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Advanced GeSi components for next-generation silicon photonics applications

SiPho-G

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Deliverable report

D1.1- First Project Activity Report

Disclaimer/ Acknowledgment

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About SIPHO-G

By developing 100Gbaud Germanium-Silicon (GeSi) Quantum-Confined Stark-Effect (QCSE) modulators and highly sensitive 100Gbaud avalanche photodetectors (APD), SIPHO-G will bring breakthrough optical modulation and photodetection capability to the world of Silicon Photonics. The newly developed compact, waveguide-coupled modulator and detector building blocks will be monolithically integrated in a high-yield cutting-edge 300mm Silicon Photonics platform, propelling the bandwidth density, power efficiency, sensitivity and complexity of silicon photonic integrated circuits to the next level. Supported by an elaborate simulation and design enablement framework, SIPHO-G will demonstrate an extensive set of application-driven prototypes across the O-band and C-band.

By bringing together the entire Silicon Photonics value chain, SIPHO-G will accelerate the development of next-generation co-packaged optics, long-haul optical communications, as well as emerging PIC applications such as optical neuromorphic computing, with performance levels of 4x-20x beyond current state of the art.

SIPHO-G consortium members

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This deliverable describes the activities during the first 18 months of the SiPho-G project.