1. Why India Need Deep-Tech start-ups

Context:

- One of the most common themes at tech summits held anywhere in the country is when India will see the emergence of technology giants such as Google, Tesla, and Microsoft.
- While TCS and Infosys have established themselves as the global powerhouses in the IT services space, there are no success stories from India when it comes to product innovation in deep technology.

India's Start-up Ecosystem:

- Though India's start-up ecosystem has been thriving for over a decade, the initial rush of investments has been into companies that are **merely replicating successful business models from the Silicon Valley,** primarily aimed at retail consumers.
- So we **have Flipkart,** which took **inspiration from Amazon;** Ola, which is similar to Uber; and Oyo, which started out as the Indian version of Airbnb.
- While all of these ventures are now well-established and have made services more convenient, Indian entrepreneurs have been slow to invest in ideas that involve deep tech.

Change in Ecosystem:

- The trends emerging from NASSCOM report on the country's tech start-up ecosystem indicate that things could be changing.
- There are two big shifts in the start-up space that are encouraging. First, start-ups are increasingly **driving focus towards the business-to-business (B2B) space.**
- And, more importantly, there has been rapid growth in the number of deep-tech start-ups. **Over 18 per cent of all start-ups are now leveraging deep tech,** in comparison, only **8 per cent of all start-ups** were involved in deep tech in 2014.

Why India desperately needs deep-tech start-ups:

- **Solutions based on deep tech solve real-life problems** in areas like healthcare, fintech, agriculture, and water management. India also has its share of challenges when it comes to food, energy, water and national security.
- Then there are **issues related to affordability and access to utility** services, which may not be clearly understood by a multinational giant.
- A number of Indian start-ups are now beginning to focus on creating solutions using deep tech such as artificial intelligence, analytics, augmented reality/virtual reality and the Internet of Things, among others.

- **Deep-tech companies can offer alternative job opportunities** to our engineers who were sought after by multinational tech companies but are now finding it difficult to move to research labs located out of the country due to tough visa norms.

- India has one of the **highest numbers of STEM (Science, Technology, Engineering and Mathematics) graduates** and local deep-tech **companies offering opportunity to work on cutting edge platforms** can keep the talent within our shores.

- **Indian deep-tech companies will help secure the country's data sovereignty.** Access to data is knowledge and knowledge is power.

- From the massive data breach at Facebook to the online attack using spyware Pegasus that allowed hackers to get access to communication on WhatsApp — there are many examples of how data can be misused.

- Countries around the globe are thinking about how to secure citizens against such data theft. Russia, for example, is thinking about shutting down its Internet to foreign players, just like China has done.

Data localisation:

- Indian authorities have tried to address this concern by bringing in data localisation laws **that force multi-national financial companies to keep data related to Indian users within the country.**

- While the efficacy of such laws is yet to be proven, the concerns related to data localisation are genuine. One way of addressing it is to **create an environment that enables Indian deep-tech companies to flourish.**

Problem of Scale:

- The big worry, though, is that the current approach by policymakers and investors mostly focuses on bringing more people into starting up, but there is not much support for scaling up.

- These technologies can have a big impact, but take a long time to reach market-ready maturity, and require a significant amount of capital to develop and scale.

Conclusion:

- It is no longer enough in today's digital world to dominate just the IT services sector.

- India has to find its place in the global race to achieve tech leadership. Deep-tech platform companies are at the forefront of this battle.

Source: The Business Line