants each) associating a mix of French and foreign startups, academic researchers, consultants and industry. With the Covid19 crisis, the model switched to online webinars / **YouTube replays** with great success (>160 participants per event) and allowed to gather many participants outside of France.
- Organization of **QCB** **the first International Conference dedicated to the Quantum Computing Business** (June 2019), with more than 300 participants from around the world, followed by an "Investor Day" bringing together more than 40 European startups and as many investors.
- Organization of workshops: ***"Quantum Cyber-Security, Impact and Challenges"*** (March 11, 2020 at Bpifrance Le HUB), "Quantum ***Computing, is it time to invest?*** » (March 12, 2019 at Station F).
- Organization of **Hackathons on quantum computing and quantum networks**. Through challenges, the aim is to disseminate the knowledge and use of quantum software: **Hackathon on computation,** co-organized with 42 coding school and two Cambridge startups; **Quantum Internet Hackathon**, with the support of CNRS and Delft University, distributed at 6 sites in Europe (CERN, Padova, Dublin, Sarajevo, Paris, Delft). **A world first!**
- **A strategy of publishing original content** (in English) using the most efficient digital platforms: technical articles on Medium for an informed audience (including investors and talents), 2 Insights whitepapers, a Twitter account.
- **The support of 6 French "quantum" startups** in their creation and their first fundraising.

With an active community of more than 1000 players from around the world, mainly professionals from various backgrounds (startups, academics, investors, industrialists, consultants) but also students, all these actions contribute to the convergence of interests, which is fundamental for the emergence and effectiveness of a national quantum ecosystem. We are convinced of the value of such a community built on a "bottom up" mode and mobilized around value creation (structuring an industrial value chain) and risk-taking. It is now a matter of accelerating its scale-up.