

# Focusing on niche areas in semiconductors: Vaishnaw

Minister says India can emerge as a global leader in this category

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The government has decided to focus on “niche” opportunities in the semiconductor space, including chips based on gallium nitride or silicon carbide (also called compound semiconductors), where it believes it can quickly emerge as a “global leader”.

Chips powered by these processes are seeing huge growth globally as they are required in a number of sectors, such as automobile, railways, aircraft, telecom equipment, LED applications, and power electronics.

Speaking to *Business Standard*, Ashwini Vaishnaw, minister for communications, electronics & information technology, who went to Sanand,

## RISING DEMAND

- ▶ Compound semiconductors are made from two or more elements
- ▶ Promising combinations include gallium nitride (GaN), silicon carbide (SiC), and gallium arsenide (GaAs)
- ▶ They save energy and operate on low voltage compared to silicon, leading to a growing demand
- ▶ Resistant to heat, hence useful in power electronics



Ashwini Vaishnaw, Union minister for electronics and IT ▶

**NO PLAN ON OTTs SHARING REVENUE WITH TELCOS: GOVT**

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Gujarat, on Saturday for the groundbreaking ceremony of Micron’s \$2.75 billion ATMP (assembly, testing, marking and packaging) facility, said: “We will now be focusing a lot on niche areas in semiconductors, like

chips based on gallium nitride or silicon carbide where we can emerge as global leaders. These units are faster off the ground and have a huge demand in an array of industries in India and globally.” Turn to Page 6 ▶

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## Vaishnav...

Compound semiconductors have been used in radio frequency applications for years, but now they are being used to replace silicon in several industries, leading to a surge in demand.

The focus on niche semiconductor opportunities is significant because the global market value of compound semiconductors crossed \$43.23 billion in 2022 (the total market value of semiconductors is around \$570 billion) and is expected to hit \$119.13 billion by 2030, according to Precedence Research, a worldwide market research organisation.

Compound semiconductors are quicker to start production — 18 months compared to three to four years for a silicon-based fab plant. In addition, there is a global demand for them across segments. Many companies are willing to come into the space, and analysts say that they usually need much less investment compared to a silicon fab plant, which requires a minimum investment of \$5-7 billion.

Earlier, the government was focusing primarily on getting at least two big silicon fab plants in the country. But that decision came at a time when there was a global race for manufacturing semiconductors. Companies like TSMC, GlobalFoundries, Intel, Samsung, and Texas Instruments have collectively committed \$200- \$250 billion in new plants across the US, Europe, South Korea, among others.

Experts have argued that India should replicate the Malaysian (Penang) model and look for a niche area like the former has done by becoming one of the hubs for ATMP and the outsourced semiconductor assembly and test (OSAT) business. About 40-50 semiconductor companies have set up units there, with revenues of over \$15 billion in 2023.

The government is already in discussions with global as well as

domestic companies that are looking at these opportunities. Taiwanese company Foxconn, after walking out from its joint venture with Vedanta to build a traditional silicon-based fab plant, is in talks to set up units based on these two compound semiconductor technologies.

Analysts say the move makes sense for Foxconn, which, apart from entering the electric vehicle space as an electronics manufacturing services player globally, also has a requirement of \$40 billion worth of chips every year.

US-based Silicon Power is also looking at setting up compound semiconductor plants based on silicon carbide, confirmed CEO Harshad Mehta. He added that the company was in preliminary talks with the Tatas for supplying semiconductors for their requirements in aerospace and defence.

## Udaan...

When contacted, an Udaan spokesperson declined to comment.

Last year, Udaan raised a total of \$350 million in convertible notes and debt from shareholders and bondholders, with no change in valuation. Udaan was valued at \$3.1 billion in its last equity funding round of \$289 million in January 2021 from existing and new investors.

Given the current funding scenario where large rounds are rare, this exercise, once completed, will bolster the balance sheet of the company and support its IPO plans, according to sources. This would also support the continued strong growth momentum that Udaan has been witnessing for the last few quarters.

Udaan has maintained its leadership in the B2B e-commerce category, with the company almost hitting the ₹10,000-crore revenue mark in FY22.

## Bharat Bio...

He added Bharat Biotech had always been a profitable company

