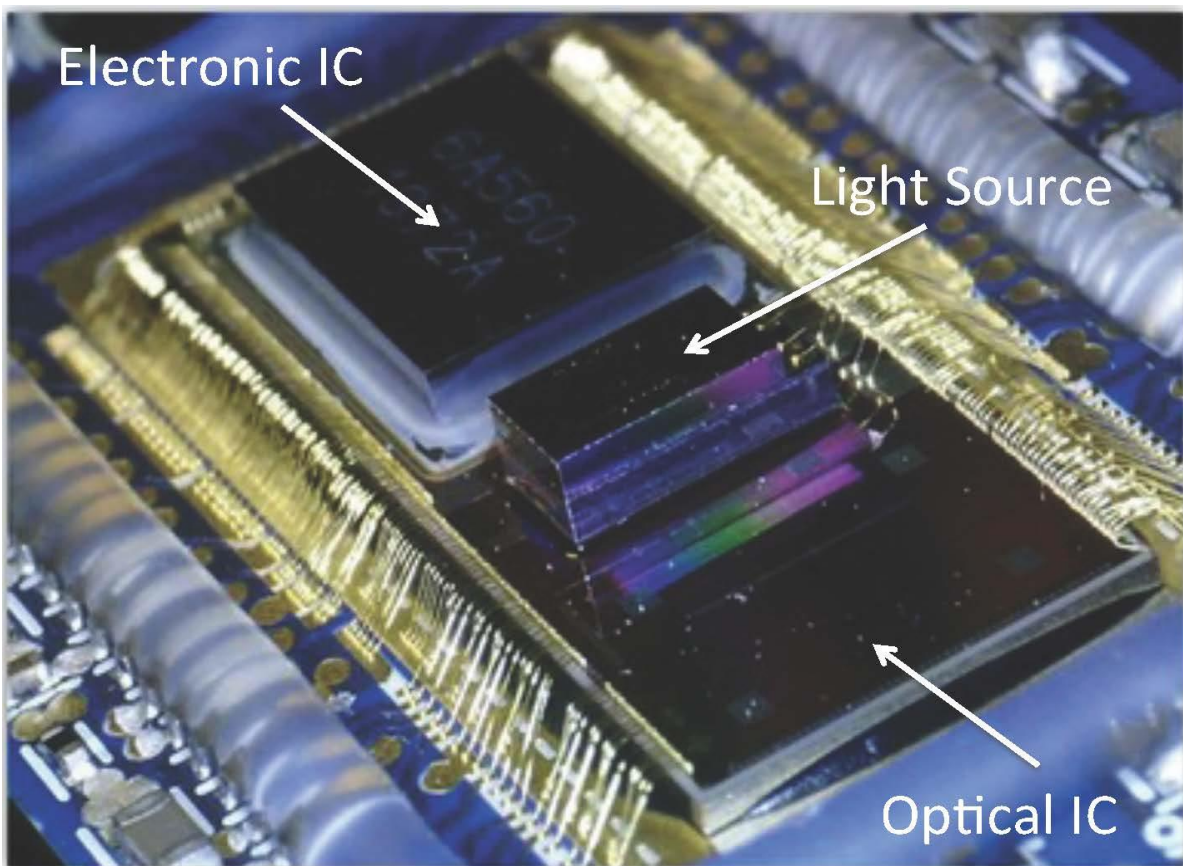


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Abstract

The potential impact of photonic integration on the optical communications market has captivated the imagination of the industry for the last two decades. Recent successes by vendors in developing products using silicon photonics (SiP) integration technology has led to several mergers and high-value acquisitions in 2012-2018. Sales of SiP-based products started to ramp in 2014 and reached close to \$1 billion in 2018 – up by 18% from 2017 – pretty impressive considering that SiP products account for only one percent of transceiver units shipped globally.

It is clear by now that optical integration technologies, including SiP, are having a very significant impact on the market. The question is whether SiP-based products can replace those made from more mature indium phosphide (InP) and gallium arsenide (GaAs) materials, which dominated the market over the last decade and already enable a variety of integrated products. Can SiP technology reduce manufacturing cost of optics or redefine business models of suppliers? Can it enable new functionality or reduce power consumption of optical connectivity by more than a factor of 10? These and many other questions are addressed in this study.

This report provides an in-depth analysis of the impact made by integration on the market for optical transceivers and related components in 2010-2018. It also presents a forecast for shipments and sales of discrete and integrated products based on InP, GaAs and SiP technologies for 2019–2024. The forecast is segmented by main applications, including Ethernet, WDM, Active Optical Cables (AOCs) and Embedded Optical Modules (EOMs) and a few others. Products are sorted by data rate, reach, and form factor into more than 150 categories.

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LightCounting is a market research company focused on the in-depth study of high speed interconnects for the datacom, telecom, and consumer communications markets. Our research covers the whole supply chain from optical and semiconductor components, to modules, sub-systems and their applications in telecom and datacom systems.

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