

India's first Graphene Innovation Centre

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In news– Recently, the Kerala government announced that the India Innovation Centre for Graphene would come up in Thrissur.

About Graphene Innovation Centre-

- It is a joint venture of Digital University of Kerala, Centre for Materials for Electronics Technology (C-MET) and Tata Steel Limited.
- It is expected to offer students, researchers, established industries, and budding start-ups, an opportunity to test and experiment with new innovative products.
- It aims to be an anchor point to promote startups and commercial research.
- It would help attract investors to develop graphene products.
- The project would give a major fillip for scientific research as well as the state's industrial sector.

What is Graphene?

- Graphene is an allotrope of carbon consisting of a single layer of atoms arranged in a two-dimensional honeycomb lattice nanostructure.
- It is the building-block of Graphite, but graphene is a remarkable substance on its own with a multitude of astonishing properties.
- It is the **thinnest, most electrically and thermally conductive material in the world**, while also being flexible, transparent and incredibly strong.
- It is also known as a wonder material due to its vast potential in the energy and medical world.

- It has a lot of promise for additional **applications**: anti-corrosion coatings and paints, efficient and precise sensors, faster and efficient electronics, flexible displays, efficient solar panels, faster DNA sequencing, drug delivery, and more.
- The studies have found that graphene could replace Indium and thereby bring down the cost of OLED (organic light-emitting diode) screens in smartphones.