

An aerial photograph of a freight train traveling through a desert landscape. The train consists of several yellow and white boxcars, followed by a long line of red BNSF hopper cars. The tracks stretch into the distance under a clear sky. The inmarsat logo is visible in the upper center of the image.

inmarsat

ENABLING CONNECTED RAILWAYS

RAIL TELEMETRY AND COMMUNICATIONS SOLUTION

RAIL TELEMETRY AND COMMUNICATIONS SOLUTION

Enabling rail companies to transfer mission critical data and provide voice communications wherever locomotives and crew are located

YOUR CHALLENGE

Heavy haul freight operators need to ensure visibility of their locomotives at all times in order to optimise network capacity, maintenance and safe operations. Engine and equipment failure can incur delays, unplanned costs and reduce operational efficiency.

The technology to optimise operations is widely available, but it is dependent on reliable connectivity to work. With many operators having a proportion of their track in remote areas, white spots in coverage across the network are common.

White spots result in data gaps which prevent effective maintenance regimes and network optimisation, and can lead to accidents. Additionally, a widespread lack of voice coverage is a health and safety concern, with operators unable to easily communicate in an emergency. Even when there is connectivity,

outages can cause huge disruption, so having a back-up connectivity option is vital.

OUR SOLUTION

Inmarsat's Rail Telemetry and Communications Solution enables the real-time transfer of telemetry data from locomotives to the control centre, as well as the ability to extend voice coverage for drivers and staff beyond the range of your existing radio networks.

Utilising our satellite enabled BGAN, the solution provides highly reliable connectivity across the network, covering white spots in terrestrial coverage as well as providing a back-up if existing networks fail. This ensures telemetry data such as location, speed, heading and engine diagnostics is always available to the control centre operator.

The solution utilises low form factor terminals like the Explorer 323, which are perfect for mounting on a locomotive.

This is combined with the PRISM Push-to-Talk (PTT) radio communications system that links to the terminal to provide voice communication. PRISM PTT is a smart system that is fully integratable with

existing radio solutions, extending coverage beyond the line of sight and able to choose the most cost-effective connectivity channel to communicate through.

CONNECTIVITY SERVICES

- BGAN
- Push-to-Talk (PTT)

RAIL TELEMETRY AND COMMUNICATIONS SOLUTION IS FOR YOU IF...

- Your business needs to monitor and control your trains in remote areas
- You want to increase the efficiency of your network by adding more rolling stock
- You need a resilient communications network that will not fail



FOR MORE INFORMATION

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BENEFITS

- **Real-time telemetry data** from your locomotives to give you visibility wherever they are located
- **Improve safety** and operational efficiency by expanding your existing radio network to provide coverage - anywhere
- **Highly reliable**, secure communications with 99.9% uptime
- **Provides a fail-safe communications backup** if terrestrial networks fail
- **Simple to operate**
- **Expand the coverage** of your existing equipment

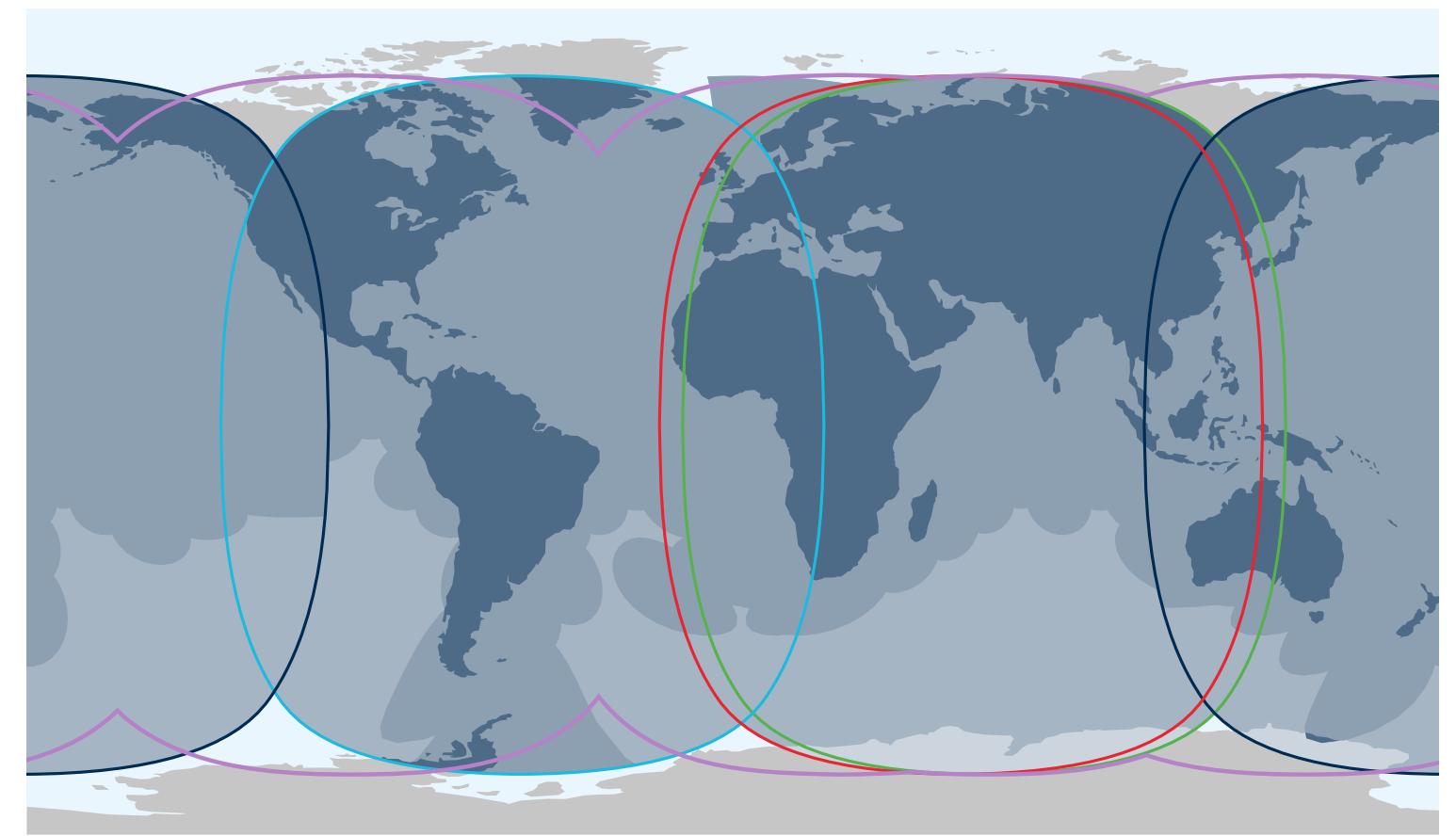
FEATURES

- **Global coverage** - connecting your locomotives and operatives anywhere
- **Fully integrable** with existing radio and telemetry systems
- **PTT solution** provides least cost routing, utilizing up to three different networks simultaneously
- **Full training provided** and a complete service package to give you peace of mind
- **24/7 support** whenever you need it

WHERE WE DELIVER

Due to the unique nature of Inmarsat's geostationary satellite network we can deliver highly resilient, mobile communications services across the world. Global Xpress (GX), our Ka-band service is delivered through our Inmarsat-5 (I-5) satellites, while BGAN is delivered, through our Inmarsat-4 (I-4) satellites.

Where required, our ecosystem of local partners will deliver onsite warranty, support and repairs, and Inmarsat will ensure that all license and regulatory compliance will be in place.



Legend:
I-5 F2 (blue outline), I-5 F4 (red outline), I-5 F1 (green outline), I-5 F3 (dark blue outline), I-4 and Alphasat coverage (purple outline)
Global Xpress network available over at least 99% of this area (dark blue fill)
Extendable Global Xpress coverage via steerable beams (light blue fill)

This map depicts Inmarsat's expectations of coverage. It does not represent a guarantee of service. The availability of service at the edge of coverage areas fluctuates depending on various conditions. Fleet Xpress coverage March 2019.

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