

# GLOBAL POSITIONING SYSTEM

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## **Context:**

Cargo ships transiting the Mediterranean and the Black Sea are encountering a growing number of incidents related to GPS jamming.

## **Background:**

This trend has become more common since the Hamas attacks on Israel in October 2023. This situation is concerning, and some merchant ships have been additionally fitted with the GLONASS satellite system (Russian) as an emergency backup when onboard GPS systems (US) are jammed.

## **About GLOBAL POSITIONING SYSTEM (GPS) :**

1. The Global Positioning System (GPS) is a satellite-based navigation system that provides precise location and time information to users worldwide.
2. GPS is owned by the United States government and operated by the United States Space Force.
3. GPS consists of a constellation of satellites orbiting Earth. These satellites transmit signals that allow GPS receivers on the ground to calculate their position accurately.
4. GPS technology is widely used for navigation, mapping, surveying, and various other applications.
5. Satellite-based navigation systems, also known as satnav systems, utilize satellites to provide autonomous geo-positioning.

## **Global Systems:**

1. GPS (Global Positioning System): Operated by the United States.
2. GLONASS (Global Navigation Satellite System): Russia's navigation system.
3. BeiDou (BDS): China's navigation system.
4. Galileo: Managed by the European Space Agency.

## **Regional System:**

NavIC (Indian Regional Navigation Satellite System or IRNSS): India's regional system.