

## Photonics Start-ups Powering Europe's Innovation

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New data from Photonics21 shows Europe's photonics start-up scene is accelerating, with 240 companies newly identified since 2024 and 556 active firms now tracked across the continent.

The analysis, published today by the European Technology Platform, shows that these young companies are developing technologies that solve some of our greatest societal challenges, from life-saving diagnostics and surgical tools to quantum communication chips, ultra-precise climate and energy sensors, and the lasers powering advanced manufacturing.

The figures come from Photonics21's newly updated European photonics start-up database, which tracks the creation, growth, and evolution of enterprises across the continent. Many of these firms are already attracting global attention, highlighting why Europe has become one of the most dynamic regions worldwide for photonics innovation.

Healthcare firms dominate the market: one in five photonics start-ups focuses on medical applications such as cancer diagnostics, surgical imaging, and new tools for personalised medicine. Other leading sectors include components and advanced materials (16 per cent) and Industry 4.0 (14 per cent), where photonics is driving automation, robotics, and digital factories.

### Berlin Start-up Transforms Life for Millions with Diabetes

One of the start-ups leading this new wave is DiaMonTech, based in Berlin. Founded in 2015, the company has pioneered a non-invasive photonics technology that measures blood glucose without finger-prick tests, making diabetes testing painless.

Using mid-infrared light to detect glucose molecules in the skin, the device offers a pain-free and easy alternative to traditional monitoring. With diabetes affecting more than 30 million Europeans, DiaMonTech's work shows how photonics can deliver tangible, life-changing health innovations born and built in Europe.

"Our technology uses light instead of needles to make glucose monitoring completely pain-free," said Catalina Plesmann, Head of Marketing at DiaMonTech. "It's a simple idea with huge impact, and Europe is the perfect place to grow it. This is where our science was born, where the engineering talent is, and where trust in medical innovation runs deep. Europe is our home and it's where we want to scale."

### Young Vibrant Businesses

Dr Lutz Aschke, President of Photonics21, said: "These numbers tell a story of dynamism. Photonics start-ups, the hidden engine of Europe's deep-tech economy, are booming. The challenge is capital. That is why we are focused on connecting founders with investors at scale."

With 35 per cent of active firms founded since 2020 and 84 per cent less than 10 years old, Europe is seeing a fresh wave of innovators. Dr Aschke added, "These young, vibrant businesses are crucial for Europe's competitiveness in AI, quantum, health, green energy, and secure communications. The next step is ensuring they can scale in Europe, not overseas."

That ambition is being matched by practical steps to help the brightest EU-based companies find the funding they need. Photonics21's mapping also underpins Tech Tour Photonics investor events co-organised with PhotonHub Europe, where selected entrepreneurs pitch directly to leading international investors. This year, 77 companies were evaluated by the selection panel, and 39 were chosen to present. Three of those were nominated by Photonics21, underlining the platform's central role in building Europe's pipeline of investment-ready ventures.

Photonics21 is now calling on investors and policymakers to seize this momentum and back the next generation of European photonics companies that will play a defining role in the continent's economic and technological future.

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### About Photonics21

Photonics21 is the European Technology Platform (ETP) for photonics, a technology encompassing all products and processes related to the emission, manipulation, and detection of light. Photonics is integral to a wide range of industries, including the medical, healthcare, transport, manufacturing, and telecommunications sectors.

“Photonics21” was established in December 2005 to bring together the photonics research community and industry. The European Commission defined photonics as one of five European Key Enabling Technologies (KETs) in September 2009. Shortly after, the European Research & Innovation Program “Horizon 2020” invited Photonics21 to become a “Public-Private Partnership”. The “Photonics 21 Association”, a legal entity under Belgian law, became the private contract partner in November 2013 as part of a public-private partnership with the EU Commission.

Today, Photonics21 represents over 4,300 personal members from across Europe and beyond. Our members are experts in the photonics industry, as well as research organisations and universities, who actively engage with us to develop a joint photonics strategy for future research and innovation in Europe.

Photonics is one of the few critical technologies for which Europe remains a global powerhouse in research and business. Several Nobel Prizes have been awarded to European scientists for their achievements in photonics over the past two decades. Approximately 5,000 European SMEs are considered hidden champions and world market leaders in their respective photonics markets. Europe ranks number two in the world in terms of production volume and market share. With more than 400 start-ups, Europe is one of the most thriving and innovative photonics regions in the world. Leadership in the development of photonics components and systems provides a competitive advantage in numerous key markets and policy areas, including the quantum internet, quantum computing, next-generation microelectronics, autonomous vehicles, Industry 5.0, virtual worlds, fusion energy, and many more.

As of 2022, the global photonics market was worth \$ 864.6 billion. The European photonics industry grew from €103 billion in 2019 to €124.6 billion in 2022. With a 6.5% CAGR between 2019 and 2022, the European Photonics Growth exceeds the EU's GDP. The European photonics industry has considerable global leadership positions and employs more than 430,000 people directly.

With a positive growth forecast of €175 billion by 2027, current industry trends, such as digitalisation, resource efficiency, and individual and zero-failure production, will continue to drive the photonics industry forward.

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