ICFO

Quantum Technologies give an extra beat to the MWC25

MWC25 welcomed the European Quantum Flagship for its 6th year, with an exhibition stand that received more than 600 visitors as well as important institutional visits, in particular Henna Virkkunen, Executive Vice-President for Tech Sovereignty, Security, and Democracy at the European Commission.
10 companies and 3 European initiatives showcased products and services in the areas of communication and computing, some of which are being currently commercialized.
A new growing market interest for quantum adoption is emerging, evidencing that the word quantum no longer seems to be a science fiction term but a real tangible technology.

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With a record number of more than 109K visitors, Mobile World Congress 2025 (MWC25)

witnessed a fruitful week full of attendees and industry leaders coming to the Quantum Flagship stand to see the latest advancements in quantum computing, simulation, connectivity, cybersecurity, quantum cryptography, and quantum communication at the European level. The stand, curated by ICFO, attracted a high volume of visitors, underscoring the growing relevance of quantum technologies in the telecommunications sector and beyond.

Exhibitors reported a positive response regarding their interactions with the audience, with a greater-than-anticipated number of inquiries, conversations, and discussions about potential applications of these technologies in different fields. Industry professionals, investors, and technology enthusiasts had the opportunity to engage with companies and initiatives and delve into the products and services that were on display, signaling a strong market interest for quantum adoption.

The increasing interest in quantum amongst industrial actors and in particular by policymakers, eager to position Europe as a key leading player in the field, was manifested by the institutional visit of the Executive Vice-President for Tech Sovereignty, Security, and Democracy at the European Commission, **Henna Virkkunen,** whose presence at the Quantum Flagship stand marked a significant endorsement of the EU towards the development and deployment of Quantum Technologies in the European region. Her visit underscored the European Commission's commitment to fostering cutting-edge research and innovation, ensuring that Europe remains at the forefront of scientific and technological development.

The numbers show a tendency

After a busy and extremely productive four-day event, estimates indicate that more than 109,000 visitors and 1,500 exhibitors from 168 countries gathered at Fira Gran Via for MWC25. With over 600 people from more than 30 countries coming to see the Quantum Flagship stand, the initiative stresses on the growing success of the stand at MWC over the years, which reflects the increasing recognition of quantum technologies as a transformative force in the digital landscape. The enthusiastic reception of the visitors reinforces the need for further investment and collaboration in this field, setting the stage for the quantum adoption

Growing provider market in Quantum

Visitors to the stand had the opportunity to see what is cooking in the field of quantum as well as to interact with key European industrial entities in quantum communication and computing: in quantum communications, the companies LuxQuanta; Qoolnet; QUBO; Quside ; Welinq and ThinkQuantum, shared the latest technology advances for Quantum Rando Number Generator (QRNGs) devices, QKD devices, quantum cryptography systems, ke management software, quantum memories and repeaters, quantum space communication among others. In quantum computing,IQM Qilimanjaro, Qcentroid, and Delft Circuits

provided software and hardware solutions for quantum computing and simulation to a varied ranged of possible applications.

In additional to a quantum computer mock-up provided by Forschungszentrum Jülich Gmb displayed at the front of the stand, an exhibition area graced an important space as well showcasing real tangible technologies manufactured by these companies as well as a full se of quantum computer chips, microchips, and photonic chips collected by the Europea Commission from different European organisations, giving visitors a palpable understandin of how they work, how they can be integrated into current technological systems, and ho these advancements can transform a wide range of industries

Three products releasees were announced during the week: LuxQuanta launched thei second generation of the NOVA LQ® QKD system, significantly enhancing encrypti n features in order to protect data in critical areas, such as finance, healthcare, a d government communications. Quside launched Onyx? Series, the latest Reliable (50 100 Mb/s) QRNG in market to date. Finally, Qcentroid presented their QuantumOps platfor to adopt Quantum Computing to in a seamless manner, through easy integration, and scalabil

ty. Finally, distinguished attendees and visits to the stand included **Prof. Dong Sun**, Secretary for Innovation, Technology, and Industry from Hong Kong; **Prof. Guen-Suk Ko**, President of Chungbuk Innovation Institute of Science and Technology from Korea; and representatives from the European Commission, Spanish Government, and Catalan Government, including **Pere Aragones**, former President of Catalonia, **Maria Galindo**, Secretary of Digital Policies of the Government of Catalonia, and **Josep Oriol Escardibul**, Secretary of Research and Universities of the Government of Catalonia. **Ximo Puig**, Ambassador of Spain to the Organization for Economic Co-operation and Development (OECD), and several groups of representatives of ACCIO - the Agency for Business Competitiveness, also visited the stand.

Raising awareness about Quantum

MWC25 hosted several spots on ground to give visibility to the research carried out by the different European iniatives that were present on behalf of the flagship. Firstly, the Quantum Flagship stand hosted once again a stage that allowed exhibitors to talk about their technology and the added value they give to different technological supply chains. The ongoing initiatives, QSNP, coordinated by ICFO, QIA- The Quantum Internet Alliance and Pasquans (in both ICFO has an active role), presented the latest advances in technolog development through panel discussions and short tech presentations while EuroQCI Spai dedicated its presentation to showing the current status of the deployment of quantu communications networks in Madrid and Barcelona and the future extension of the networ at a national level and to neighboring countries.

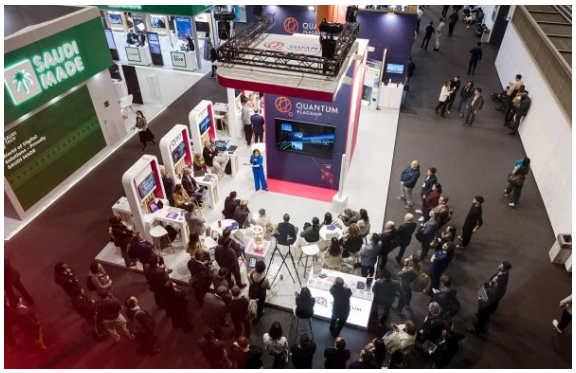
? As a key-featured session, ACCIO - the Agency for Business Competitiveness, invited ICFO o present the new **PhotonChip** initiative at their stand. Organized by the Department of

Economy and Finance of the Generalitat de Catalunya, and within the FEDER Program of Catalonia 2021-2027, Guillermo Gerling, from the KTT unit at ICFO, explained the program, the goals linked to a packaging production line located at ICFO and it integration into the much bigger scheme of the new pilot line PIXEurope, a ~400 M? program that aims to offer cutting-edge technological platforms, transforming and transferring innovative and disruptive integrated photonics processes and technologies to accelerate their industrial adoption.

Finally, the Mobile World Capital Barcelona hosted the Talent Arena event located at Fira Barcelona, a networking space for the professional technology sector, that seeks to address the gap between skilled professionals and today's digital landscape. As part of the activities, a key session was held centered on the debate regarding i¿½Quantum Softwa e Development: Hype or Realityi¿½ that has been experienced in the emergence of qua tum software development and its challenges compared to classical software. Panelists incl ded Alba Cervera (Researcher at BSC-CNS) and ICREA Prof. at ICFO Antonio Acin (Qua tum Information Theory Expert at ICFO), with Josep Ramon Ferrer Escoda, President of Gr dos TIC, as modera

Europe's position towards Quantum

The Quantum Europe stand at MWC25 is just a small sample of the technology that is being developed within the Flagship, but a clear indicator of how Europe is seeking to drive quantum technologies into the market and industry and position itself as a leader in this field. With the launch of the International Year of Quantum Science and Technology 2025, recognized by UNESCO, the world is increasingly aware of the importance of these technologies and is exploring new ways to push boundaries-developing innovations that can revolutionize communication, information processing, and human interaction while enhancing daily life, all with a focus on sustainability for both society and the planet.



The Quantum Flagship stand at MWC25

Visit of Elisenda Alamany, councilwoman of the Barcelona City Hall

FLAGSHIP

Quantum Euro