



5G Telecoms and Airline Safety

For Prelims: 5G Technology, Airline Safety

For Mains: Threat Posed by 5G Services on Airline Safety and Solution.

Why in News

Recently, the US Federal Aviation Administration (FAA) has warned that the new [5G technology](#) could interfere with sensitive navigation equipment such as altimeters, which could lead to "catastrophic disruptions."

- Airlines across the world, including India, are adjusting their scheduled flights to the US due to the rollout of 5G by telecom companies near American airports.

5G Technology

- 5G is the **5th generation mobile network**. It is a new global wireless standard after 1G, 2G, 3G, and 4G networks.
- It enables a **new kind of network that is designed to connect virtually everyone and everything together** including machines, objects, and devices.
- Internet speeds in the **high-band spectrum of 5G has been tested to be as high as 20 Gbps (gigabits per second)**, while, in most cases, the maximum internet data speed in 4G has been recorded at 1 Gbps.
- In India, Satcom Industry Association-India (SIA) has **voiced concerns over the Government's plan to include the [Millimetre Wave \(mm Wave\) bands](#)** in the 5G spectrum auction.

Key Points

- **About:**
 - The higher the frequency in the spectrum, the faster the service. So in order to get full value from 5G, operators want to operate at higher frequencies.
 - Some of the **C band (a radio frequency band between 3.7 and 4.2 GHz) spectrum** auctioned had been used for satellite radio but the transition to **5G means there will be much more traffic**.
 - The **new C band 5G service could render a significant number of aircraft** unusable, causing chaos for US flights and potentially stranding tens of thousands of Americans overseas.
- **Concern:**
 - The United States auctioned mid-range 5G bandwidth to mobile phone companies in early 2021 in the C band, for about USD 80 billion.
 - FAA warned that the **functioning of Altimeters**, which measure how far above the

ground an aeroplane is travelling, operating in the **4.2-4.4 GHz range** which sits too close to the frequency of C range, **may get hampered**.

- In addition to altitude, **altimeter readouts are also used to facilitate automated landings** and to help detect dangerous currents called wind shear.
- Companies have argued that **C band 5G has been deployed in about 40 other countries without aviation interference issues**. They have agreed to buffer zones around 50 airports in the United States, similar to those used in France, for six months to reduce interference risks.
- **Solution:**
 - In the short-term, Companies agreed to **temporarily defer turning on some wireless towers near key airports** to avert a significant disruption to US flights.
 - In the Longer-term, **the FAA needs to clear and allow the vast majority of the US commercial aeroplane fleet** to perform low-visibility landings at many airports where 5G C-band will be deployed. This means **certifying altimeters to operate near 5G base stations**.

Source: IE

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