

Wave Photonics Acquires Phoelex Chiplet IP to Power Datacoms & AI Growth

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Wave Photonics, Cambridge-based integrated photonics startup, has acquired the intangible assets of Phoelex Ltd, including key IP on energy-efficient modulator designs, driving and control circuits, and equaliser circuit designs.

Wave Photonics will use this IP to serve customers in the optical interconnect market, which is expected to grow rapidly, driven by the demand for high-bandwidth, energy-efficient communication within datacentres – a requirement for the training of the AI models required for agentic AI.

This news comes days after NVIDIA announced its Spectrum-X Photonics, Co-Packaged Optics Networking Switches, highlighting the importance of silicon photonics to address the continued exponential growth in demand for bandwidth required to train large models.

Phoelex developed cutting-edge chiplet-based technology, applicable to both pluggable optical transceivers and co-packaged optics (CPO) solutions. A key element of these designs is an innovative low-power modulator that can be driven directly from a CMOS chip, as well as the required driving circuit IP, with photonic chips validated at multiple foundries.

The company also developed energy and space-efficient equaliser IP and ultra-energy-efficient, low-latency die-to-die interface IP with 0.1pJ/bit efficiency.

Aidong Xu, Wave Photonics' Head of Business Development and former head of semiconductors at Cambridge Consultants (deep tech powerhouse of Capgemini), said "The technology would be an enabler for a system chip development that heterogeneously integrates the key function blocks into a system-in-package architecture, combining both electronics and photonic devices to meet the performance, size and energy efficiency requirements."

About Wave Photonics

Wave Photonics, based in Cambridge, UK, develops cutting-edge design technology to drive the advancement and mass adoption of integrated photonics. The company uses a fabrication-aware computational model, to facilitate the rapid development of PIC designs. The company empowers engineers to design their chips for a wide range of wavelengths and many challenging applications including telecom/datacom, space-comm, sensing, quantum, optical computing, and diagnostic and healthcare sensing.

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