



**Photonics21 Press Release**

## **Photonics research at heart of € 370 bil European tech boom, new study finds**

**A major new study has revealed that Europe's university spinout companies have grown into a technology ecosystem worth hundreds of billions of euros – with photonics playing a vital enabling role across many of its most strategic sectors.**

Called "European Spinouts Report 2025", the analysis shows that photonics and quantum science sit at the heart of a € 370 billion network of research spinouts spanning industries from robotics and advanced AI to climate technologies and semiconductor manufacturing.

The study, which was produced by innovation intelligence platform [Dealroom.co](https://dealroom.co), tracked 17,000 European university spinouts since 1990, including 7,300 deep-tech and life sciences companies, to reveal how laboratory research is translating into venture-backed firms and high-value jobs across the continent.

These spinouts (or companies created to bring university research into the marketplace) represent one of Europe's most dynamic sources of science-driven innovation.

According to the report, these companies now employ more than 160,000 people across Europe and have grown to a combined enterprise value roughly comparable to [the entire GDP of Romania](#).

The analysis covers a broad selection of deep technologies – from robotics and AI to nuclear and space technologies – with photonics and quantum highlighted as key enabling fields that underpin many of the scientific and industrial advances captured in the data.

While the study spans the full spectrum of Europe's deep-tech and life-sciences innovation landscape, photonics and quantum technologies emerge as foundational research domains embedded across many of the industries analysed.

### **The Science Behind Europe's Deep-Tech Boom**

Deep tech – or technologies born from fundamental science – describes breakthroughs that begin life in research laboratories rather than startup garages. Spanning robotics, quantum computing, advanced semiconductors and climate monitoring systems, these innovations often take years to develop but go on to underpin entire industries.

Photonics forms one of the central 'engines' of this deep-tech landscape.

The report shows that companies emerging from photonics research are not confined to one field but operate across a wide range of industries, from semiconductors and robotics to climate technologies and advanced sensing systems.

As the science of harnessing light for sensing, imaging, communications and manufacturing, photonics enables many of the technologies (such as semiconductor production, medical diagnostics, and Earth observation) driving today's innovation economy.

Dr Lutz Aschke, President of Photonics21, said: "Europe has built one of the most dynamic research spinout ecosystems in the world. We have a pipeline of science-driven companies that is increasingly the envy of global innovation economies."



“Photonics sits at the core of this success: as a foundational technology of the modern innovation landscape, Europe’s strength in optical science is translating into globally competitive companies across many sectors and domains. Ensuring these spinouts can scale and remain anchored in Europe will be critical to our industrial future.”

### **An Exponential Decade**

The study points to a sharp acceleration in spinout value creation over the past decade.

Nearly 40% of total enterprise value generated by European deep tech and life sciences spinouts has been created by companies founded since 2015, signalling a rapid maturation of the continent’s research commercialisation pipeline.

Photonics has played a visible role in this shift, benefiting from sustained European investment in quantum technologies, advanced manufacturing and next-generation communications infrastructure.

The sector’s strong ties to publicly funded R&D programmes have helped translate laboratory breakthroughs into venture-backed companies at an increasing speed.

Spinouts are also becoming increasingly central to Europe’s startup ecosystem. Since 2019, they have accounted for around 40% of all new deep tech and life sciences startups, marking an 80% increase compared with the previous decade.

This growth reflects a broader shift in venture capital toward science-driven innovation.

Europe’s strong performance in research spinout creation has been supported by sustained public investment in science and innovation, including programmes aligned with the European Union’s long-term technology and industrial strategy. Initiatives such as Tech Tour Photonics (an investor engagement platform supported by the EU Public Private Partnership between Photonics21 and the European Commission) help connect high-potential photonics start-ups with global investment networks.

The commercialisation of photonics research is increasingly viewed as a pillar of Europe’s technological sovereignty as global competition in semiconductors and quantum intensifies.

Together, the findings underline the growing economic and strategic importance of converting Europe’s scientific excellence into scalable industrial capability. As global competition in deep tech accelerates, the findings highlight how enabling sciences such as photonics and quantum are turning Europe’s research base into companies, jobs and industrial capability.

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The study was produced in collaboration with Dealroom.co and partner institutions and is available via: <https://dealroom.co/reports/european-spinouts-report-2025>