

Belgian Silicon Photonics Technology

Article Overview

Belgium is a leading hub for silicon photonics, combining advanced research, innovative startups, and production-scale foundries to drive integrated photonic chip development.

Key Companies and Startups

Belgium hosts a dynamic ecosystem of silicon photonics companies. Thema Foundries, located in Oudenaarde, is Europe's only dedicated backend photonics foundry, enabling production-scale on-chip laser integration and testing for AI, data centers, and telecommunications applications . Swave Photonics, based in Leuven and Silicon Valley, specializes in holographic chips and diffractive photonics, targeting ultra-high-resolution displays for AR, VR, and the metaverse . Other notable players include Luceda Photonics, which provides photonic design platforms for integrated circuits, and Spectricity, which develops CMOS-based spectral sensing solutions relevant to silicon photonics .

Research and Innovation Ecosystem

Belgium's silicon photonics sector benefits from a strong research ecosystem, anchored by institutions like imec, UGent, and TU Eindhoven, fostering collaboration between academia and industry . This ecosystem supports innovation in photonic integrated circuits (PICs), silicon nitride photonics, and advanced optical systems, enabling applications in interconnects, sensing, and computing.

Manufacturing and Production...



Article Content

Jun 16, 2026

photonixFAB

Project Partners The photonixFAB consortium is made up of major public and private enterprises, plus highly respected research institutes – all focusing on the development and

Mar 29, 2026

photonixFAB

The objective of this EU-funded project is to establish a European photonics device value chain and initial industrial manufacturing capabilities, providing a path to scalable high-volume

Jun 09, 2026

Silicon photonics now part of Huawei, imec partnership

Huawei has now joined imec's silicon photonics research program and will work with R& D team in Leuven, Belgium, on such areas as optimizing bandwidth density, power consumption, thermal ...

Apr 16, 2026

Ghent University: Master of Science in Silicon Photonics

Silicon photonics is a technology that uses silicon-based materials to manipulate and transmit light signals in a reliable, compact and cost-effective way. This advanced master programme

Aug 11, 2025

Lithuania's Brolis establishes R& D division for silicon photonics in ...

Brolis Semiconductors of Vilnius, Lithuania has established a new R& D division Brolis Semiconductors BVBA in Ghent, Belgium. The new Belgian entity will focus on the design and

Feb 24, 2026

Thema Foundries | Europe's First Dedicated Backend Photonics Foundry

Thema Foundries is a dedicated integrated photonics foundry located in Oudenaarde, Flanders, Belgium. Situated near world-class research institutes like imec, UGent, and TU Eindhoven, Thema

Sep 28, 2025

LIGENTEC

LIGENTEC is a leading European manufacturer of Photonic Integrated Circuits (PICs) providing access to state-of-the-art technologies. We develop high

Oct 18, 2025

PhotonDelta – European Integrated Photonics Ecosystem

As a leading hub for the integrated photonics industry, the PhotonDelta ecosystem designs, develops and manufactures smart solutions.

Jan 10, 2026

O'Shenu Technologies

Streamline PIC characterization from R&D to production. O'Shenu Technologies, a silicon Photonics leader in Belgium. Manufacturing testing equipment and offers tailored SiPh testing services. Built

Jan 14, 2026

Spin-offs — NB-Photonics

The Photonics Research Group has been working on Silicon Photonics based fiber optic sensor technology and interrogators since 2009. A team of researchers from Ghent University together with

Sep 24, 2025

Photonics Research Group

20/08/2025: PhD-defense Zhongtao Ouyang "Ultra-Compact and Low-Threshold Nano-Ridge Lasers Epitaxially Grown on Silicon" 19/09/2025: NB-Photonics seminar by Prof. Nils Gerhardt (Paderborn)

Sep 16, 2025

Integrated photonics

Our in-depth silicon photonics technology and design knowledge is supported by our expertise centers in advanced material and component analysis, modeling, metrology, reliability, process steps, systems

Jun 17, 2026

Photonics Research Group

Postdoc: Photonic Integrated Solid-State Lasers for Quantum Systems and Metrology
Project Coordinator: Coordinator & Content Creator for On-line Course in Photonics

Jun 09, 2026

Roadmapping the next generation of silicon photonics

Silicon photonics has developed into a mainstream technology driven by advances in optical communications. The current generation has led to a proliferation of integrated photonic devices from ...

Feb 27, 2026

Thema Foundries | Europe's First Dedicated Backend Photonics Foundry

Situated near world-class research institutes like imec, UGent, and TU Eindhoven, Thema is deeply integrated within the Flanders photonics ecosystem, alongside key players such as Luceda

Sep 11, 2025

Top 23 Semiconductor Companies in Belgium

Top 23 Semiconductors Companies in Belgium 1. Pharrowtech Website: pharrowtech Ownership type: Venture Capital Headquarters: Leuven, Flanders, Belgium Employee distribution: Belgium 94%,

Jun 25, 2026

Fully-integrated, single-chip microwave photonics system | imec

LEUVEN (Belgium), June 5, 2025 — This week, the Photonics Research Group and IDlab, two imec research groups at Ghent University, and imec, a world-leading research and innovation hub in

Feb 23, 2026

Silicon photonics

Discover STMicroelectronics' advancements in silicon photonics technology, driving innovation in high-speed data communication and optical connectivity solutions.

May 14, 2026

Pioneering photonics business to be built on site of former BelGaN ...

While BelGaN focused on GaN chips, the new company is focusing on integrated photonics. This involves using light particles – photons – instead of electrons to transport and

Nov 30, 2025

X-FAB Leads EU-funded Consortium to Industrialize the European Silicon ...

Tessenderlo, Belgium – June 14, 2023 The photonixFAB project aims to empower photonics innovation by SMEs and large entities by providing low barrier access to both low-loss

Jun 22, 2026

First European photonics plant boosts Belgian chip

A Belgian entrepreneur is set to invest hundreds of millions of euros to establish a cutting-edge photonic chip centre in Flanders, a move expected to

Apr 08, 2026

STARLight Project chosen as the European consortium to take the

With well-recognized pan-European partners, the STARLight consortium is set to lead the next generation of silicon photonics technologies and applications," said Remi El-Ouazzane,

May 18, 2026

Open-Access Silicon Photonics Platforms in Europe

(Invited Paper) Abstract—Offering open-access silicon photonics-based technologies has played a pivotal role in unleashing this technology from research laboratories to industry. Fabless enterprises

Dec 01, 2025

First European photonics plant boosts Belgian chip industry

New Photonics will supply cutting-edge laser technology essential for photonic applications, while Ghent University's renowned photonics research group is also involved. This

Jul 13, 2026

The revolution of silicon photonics

The success of silicon photonics is a product of two decades of innovations. This photonic platform is enabling novel research fields and novel applications ranging from remote

Apr 17, 2026

Top 100 Photonics Companies in Belgium (2026) | ensun

The company focuses on integrated photonics development, offering advanced silicon and silicon nitride photonics technologies that enhance interconnect, sensing, and computing applications.

Contact Us

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