

CALL FOR PROPOSAL

“Empowering Indigenous Technologies for Sustainable Semiconductor Supply Chain”

About Technology Development Board (TDB)

TDB provides financial assistance to Indian industrial concerns and other agencies, attempting development and commercial application of indigenous technology, or adapting imported technology to wider domestic applications.

TDB's goal is to make the weak zone of technology development and commercialization strong in selected sector by supporting technology development in the industry with short-, medium- and long-term risk horizon.

Background of call for proposal

Semiconductors are the crucial building blocks of all the electronics we came across in our daily life. The semiconductor industry comprises of companies which design, fabricate, package, assemble, test, and supply semiconductors that are suitable for numerous applications. As per a study, the global semiconductor market size was valued at USD 611.35 billion in 2023 and is projected to grow from USD 681.05 billion in 2024 to USD 2062.59 billion by 2032, exhibiting a CAGR of 14.9% during the forecast period of 2024-2032. ([Study here](#))

Technology solutions positively impacts the lives of 1.3 billion Indian citizens that's why the semiconductor sector is vital for India's economic and social progress, as semiconductor enables innovation and value creation across domains such as healthcare, education, agriculture and defense.

India already constitutes important players in semiconductor industry as roughly 20% of global semiconductor chip design activities are carried out in India, but India aspires to achieve a much-greater global footprint in semiconductor production and value chain activity, particularly by building on its strengths in chip design to expanding its semiconductor fabrication, test and packaging footprint.

As per a study, India's semiconductor market, was valued at USD 34.3 Billion in 2023 and is expected to reach USD 100.2 Billion by 2032, at a CAGR of 20.1% during the forecast period 2023 – 2032., ([Study here](#)). Analysts also anticipate India will command at least a 10% share of the global semiconductor market.

India's competitiveness will depend on building of sectoral ecosystems and to support this, TDB is introducing the above program which will give an impetus to the suppliers of semiconductor design, fabrication, testing and packaging units by facilitating capital support and technological collaborations.

The Call for Proposal

Aligning with the national requirement and focus in the semiconductor sector, Technology Development Board (TDB) issue a 'Call for Proposal' inviting applications from Indian companies having innovative/indigenous technologies at commercialization stage in this emerging sector. The call includes companies with innovative/indigenous technologies for gases, chemicals, polymers, metals, ceramics, wafers, equipment, instruments, Artificial Intelligence (AI) driven Electronic Design Automation (EDA) tools etc. required for the functioning of semiconductor industry. The eligibility criteria and financial support are as per the TDB guidelines. ([TDB guidelines here](#))

Some examples of the products (but not limited to) TDB intend to support are as follows:

- **Gases:** Like SF₆, BCl₃, N₂, Ar, O₂, H₂, SH₄ etc. with semiconductor grade purity.
- **Chemicals:** Like CMOS grade IPA, Acetone, TMAH, photoresist removers, photoresist developers etc.
- **Polymers:** Like photoresist, packaging molding compounds etc.
- **Metals:** Metals for semiconductor package lead frame, heat sink, solder ball, sputter targets etc.
- **Wafers:** From 2 inch to 12-inch wafers for GaN, SiC, Al₂O₃ etc.
- **Equipment, instruments or their parts:** Mass flow controllers, vacuum pumps and gauges, valves and fittings, RF generators and other systems or components of semiconductor fabrication and packaging equipment, etc.
- **Artificial Intelligence (AI) driven Electronic Design Automation (EDA) tools:**

Between Chip ideation to tap-out, every step can be co-developed with the AI with less manpower and time. With the continuous evolution of chip architecture and ongoing technological advancements, the race for smaller and more efficient chips is pushing traditional design and verification techniques to their limits, rendering semiconductor design more complex than ever. Using AI, electronic design automation tools can significantly enhance power efficiency, performance, and chip area.

A study predicts that the world's leading semiconductor companies spend USD 300 million on internal and third-party AI tools for designing chips in 2023, and that number will grow by 20% annually for the next four years to surpass USD 500 million in 2026. ([Study here](#)). It's time for Indian companies too should ramp up investments for this upcoming market shift in the semiconductor design industry.

Companies involved in development/manufacturing of gases, chemicals, polymers, metals, ceramics, wafers, instruments, AI driven EDA tools etc. for semiconductor industry are invited to apply through the below link for the above call for proposal.

For queries and further details contact:

Email: gaurav.garg@tdb.gov.in

Phone: 011-26511183

Last Date to apply is 30 Sep 2024