ICFO



International Year of Quantum Science and Technology

The president of the Generalitat de Catalunya, Salvador Illa, accompanied by the minister of research and universities, Nuria Montserrat, presided an event to inaugurate the year in Catalonia

February 26, 2025

On February 21st, 2025, within the framework of the International Year of Quantum Science and Technology (IYQ 2025), the Department of Research and Universities of the Generalitat de Catalunya organized an event dedicated to exploring the past, present and future of quantum technologies and their impact in society. The event aimed to promote collaboration between research, industry and society by showcasing the academic and industrial advancements that have been made so far in the field both in Catalonia and in Spain, visualizing the different initiatives that are being deployed in the region as well as the start-ups and spin-offs that have emerged in the recent years and now run at full speed to bring quantum technologies to market.

The event, moderated by the quantum physicist and science communicator **Sonia Fernandez Vidal**, began with opening words from the President of the Generalitat de Catalunya,

Salvador Ila, who highlighted the importance of quantum science and technologies (QST) and the impact they will have in the economic growth and future of our society. Underscoring the Generalitat's commitment to QSTs for the future of Catalonia, he painted a picture of the international context and Europe's leadership position in the field.
Following this, the Minister of Research and Universities of the Generalitat de Catalunya, **Nuria Montserrat**, also emphasized the importance that these technologies are having in transforming our society in areas ranging from computing and communications, to information security and the discovery of new materials, just to mention a few. i¿½Catalunya, with its state-of-the-art research and industry ecosystem, is well positioned to become a key player in this field and today we have a chance to listen to the entities that comprise this ecosystem, to foster a space where we can learn and exchange ideas, as well as establish future synergiesi¿½ she conclude
. Keynote talks were given by the quantum experts **Ignacio Cirac,** Director at the Max Planck Institute of Quantum Optics in Germany and President of ICFO's Scientific Advisory Board, and **Gustav Kalbe**, Director of Communication Networks, Content and Technology - Digital Excellence and Scientific Infrastructure of the European Commission. While the former gave an overview of what quantum technologies are and how they can be applied in everyday life scenarios, the latter gave insights on the European Commission's view and role in quantum technology policymaking and how it is investing to position Europe at the front line worldwide.
The event gathered experts not only in the academic and research fields, but also policymakers, spin-offs and mid and large-size companies that are becoming the early adopters of this technology. Initiatives such as **QSNP**, **EuroQCI Spain**, **PixEurope** (led by ICFO), **Quantum Spain** (led by the Barcelona SuperComputing Center), Quantum Galicia (led by the University of Vigo), MADQCI (led by the Politecnic University of Madrid), BasqueQ (led by the Department of Science, Universities and Innovation of the Basque Government), **Plan Complementario de Comunicaciones Cuanticas** (jointly led by UPM and ICFO) provided the latest advances that are occurring both in the field of quantum communications as well as computing.
Within the industrial arena, the companies **LuxQuanta, Qilimanjaro, Multiverse, Qoolnet, Qdynamics and Quside** were invited to share their insights, the technology they are developing, the markets they are encountering, the perspectives they have for the future and how they can i¿½transform this technology from what now seems to be science fiction to something that is a real tangible technology like a toaster we have at home that works b simply pressing a buttoni¿½ explained Vanesa Diaz, from LuxQuant
. Finally, **Joe Niemala**, IYQ Committee representative, concluded the round of presentations with a heartfelt speech on the establishment of the International Year of Quantum, highlighting its grassroots origins and the collective effort behind its inception. Following this, **Lydia Sanmarti-Vila**, Outreach coordinator at ICFO, provided a comprehensive overview

of some of the exciting initiatives and events planned for 2025, paving the way for a transformative year in quantum science.
Quantum technologies hold the potential to revolutionize our society, from computing and communication to healthcare and security, making the seemingly impossible a reality. To harness this power, we must invest in educating and inspiring the next generation, ensuring that quantum literacy becomes as commonplace as digital literacy-transforming these groundbreaking innovations into everyday tools that shape a smarter, more connected and sustainable world.

International Year of Quantum Science and Technology (IYQ)

On June 7th, 2024 the U.N. proclaimed 2025 as the International Year of Quantum Science and Technology (IYQ). This year-long, worldwide initiative aims to celebrate the contributions of quantum science to technological progress over the past century, raise global awareness of its importance to sustainable development in the 21st century, and ensure that all nations have access to quantum education and opportunities.
On February 4th, 2025, UNESCO, and associated partners, celebrated the official opening of the International Year of Quantum Science and Technology (IYQ) in Paris to raise the collective awareness of the transformative potential of quantum science and technology to address critical global challenges. ?

IYQ coincides with the 100th anniversary of the birth of modern quantum mechanics - th theory that describes the behavior of matter and energy at atomic and subatomic scales an has made possible many of the world's most important technologies. Over the past century quantum theory has become foundational to physics, chemistry, engineering, and biolog and has revolutionized modern electronics and global telecommunications. Inventions lik the transistor, lasers, rare-earth magnets, and LEDs - technologies that brought the internet computers, solar cells, MRI, and global navigation into fruition - all exist because of quantu mechanics.



President of the Generalitat de Catalunya, Salvador Illa



Minister of Research and Universities, Nuria Montserrat



ICFO Director, Prof. Oriol Romero-Isart



ICFO Outreach Coordinator, Lydia Sanmarti-Vila