



THE PHOENIX RESEARCH AND INNOVATION PROJECT CONTINUES ITS JORNEY TOWARDS THE CREATION OF PHOTONIC INTEGRATED CIRCUITS FOR THE NEXT GENERATION OF ENCRYPTION AND COMPUTING HARDWARE

Press Release: Advancing Photonic Technologies – PHOENIX Project Reaches New Milestones

The PHOENIX project continues to make groundbreaking advancements in ferroelectric photonics, unlocking novel functionalities and enhancing the performance of next-generation photonic integrated circuits (PICs). Supported by the European Union's Horizon Europe Program, the project aims to revolutionize key areas like neuromorphic computing and photonic memory.

Key Achievements:

- **Breakthrough VO₂ Integration:** Successful optimization of VO₂ integration into SiN/BTO waveguides, paving the way for scalable and energy-efficient devices.
- **Scientific Milestones:** Recent publications include advancements in photonic memory and neuromorphic computing:
 - *npj Nanophotonics:* Demonstrating photonic memory with record endurance and ultra-low energy consumption.
 - *Optical Materials Express:* Introducing a VO₂/Si spiking device for compact, scalable neuromorphic computing.
- **Collaborative Progress:** Partners have advanced the etching and patterning of VO₂ films, achieving exceptional performance metrics.



Recent and Upcoming Highlights:

- **M24 General Meeting:** Successfully hosted by UPV-NTC in Valencia, where partners discussed deliverables and challenges.
- **ECIO 2025:** PHOENIX will be attending at the European Conference on Integrated Optics in Wales (June 23–25, 2025).

The PHOENIX consortium is committed to driving innovation in photonic memory and neuromorphic computing, laying the foundation for future encryption and computing technologies.

PHOENIX Consortium



IBM Research Europe



Contact: Jean-Pierre Locquet

Project Coordinator – jeanpierre.locquet@kuleuven.be

Follow PHOENIX project on social media

