

# ENABLING

## connected agriculture

## Crop storage and logistics monitoring

Remotely monitor storage conditions on-farm and across your supply chain to optimise quality and reduce losses

### Your challenge

Storage has a huge bearing on the final quality of agricultural commodities, and with crops being stored for long periods, losses can occur without close monitoring and attention. Maintaining conditions such as a stable temperature and humidity are vital for preserving the quality of agricultural commodities, whether they be in farm storage, shipping vessel or vehicle trailer.

In global supply chains, commodities may travel across land, sea and air, being stored in containers for days and weeks before processing or re-sale. If unchecked, conditions in store can change rapidly leading to losses of quality and shelf life and falling foul of retail and regulatory requirements.

As a grower, packer or processor of agricultural raw material, remote monitoring can play a vital role in helping reduce waste, quality losses and deterioration.

### Our solution

Inmarsat's crop storage and logistics solution is a bespoke managed service which allows growers and the extended supply chain to remotely monitor commodities in storage and make interventions to reduce losses and manage the supply chain.

Utilising our highly reliable, global satellite network we are able to monitor your commodities in real-time, whether they are in a plastic silobag, grain elevator, at the bottom of a ship, on a plane or truck.

Using a variety of low-cost sensor technologies we tailor the solution to the nature of your storage infrastructure and supply chain. Depending on the specific commodity, typical measurements include temperature, humidity and CO<sub>2</sub>.

The data is transferred via Long Range Wide Area Network (LoRaWAN) to a software defined gateway, before it is sent via satellite or cellular connectivity to an easy to use application.

Customised dashboards are provided to give you complete visualization of your crop and supply chain, with real-time alerts of changes in storage conditions which could lead to a losses. You gain a complete record of traceability through your commodity's journey.

### Connectivity services

-  Broadband Global Area Network (BGAN)
-  Long Range Wide Area Network (LoRaWAN)
-  ISatData Pro (IDP)

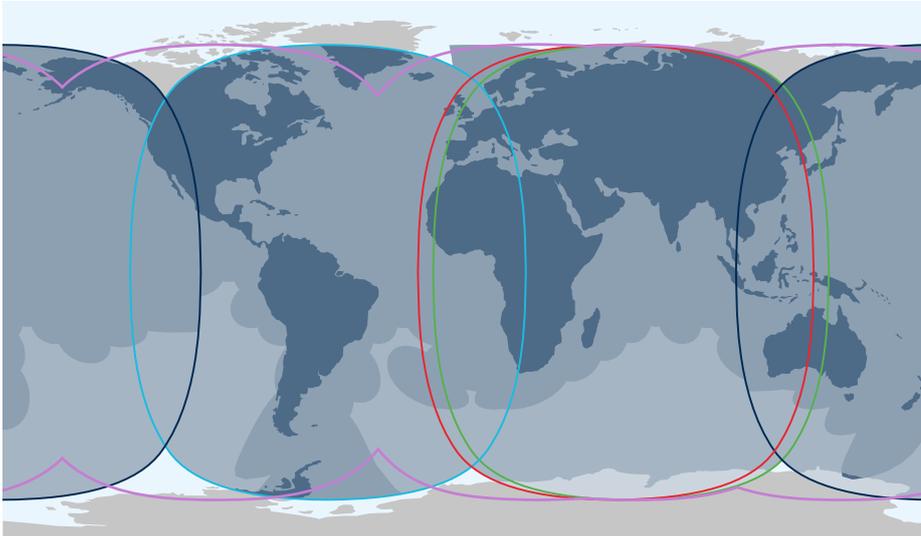
### Crop storage and logistics monitoring is for you if...

- > You are a grower who wants to manage storage conditions more precisely to increase marketable yield and quality
- > You are purchasing agricultural raw materials, or control a supply chain and want to increase quality and shelf life through more precise management of storage conditions on-farm and in transit
- > You use or operate a global multi-model agricultural supply chain transporting agricultural commodities and perishable goods and want to satisfy retail and regulatory requirements

## 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 Broadband Global Area Network (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.



□ I-5 F2   □ I-5 F4   □ I-5 F1   □ I-5 F3   □ I-4 and Alphasat coverage

■ Global Xpress network available over at least 99% of this area   ■ Extendable Global Xpress coverage via steerable beams

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.

## About Inmarsat

Inmarsat is the leading provider of global mobile satellite communications services. Since 1979, Inmarsat has been providing reliable voice and high-speed data communications to governments, enterprises and other organisations, with a range of services that can be used on land, at sea or in the air. Inmarsat operates around the world, with a presence in the major ports and centres of commerce on every continent. Inmarsat is listed on the London Stock Exchange (ISAT.L). For more information, please visit [www.inmarsat.com](http://www.inmarsat.com).

## About Inmarsat Enterprise

Inmarsat Enterprise is the leading global provider of satellite-enabled connectivity and managed connectivity services for land-based organisations. We are enabling the Industrial Internet of Things (IoT) and helping transform business outcomes across a diverse set of sectors, including agriculture, aid and NGO, media, mining, oil and gas, renewable energy, transport and utilities.

## Benefits

- **Increase marketable yield** – monitor storage conditions in real-time and respond quickly to keep commodities in optimal condition
- **Enhance visibility and compliance** – understand more about your supply chain and share data to confirm product provenance and comply with regulatory guidance
- **Reduce complexity** – ensure data and systems are interoperable reducing the need for manual processes

## Features

- **Real-time monitoring** of key variables
- **Real-time alerts** of change in perishable conditions
- **Managed service** – single contract with Inmarsat, no need to manage multiple connectivity suppliers
- **Full training provided** and a complete service package to give you peace of mind
- **Highly reliable satellite connectivity** – BGAN, L-band connectivity offers 99.9% network reliability
- **Global coverage** – we can connect you anywhere

## For more information

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