



Soitec contributes to accelerated development of integrated optical connectivity solutions for AI datacentres with its silicon photonics SOI technology

- **Industry development of co-packaged optics (CPO) accelerating towards commercialisation**
- **CPO chip architectures directly integrate photonics for up to 30% energy saving**
- **Soitec, a leader in SOI wafers for photonics, joins key industry alliance**

Bernin (France), March 19, 2025 – Soitec (Euronext – Tech Leaders), a world leader in the design and production of innovative semiconductor materials, welcomes recent industry steps to accelerate development and commercialisation of co-packaged optics (CPO) solutions for datacentres.

The rapidly rising data requirements of AI and high-performance computing (HPC) are driving demand for silicon photonics-based CPO architectures, which integrate optical connectivity directly into processor housings or 'packaging', increasing both bandwidth and energy-efficiency.

Recent industry initiatives to accelerate the commercialization of co-packaged optics include the unveiling of NVIDIA's first CPO products, *Spectrum-X* and *Quantum-X*, on March 18, 2025. These innovations will be integrated into the next generation of NVIDIA servers designed for AI cloud infrastructure. These announcements follow the earlier introduction of groundbreaking CPO products and demonstrators by Broadcom, Intel, and Marvell.

Processor architectures are being overhauled as growing data demand pushes them to current limits and drives higher electricity consumption. For datacentres, CPO adoption enables energy savings of around 30% compared with current optical transceiver-based solutions.

Soitec is at the forefront of the transition from electrical to optical interconnects. CPO components are reliant on specialist silicon-on-insulator (Photonics-SOI) substrates, in which Soitec is a leader. With its two decades of experience in Photonics-SOI and industrial capacity to scale the technology, Soitec is uniquely placed to support market demand while maintaining high performance and reliability.

Pierre Barnabé, Soitec Chief Executive Officer, said:

"The coming shift to CPO-based datacentre architectures is a major opportunity for Soitec's advanced semiconductor materials, which already offer significant energy-efficiency and performance gains in applications ranging from mobile and wireless connectivity to electric cars. The latest industry initiatives and announcements show that momentum for widespread CPO adoption is building. This is further evidence that our strategic investments in innovation and technological diversification are paying off."

Soitec today separately announces that it has joined the SEMI Silicon Photonics Industry Alliance (SEMI SiPhIA), a group of more than 100 semiconductor industry partners, with TSMC and ASE

serving as the alliance's advocates. The alliance's mission is to drive silicon photonics innovation and applications, advance industry standards, and foster knowledge-sharing, resource integration, and technical exchange. Through its membership, Soitec will contribute to strengthening supply chain partnerships and fostering international collaboration on the deployment of key next-generation technologies, including CPO.

About Soitec

Soitec (Euronext - Tech Leaders), a world leader in innovative semiconductor materials, has been developing cutting-edge products delivering both technological performance and energy efficiency for over 30 years. From its global headquarters in France, Soitec is expanding internationally with its unique solutions, and generated sales of 1 billion Euros in fiscal year 2023-2024. Soitec occupies a key position in the semiconductor value chain, serving three main strategic markets: Mobile Communications, Automotive and Industrial, and Edge and Cloud AI. The company relies on the talent and diversity of its 2,300 employees, representing 50 different nationalities, working at its sites in Europe, the United States and Asia. Soitec has registered over 4,000 patents.

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