

What is real-time information system (RTIS)?

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In news- Indian Railways has recently said that it is installing Real-Time Train Information System (RTIS), developed in collaboration with ISRO.

About Real-Time Train Information System (RTIS)-

- RTIS is being **installed on locomotives and trains for automatic acquisition of train movement timing** at the stations, including that of arrival and departure or run-through.
- **Centre for Railway Information System (CRIS), an organisation under the ministry of railways,** delves deeper on this real-time monitoring system developed with ISRO.
- The **real-time monitoring** is actually a technique which **helps in determining the current state of queues** and channels within a queue manager, the IBM website states.
- The information received is accurate at the moment the command was issued.
- **The locomotive device comprising GPS Aided Geo-Augmented Navigation System (GAGAN)** captures the loco/train position.
- The satellite (SatCom) communication transceiver, 4G-3G complements this SatCom and the 2.4 GHz along with appropriate CPU, memory, embedded operating system and application system.
- The external antennae for all the modules is housed in the outdoor unit mounted on loco rooftop.
- The satellite transponder and the hub has been installed at the CRIS datacentre to receive moment updates through

the satellite communication.

- The events along with the position and locations are communicated to a central location server using satellite and 3G/4G mobile data service.
- The **Central Location Server (CLS) at the CRIS centre processes the received data** and then relays it to the control office application for the automatic plotting of control charts.
- The Control Office Application (COA) is already integrated with the national train enquiry system, and accurate real-time information for passengers is obtained automatically.
- The CRIS data centre receives train speed information continuously every 30 seconds from GAGAN receiver.
- The configuration management system (LMCS) is utilised to monitor the health of loco device, managing its configuration & updating the software/firmware in the loco device.
- The emergency messaging between Loco driver and control office is also implemented through RTIS.
- The train control will be able to track the location and the speed of RTIS-enabled train more closely without any manual intervention.