A- A A+

BW BUSINESSWORLD

Home / Technology / 'The Big Moat In Photonics Is The Knowledge And The Know-How': Clou

'The Big Moat In Photonics Is The Knowledge And The Know-How': CloudPhotonix CEO

Priyanshu Priya Aditi Das Oct 10, 2026

Tarun Sibal # CloudPhotonix # photonics # optical transceivers # 100G # 400G # 800G # AI data centres # R&D # India manufacturing

Tarun Sibal says India needs stronger technical capabilities, better market access and a deeper domestic supply chain as CloudPhotonix works on 100G optical transceiver designs and prepares for higher-speed testing



India's photonics industry needs to strengthen its technical capabilities, improve access to specialised components and create better market opportunities for domestic manufacturers, Tarun Sibal, Founder and CEO of CloudPhotonix, told BW Businessworld.

"The big moat in photonics is not the money that you throw at it. The big moat in photonics is the knowledge and the know-how," Sibal said at the sideline of India Mobile Congress 2026, highlighting the specialised expertise required to develop optical transceivers and bring them to market.

CloudPhotonix is working on 100G optical transceiver designs and building testing capabilities for 400G and 800G technologies. Sibal said the company was targeting alpha versions of its 100G designs and testing capabilities for the higher-speed technologies by 2027, subject to progress.

"For 2027, I think if all goes well, we will certainly have our 400, 800G testing in place," he said. The company is importing equipment to establish the testing capabilities and constructing a new research and development (R&D) centre, he added.

Building Photonics Expertise

Sibal identified skilled personnel, component availability, specialised infrastructure and market access as key challenges for India's photonics industry. He described the sector as nascent in India, despite progress in other markets.

Developing technical expertise requires companies to invest in training and capability building. "We currently are recruiting young people, training them on our own time, and developing that expertise in-house, which is difficult and time-consuming, but it has to be done," Sibal said.

Access to components is another challenge, particularly as optical networking moves towards higher speeds. Sibal said digital signal processors (DSPs), required for 400G and 800G applications, are concentrated among a limited number of suppliers, while many components still need to be imported. "It's not just about paying money and getting access to the component," he said.

Developing an optical transceiver involves integrating components, embedding software, testing performance and carrying out calibration and tuning. Sibal said these processes require specialised knowledge that companies must develop internally rather than simply purchase off the shelf.

CloudPhotonix has an R&D facility in Bengaluru, an R&D centre in Noida and manufacturing operations in Noida. The company is also working with overseas teams while training local personnel to develop its capabilities, Sibal said.

Localising The Supply Chain

India could begin expanding domestic photonics manufacturing through components such as printed circuit boards (PCBs), housings and dust plugs, Sibal said. However, he cautioned that localisation efforts need to account for how quickly technology changes.

He said the industry sees new developments every 16 to 18 months, making it important to identify components and technologies that can remain relevant as product generations evolve. "What should actually happen is that to embed that, you need to start at the core. So you don't follow a product, but you follow the technology," Sibal said.

Sibal pointed to silicon photonics, co-packaged optics and near-packaged optics as areas under active discussion. In his view, India needs to identify components that can serve multiple applications and sustain demand over a longer period, rather than build manufacturing capacity around products that could become outdated as technology advances.

Market access is another concern for domestic suppliers. Sibal said Indian manufacturers can find it difficult to compete when locally made products cost more than alternatives available internationally, particularly while domestic companies are still developing scale and manufacturing capabilities. "Some sort of a preferential market access is a very big area. Not allowing bundling, I think, is another area," he said.

Sibal cited commercial arrangements in which switch and router suppliers encourage customers to buy transceivers from them as well, sometimes linking the purchase to warranty considerations. He argued that independent optical transceiver manufacturers should be able to compete without being tied to purchases of other networking equipment.

Capturing Data Centre Value

Sibal said international and domestic data centre operators present different opportunities for Indian photonics suppliers. International operators often rely on established overseas vendor networks, while domestic operators may have greater flexibility in choosing their network architecture and suppliers.

He argued that India should seek to capture more value from the technology supply chain as data centre investments expand, rather than focus only on providing land, buildings, electricity and water.

"The real value in the DC is the allied networking," Sibal said, referring to the wider ecosystem of optical fibre, photonics equipment, servers, server racks, routers and switches that supports data centre operations.

He also called for data centre planning to account for power consumption, water availability and cooling requirements. Sibal said industrial clusters could help bring more parts of the supply chain together, allowing India to build technical expertise and manufacturing capacity alongside physical infrastructure.

R&D Investment And Tax Relief

CloudPhotonix is investing in R&D and manufacturing infrastructure, with testing and automation forming a significant part of its capital expenditure. Sibal said the company was three years old and had directed more than half of its spending towards R&D so far.

"Right now we are a very small outfit, we are 3 years young and I would say that over 50% has gone into R&D at this point in time," he said. He explained that the company was developing both its R&D and manufacturing capabilities. Its manufacturing operations require automation, traceability and quality checks at different stages, while its product development work includes 100G designs and testing infrastructure for 400G and 800G technologies.

Sibal also called for GST and import duties on equipment used for research and development to be exempted or waived, arguing that the upfront tax burden can constrain working capital at companies investing heavily in technology development.

"GST and import duties on equipment used for Research & Development should be exempted or waived to prevent the blockage of working capital. The upfront tax burden can significantly strain cash flows, particularly for R&D-intensive companies, and may limit their ability to invest in innovation, technology, and further research," he said.

Bootstrapping For Growth

CloudPhotonix is currently relying on bootstrapping and patient capital, although Sibal said the company remains open to funding. He said it was not actively pursuing investment simply to increase its capital base, preferring to focus on meeting its development and business milestones. "We have been reticent to just bring on capital for capital's sake," he said.

Sibal said the company would consider raising funds at the appropriate time but wanted to retain the flexibility to pursue its immediate priorities. These include advancing its 100G designs, bringing testing equipment into operation and establishing the infrastructure required for 400G and 800G testing.

Looking ahead, Sibal said the company wanted to establish a leading position in India's photonics industry. "In the next 5 years I hope to lead the photonic space in India," he said.



Priyanshu Priya

BW Reporters

The author is trainee correspondent at BW Businessworld.



Aditi Das

BW Reporters

The author is a Trainee Correspondent at BW Businessworld. She is a postgraduate with a passion for research and storytelling. Curious by nature, she enjoys writing and exploring new ideas and perspectives.

Share

Also Read



Dark.ai To Offer Encrypted AI Memory, Target Global Launch This Year: Deepinder Goyal

5 min(s) read



OpenAI Says AI Agents Weakened Internal Safety Monitoring Systems

2 min(s) read



Musk Backs SpaceX-Tesla Merger As Companies Set Up Panels To Explore Deal

2 min(s) read



AI Agents Make Security A Fundamental Engineering Problem: Huang

3 min(s) read



Karmayogi Bharat, OpenAI Sign Pact To Build AI Skills Among Civil Servants

2 min(s) read



AI Partnerships May Not Lift IT Stocks Without Revenue Growth: Report

3 min(s) read

Breaking News

Economy

Global Headwinds, Demand Slowdown: Are India's SEZs Losing Their Sheen?

8 min(s) read

Opinion

2024 & Ahead: Indian Economic Outlook

7 min(s) read

Companies & Markets

2023's Financial Roller Coaster: Experts Anticipate 2024 Opportunities

4 min(s) read

World

More Than 20 Rockets Fired At Israel In Midnight Barrage By Hamas

3 min(s) read

Governance

Drugs Worth Rs 50 Lakh Seized In Mumbai On New Year's Eve, 1 Held

1 min(s) read

Sports

David Warner Retires From ODI Cricket, Leaves Door Open For Champions Trophy 2025

2 min(s) read

World

Congo Presiden

2 min(s) read

World

Maersk Halts R Container Ship

3 min(s) read

Companies & Marke

Fidelity Marks D Controversial St

1 min(s) read

Tech

Isro Rings In Ne

2 min(s) read

Trending News

Economy Jan 01, 2024
Global Headwinds, Demand Slowdown: Are India's SEZs Losing...
8 min(s) read

Opinion Jan 01, 2024
2024 & Ahead: Indian Economic Outlook
7 min(s) read

Companies & Markets Jan 01, 2024
2023's Financial Roller Coaster: Experts Anticipate 2024...
4 min(s) read

World Jan 01, 2024
More Than 20 Rockets Fired At Israel In Midnight Barrage By...
3 min(s) read

Governance Jan 01, 2024
Drugs Worth Rs 50 Lakh Seized In Mumbai On New Year's Eve, 1...
1 min(s) read

Sports Jan 01, 2024
David Warner Retires From ODI Cricket, Leaves Door Open For...
2 min(s) read

World Jan 01, 202
Congo Presider

World Jan 01, 202
Maersk Halts R

Companies & Marke
Fidelity Marks D

Tech Jan 01, 202
Isro Rings In Ne

BW Businessworld Print Edition



India's Hottest Entrepreneurs

View all editions

Buy now

Subscribe to our newsletter to get updates on our latest news

SUBSCRIBE

BW BUSINESSWORLD

partner@businessworld.in

+91 981-8063-325

DPT 805, DLF prime tower, Okhla Industrial Area, Okhla, New Delhi

News
Columns
Interviews
Opinion

Communities
BW TV
BW IPs
BW Businessworld
Print Edition

About Us
Contact us
Privacy Policy
Terms & Conditions
Sitemap
POSH Policy

© Copyright BW BUSINESSWORLD 2026. All Rights Reserved.