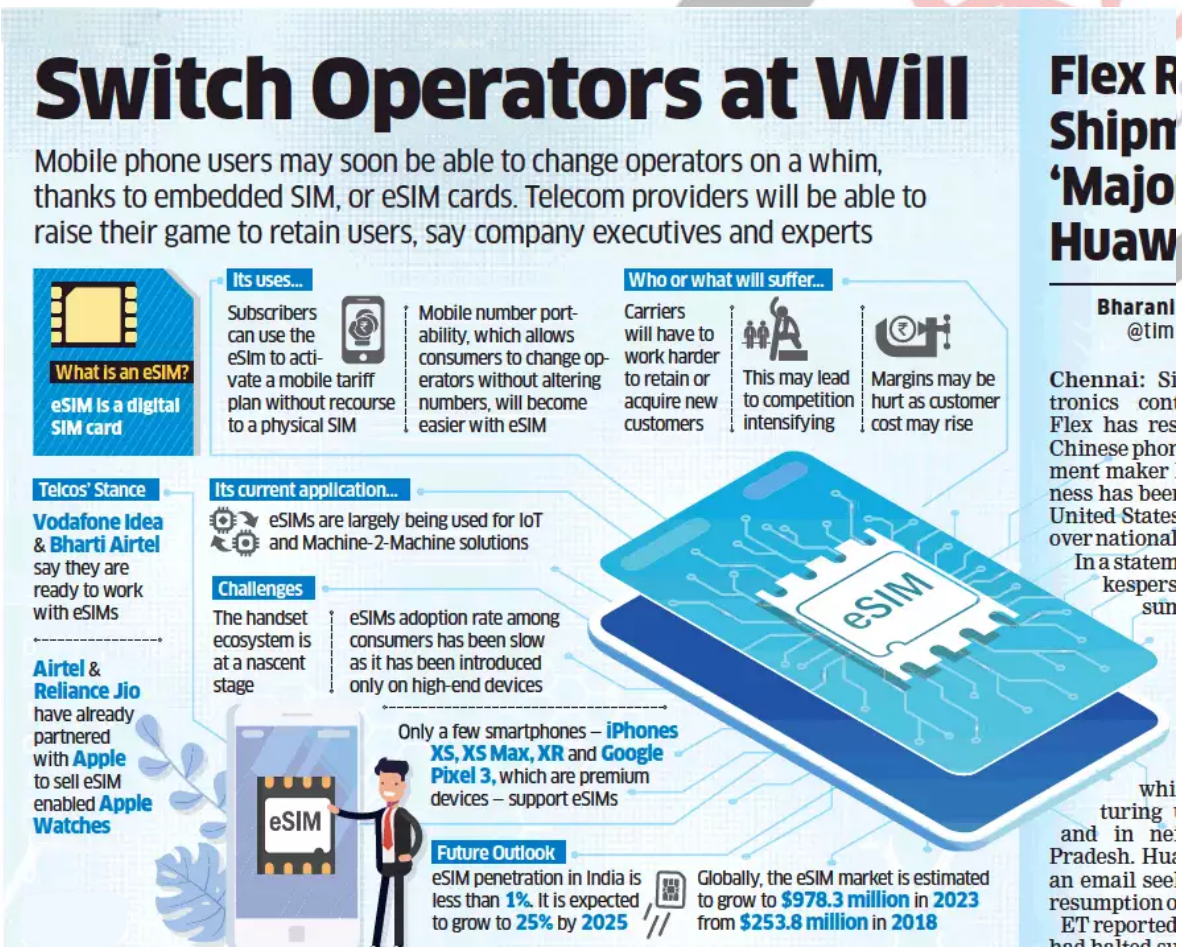
eSIMs Technology

For Prelims: eSIMs Technology, Technology related to Telecommunication.

For Mains: Advantages and Disadvantage of eSIM Technology.

Why in News?

Apple Inc., an American multinational technology company, has come up without a **physical SIM slot** or an eSIM in order **to access mobile networks.**



What is an e-SIM?

- eSIMs were first established in 2012.
- It is **an embedded SIM**, which is permanently embedded in the same hardware of a regular sim card chip.

- Just like a traditional SIM card, an **eSIM also consists of some components,** which are part of a phone's internal organs. They also function the same way, acting as **a unique identifier for telecom operators** and other consumers to reach your exact smartphone when they make a call or send a text.
- However, being attached to the motherboard also allows re-programming, letting users switch operators **without having to replace any physical SIM cards.**

What are the Advantages?

- **Security:**
  - An eSIM provides security to sim theft, as there is no physical element to pull out and use in another device.
  - Attackers cannot use your phone after being robbed to breach your social media or bank accounts.
- **One less opening on your phone:**
  - One less opening on the frame of your phone reduce the likelihood of elements like dust and water entering the phone.
  - It also saves some space on the inside of the phone **to be used elsewhere.**

What are the Disadvantages?

- **Emergencies:**
  - If your phone stops working, runs out of battery or simply falls and gets a cracked screen, your communication is brought to a complete standstill with eSIMs. Traditional SIMs, meanwhile, can be quickly pulled out of the affected phone and into another backup device or secondary phone.
- **Unusable in countries with no eSIM support:**
  - eSIM phones cannot be used in a country **where the telecom operators simply don't support the technology yet.**
  - This isn't an issue if your phone supports both eSIM and traditional SIMs, but is a problem on devices like the US-version iPhone 14, which will solely rely on eSIM alone.
- **Telcos have more control:**
  - An eSIM may save one's initial trip to the telecom operator's store to get a SIM card, but one has to rely on the operator while switching one's phone.
  - Operators may charge extra for **eSIM plans or for switching phones,** in the future.

Source: IE