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Joint Statement for a Strong FP10: The Urgent Need for an Autonomous and Prosperous Photonics Industry in Europe

Photonics is one of the few critical digital technologies where Europe has excelled, with strong leadership in both industry and academia. However, the European photonics industry is under pressure. Driven by a focused investment and development strategy, China's share of the global photonics market rose from 10% in 2005 to 32% in 2022. During the same period, market shares for Europe and North America decreased to around 15% each. Furthermore, China increasingly enters sectors traditionally dominated by Europe, such as laser manufacturing, sensing, and optical components.¹

The photonics market in China will be self-sufficient in less than four years.² This is due to political manoeuvres and technological developments, such as their government's "new productive forces" approach – a more focused, centralised science and technology funding strategy. Science and technology sectors will be prioritised under this new push, with photonics being a key enabler in almost every sector.³

Meanwhile, Europe lacks a clear photonics strategy for the upcoming Framework Programme 10. While photonic chips (Photonics Integrated Circuits) are part of the "European Chips Act", this domain makes up only \$1bn of the \$850bn global photonics market.⁴ A public-private partnership for the whole sector is needed to make Europe technologically autonomous and economically competitive. The past has shown that a partnership is the right tool for this.

Light technologies have bucked the downward trend, thriving despite global economic turmoil and proving that the photonics industry is of strategic importance to the EU. European photonics industries remained robust in 2019-2022, despite geopolitical issues such as COVID-19, global inflation, and the war in Ukraine hindering trade. Photonics, as a key enabling technology, has major implications for the EU's economic competitiveness, strategic autonomy, and social prosperity.

¹ Photonics21. 2024. "Insights into the dynamic photonics market (2019-2022). European prowess, emerging trends, and the paths towards global photonics advancements. Market Research Study Photonics 2024." <<https://www.flipsnack.com/photronics21/market-research-study-photonics-2024/full-view.html>> (14.10.2024).

² EE Times Europe. 2024. "China's photonics sovereignty: What now for Europe?" <<https://www.eetimes.eu/china-photonics-sovereignty-what-now-for-europe/>> (14.10.2024).

³ Science Business. 2024. "Xi Jinping's 'new productive forces': what researchers need to know." <<https://sciencebusiness.net/news/r-d-funding/xi-jinpings-new-productive-forces-what-researchers-need-know>> (14.10.2024).

⁴ Future Market Insights Inc. 2022. "Photonic Integrated Circuit Market." <<https://www.futuremarketinsights.com/reports/photonic-integrated-circuit-market>> (16.10.2024).



Specifically, photonic technologies play a critical role in numerous strategic EU value chains and industrial ecosystems, such as **space, security and defence, augmented and virtual reality for virtual worlds, high performance computing, quantum computing and artificial intelligence, health, fusion power as renewable energy, digital infrastructure, industry 4.0 and manufacturing, automotive and mobility, and agriculture and food.** Photonics acts as a foundation for innovation across these value chains, enhancing Europe's technological sovereignty and competitiveness while supporting the green and digital transformation. It is high time for a strong Framework Programme 10, reflecting the urgent need for an autonomous and prosperous photonics industry in Europe.

We, the undersigned companies, urge the EU institutions to:

1. **Establish a public-private partnership between the European Commission and the European photonics industry under FP10, supported by a substantial budget.** The public-private partnership in photonics has proven to be essential in advancing photonics research and fostering collaboration between industry, academia, and policy makers. By doing so, the partnership positions the photonics industry for the future and contributes to Europe's economic security and growth.
2. **Strengthen the resilience and sustainability of Europe's strategic photonic supply chains.** The European photonics industry is facing serious supply chain issues that are the direct result of overdependence on overseas markets. Labelled as a strategic technology sector for the EU⁵, photonics must be bolstered by tailored, fact-based, and proportionate policy measures. We must implement a European photonics strategy on critical materials, components and production. Only this can ensure resilient supply chains for the many industries where photonic technology is key.

We stand ready to engage with the EU institutions in shaping Framework Programme 10. We are fully convinced that Europe holds far greater potential in the global innovation race. To maintain its position as a model of economic and social prosperity, Europe must make bold and sustained investments in critical technological domains such as photonics. By committing to this vision, Europe will pave the way for a prosperous and sustainable future, ensuring that it remains at the forefront of global photonics innovation.

⁵ European Commission. 2023. "Horizon Europe strategic plan 2025-2027 analysis." <<https://data.europa.eu/doi/10.2777/637816>> (24.10.2024).



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