Semiconductor Chips Shortage

What is the issue?

From delayed car deliveries to a supply shortfall in home appliances to costlier smartphones, businesses and consumers are facing the brunt of an unprecedented shortage in semiconductor chips

Why did the chip shortage occur?

- Covid-19 pandemic and the subsequent lockdowns across the world forced shut crucial chip-making facilities
- Higher Demand for chips from laptop and electronic device-makers due to increased telecommuting and home
- Monopoly producers i.e South Korea dominate the chip-manufacturing industry
- Sanctions against Chinese tech companies
- US-China trade war
- Rollout of 5G infrastructure
- Panic buying to shore up stocks has driven up the costs of even the cheapest components of microchips
- A winter storm in Texas and a factory blaze at a Japanese fabrication unit

  As much as 63 % of global chip fabrication is today outsourced to Taiwan with just three firms from Taiwan, South Korea and China controlling over three-fourths of all fab supplies

What is its impact?

- Triggering a structural change in the procurement policies of global manufacturers
- Long-term supply contracts are being signed by automakers
- Firms like Samsung, Tata Group are sinking huge investments into semi-conductor production
- The US, Europe and China have committed billions in subsidy to on-shoring production

What option does India have?

- Since, chip fabrication is capital-intensive (an average sized facility costs $7-10 billion) with long gestation and rapid technology, it appears infeasible for India to strive for full self-sufficiency on chip fabrication
- But, government-owned semi-conductor facilities already operated by ISRO and DRDO can be expanded and upgradeed
- Attract global consumer electronics manufacturers by showcasing the high-potential consumer electronics market and skilled talent pool in R&D
- Production-linked incentive scheme will be an apt vehicle for this

Source : The Hindu, The Indian Express

