

# Space Based CNS



**Indra's revolutionary solution to provide surveillance and real time voice and data communication services through a constellation of Low Earth Orbit Satellites**

ADS-B Surveillance



Real-time VHF Voice



Air traffic Data



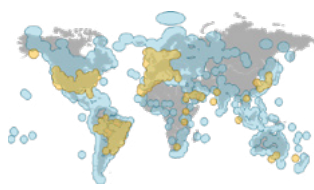
**Space Based CNS**

## The Challenge

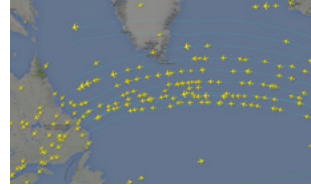
Air traffic over populated areas is saturated, while remote continental and oceanic areas remain un-optimized.



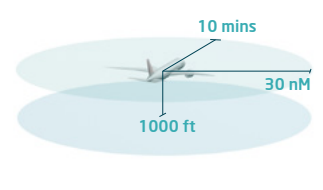
Lack of proper surveillance coverage and direct communications with pilots.



Forcing aircrafts to fly through fixed air corridors across the oceans and remote areas.



Unavailable Surveillance and Communication Services to reduce the minimal separation of aircrafts.



## A borderless solution for tomorrow's skies



Leveraging on the revolutionary possibilities of the "New space" and the efficiency brought by the rising of nanosatellites, Indra's solution consists on deploying a network of more than 200 satellites in Low Earth Orbit.

Fully integrated and Global Surveillance and Communications solution designed to operate as a collaborative network, between aircrafts, ANSPs and Operators.

Compatible with existing VHF voice and data communications, requiring neither modifications in current aircrafts' / control centers equipment nor additional training to pilots or controllers.

Compliant with ICAO/EASA/FAA regulation, and designed to comply with existing requirements for continental VHF voice communications.

The system will provide surveillance capabilities, real time voice and air traffic data communication (AOC and ATS) services to:

- Provide global coverage, including the two poles, oceanic and remote continental areas.
- Allow airspace users access to User Preferred Routes in current non-covered areas.
- Enable a reduction in airplane separation and even allowing free flight.

## Indra's Space Based CNS system aims enabling air traffic in remote and oceanic areas to operate like continental traffic

**Planned to enter operations by 2025**

## Benefits for all stakeholders

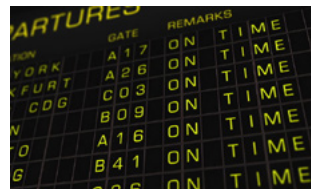
Enable ANSPs and Operators to expand their businesses while rationalizing terrestrial infrastructures



Make possible for airlines to select their preferred routes to optimize flight time and fuel consumption



Offer people more and shorter routes with higher levels of service quality and punctuality.



Reduce CO2 emissions to contribute decisively to the global environmental goals of the aviation industry.

