Twitter Thread by Sriram ■■



Sriram ■■
@SriramKannan77

Good News!

GAGAN stands for GPS-aided geo-augmented navigation in its full form. The Airports Authority of India (AAI) and the Indian Space Research Organisation (ISRO) collaborated on it (ISRO).

https://t.co/dh5q9wqr1k
#LongThread



It was built to provide the finest possible navigational services over the Indian flight information region, with the option to expand to other flight information regions in the future. 2/n

GAGAN is made up of satellites and ground stations that transmit GPS signals for improved position accuracy. 3/n

Not only that, but GAGAN also corrects GPS signal inaccuracies caused by ionospheric disturbances, timing, and satellite orbit problems, as well as provides critical information about each satellite's health. 4/n

GAGAN is used in the following ways: - The GAGAN-enabled GPS SXTREO-T51 is being utilized to successfully manage wildlife resources and monitor forests. 5/n

GAGAN can provide Indian Railways with navigational support, such as signaling when a train approaches a crossing location and track alignment.6/n

The Road Asset Management System (RAMS), a modern management system based on the GAGAN system, is anticipated to be created for all National Highways in India. GAGAN signals can also be used to reduce traffic congestion on roads by managing real-time traffic.7/n

GAGAN enhances the accuracy and reliability of position estimates by providing enhanced information to GPS receivers. It is divided into two sections: the ground segment and the space segment. 8/n

The ground segment now includes 15 reference stations and three master control centers spread across the country (two are in operation and one in shadow mode). 9/n

These stations receive GPS signals and are stationed at various fixed locations. The survey properly chooses the locations of reference stations so that any mistake in the received GPS signals can be recognized. 10/n

The GPS data received by the 15 reference stations is sent to the Indian Mission Control Centre (INMCC) via a terrestrial or satellite communication network. The GPS data is analyzed and corrective messages are generated at INMCC. 11/n

These communications are routed to the Indian Land Uplink Station (INLUS), which uplinks them to GSAT-8, GSAT-10, and GSAT-15, three geostationary communication satellites. 12/n

These correction messages are broadcast on a GPS-like signal by the GEO satellites. Any GPS receiver with a Satellite-based Augmentation System can receive this GPS-like signal with correction messages and compute the user's position with pinpoint accuracy. 13/13