



Can India become a global semiconductor hub?

Description

Theme:

- In December 2021, the Indian government has approved Rs. 76,000 crore (\$10 billion) production linked incentive (PLI) scheme to attract semiconductor and display manufacturers. India wants to achieve self-reliance in semiconductor development. Moreover, it is aiming to become a global semiconductor hub. India announced the setting up of a specialized and independent “India Semiconductor Mission (ISM)” to develop a sustainable semiconductor and display ecosystem.
- But the Russia-Ukraine war created a scarcity of raw materials such as neon gas and palladium, which are used in semiconductor manufacturing. So, this may delay India’s semiconductor dream.

Yes – India can become a global semiconductor hub:

- Semiconductors are core components in manufacturing electronic devices. They are essential in many sectors such as automobile, healthcare, defence etc. Basic examples are smartphones and televisions, which we use every day. As the usage of electronic devices is increasing continuously, the global demand for semiconductors is also increasing. Several countries including the US, and Japan are trying to leverage this opportunity. India is also aiming to grab a share in the annual \$500-billion semiconductor business. By announcing the PLI package and also by approving Rs. 2,30,000 crore (\$30 billion) to make India the global hub for electronics manufacturing with semiconductors as the foundational building block, India took steps to attract semiconductor manufacturing companies into the country.
- Due to the disruption of supply chains during the pandemic and also reduced production due to COVID safety concerns, now there is a global semiconductor shortage. So, India has a lot of scope to utilize this opportunity and become a global hub for semiconductors.
- Several companies including TATA and Vedanta are investing in semiconductor manufacturing in India. As of now, there are proposals worth \$20.5 billion from five companies for setting up semiconductor and display fabrication units.

- Semiconductor manufacturing includes several steps such as – Research and development, design, Fabrication and Assembly, Testing, Marking, and Packing (ATMP) etc. India is planning to capture a big share in the ATMP segment. ATMP captures about 10% of the revenue of the semiconductor business. India has a huge advantage by having a low-cost skilled technical workforce.
- India is planning to set up 20 semiconductor design companies too to get a share in the semiconductor design business. The design captures 30 per cent revenue of the semiconductor business. Moreover, the design business is environmental-friendly.

Challenges:

- India imports some raw materials such as neon gas, C4F6, palladium, rhodium and titanium for semiconductor manufacturing from Russia and Ukraine. Due to the Russia-Ukraine war, the supply chain got disrupted. This created global scarcity for these raw materials and hence the prices were increased.
- The chip-making industry is electricity and water-intensive. Moreover, the semiconductor manufacturing process also releases toxic gases and chemicals.

Conclusion:

India can become a global semiconductor hub in the near future, now as India is more welcoming to chipmakers than ever before. India Semiconductor Mission (ISM) will develop a sustainable semiconductor and display ecosystem. But Ukraine crisis can delay India's semiconductor dream.

Your Turn...

Do you think India can become a global semiconductor hub? Express your thoughts on this topic through the comment section below. And subscribe to our blog to read answers to the trending GD topics.

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References:

- [India's plan to develop semiconductor ecosystem set in motion](#)
- [India can be a winner in semiconductors](#)
- [India's Semiconductor Pursuit](#)
- [India's semiconductor dream](#)
- [Ukraine crisis may hit India's global semiconductor hub dream](#)

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