Telecom Technology Development Fund (TTDF)

Why in News?

Recently, **C-DOT, the premier Telecom R&D Centre of the Department of Telecommunications (DoT),** Government of **India and Indian Institute of Technology, Jodhpur (IIT-J)** signed an agreement for "**Automated Service Management in 5G and Beyond Networks Using AI".**

Key Points

- The agreement is signed under the [Telecom Technology Development Fund (TTDF)](#) of the **DoT,** which is designed for providing funding support to domestic companies and institutions involved in **technology design, development, commercialization of telecommunication products and solutions** to enable affordable broadband and mobile services in rural and remote areas.
- The **primary objective** is to **develop AI frameworks for automated network management, fault detection**, and **diagnostic techniques** by utilizing continuous information generated within the network like 5G.
- The service will establish a **real time 5G and Beyond testbed (in compliance with O-RAN)** for the demonstration of the developed automated network management and slicing techniques in conjunction with specific application use-cases such as smart metering, remotely operated vehicles, etc.

Open-RAN

- It is not a technology, but rather an **ongoing shift in mobile network architecture** that allows networks to be built using subcomponents from a variety of vendors.
- O-RAN has **an open, multi-vendor architecture** for deploying mobile networks, as **opposed to the single-vendor proprietary architecture.**
- O-RAN **uses software to make hardware manufactured by different companies work together.**
- The key concept of Open RAN is **"opening" the protocols and interfaces between the various subcomponents** (radios, hardware and software) in the RAN.

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