



EBOOK

# A Mini Guide to Satellite Use for Lone and Remote Workers





As industries continue to expand beyond traditional urban centers, reliable communication becomes more critical than ever.

From remote job sites to disaster response teams, handheld satellite devices have emerged as an essential tool for workforce connectivity. Unlike traditional cellular networks, which are limited by coverage gaps, satellite technology ensures seamless, reliable communication in even the most challenging environments.

## Why Satellite Connectivity Has Become More Usable in the Workforce

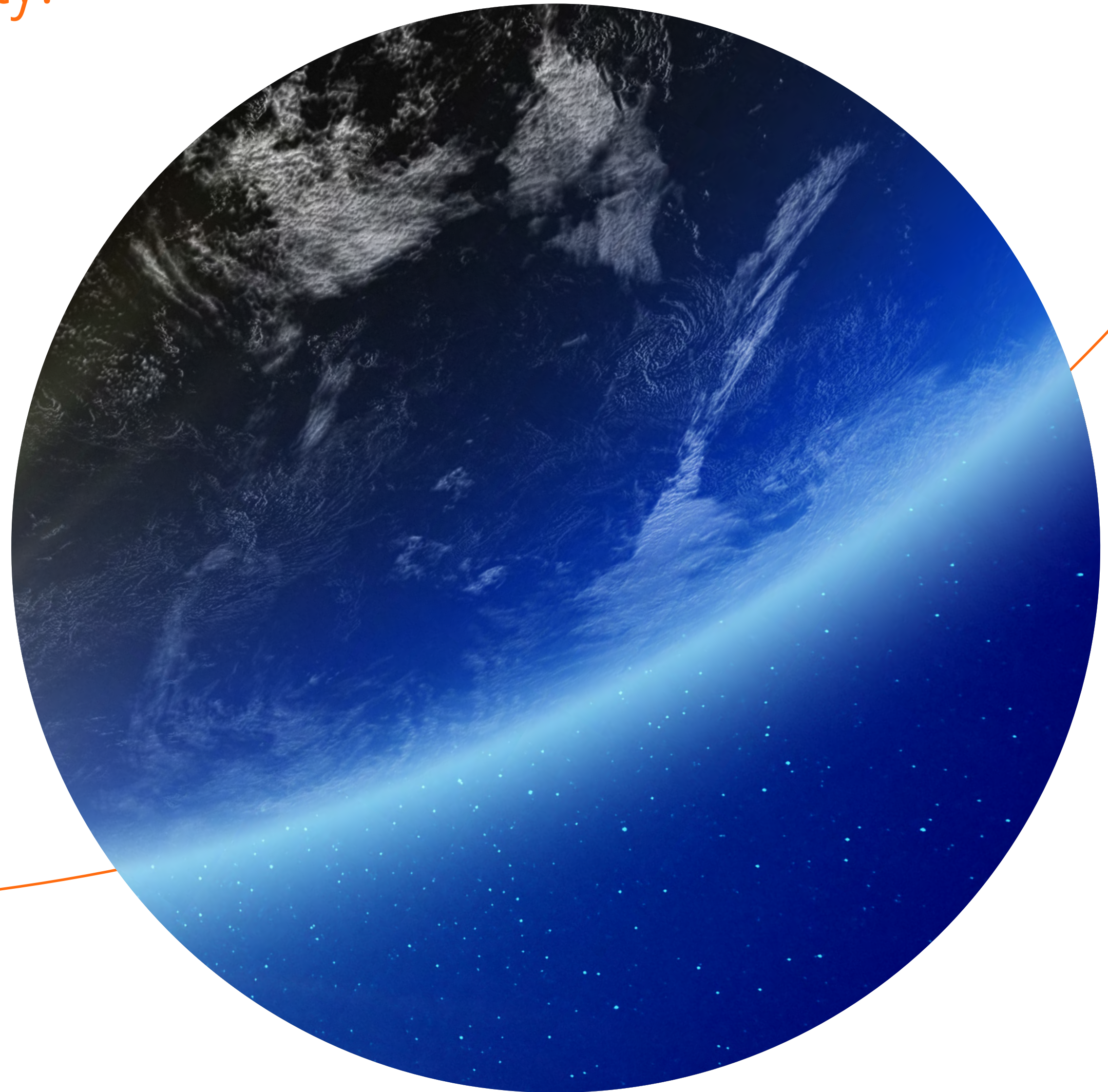
Advancements in satellite technology have made handheld satellite devices more accessible, affordable, and user-friendly. Several key factors have contributed to the increased adoption of satellite connectivity in various industries:

- ✔ **Expanded coverage**  
Satellite networks provide global coverage, ensuring connectivity in remote locations where cellular networks fail.
- ✔ **Enhanced device technology**  
Newer handheld satellite devices are more compact, lightweight, and efficient, making them easier to integrate into daily operations.
- ✔ **Improved affordability**  
The cost of satellite communication has decreased over the years, making it a viable solution for businesses of all sizes.
- ✔ **Strong reliability**  
Satellite networks are less susceptible to natural disasters, infrastructure damage, and network congestion compared to traditional cellular networks.
- ✔ **Seamless integration with IoT and cloud services**  
Many industries rely on IoT and cloud-based applications that require uninterrupted connectivity, which satellite networks can support.



# The Evolution of Satellite Connectivity: From Prohibitive Costs to Affordable Connectivity

Satellite communication has come a long way since its inception, transitioning from an expensive, specialized tool to an increasingly affordable and accessible solution for industries and individuals. Once reserved for government agencies, military operations, and large-scale enterprises due to its prohibitive costs, advancements in technology have dramatically reduced the expense of satellite connectivity, making it a viable option for a broader range of users.

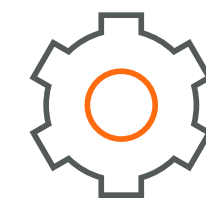






# The High Cost of Early Satellite Communication

In the early days of satellite technology, launching and maintaining satellites was costly. Several factors contributed to the high costs:



## Expensive manufacturing and launch costs

Building a single satellite required highly specialized components, rigorous testing, and advanced engineering, making each satellite a multi-million-dollar investment. Additionally, launch costs were extremely high, often exceeding hundreds of millions of dollars per mission.



## Limited market demand

The prohibitive cost meant that only governments, military organizations, and large corporations could afford satellite services, keeping adoption rates low and preventing economies of scale from driving down prices.



## High infrastructure costs

Ground-based infrastructure, including antennas, communication stations, and data processing centers, required significant investment, further limiting accessibility.



# Key Factors That Made Satellite Connectivity More Affordable

Over time, several technological and economic advancements have contributed to the decreasing cost of satellite communication, making it more affordable and practical for a wide range of applications.

- ✔ **Miniaturization and mass production**  
Advances in electronics and materials science have enabled smaller, more efficient satellite production at a fraction of the original cost. Companies manufacture satellites in bulk rather than building each as a custom project.
- ✔ **Reusable rocket technology**  
Innovations in space transportation have drastically lowered launch costs, making it more economical to deploy satellite constellations.
- ✔ **Proliferation of low Earth orbit (LEO) satellites**  
Traditional geostationary satellites operate at altitudes of 35,000 km, requiring costly infrastructure and high-power transmission. LEO satellites, operating at much lower altitudes (500-2,000 km), provide faster data speeds, lower latency, and reduced deployment costs.
- ✔ **Private sector investment and competition**  
Private companies' entry into the satellite market has introduced competition, spurred innovation, and driven down costs.
- ✔ **Advancements in antennas and ground infrastructure**  
Improvements in satellite ground stations, including software-defined networking and phased-array antennas, have reduced the need for large, costly ground infrastructure, making it easier and cheaper to access satellite connectivity.
- ✔ **Growing demand and market expansion**  
As industries such as logistics, agriculture, emergency response, and maritime services have adopted satellite technology, increased demand has led to greater production efficiency and lower prices.

# Where Satellite Becomes a Practical, Primary Choice

While cellular networks still dominate urban and suburban areas, satellite connectivity has emerged as a crucial alternative where terrestrial networks fall short. Businesses and organizations now leverage satellite communications when:



## Operating in remote locations

From oil rigs to rural farms, satellite ensures connectivity where cellular signals are weak or nonexistent.



## Ensuring disaster resilience

Unlike cell towers, satellites are unaffected by natural disasters, providing reliable emergency communication.



## Supporting global mobility

Maritime, aviation, and expeditionary teams rely on satellite technology for uninterrupted coverage across vast distances.



## Providing secure and independent networks

Military, government, and corporate users leverage satellite networks for secure, encrypted communication independent of local infrastructure.





# Satellite Spotlight

## The Importance of Satellite Connectivity for Remote and Lone Workers

Safety is a primary concern because remote and lone workers operate in isolated or hazardous environments with minimal supervision. However, these environments in which they operate might not have reliable cellular coverage – or not coverage at all.

**Safety becomes a concern for many reasons:**

- **Limited access to emergency assistance**  
In remote areas, workers may be hours away from emergency response teams, making immediate communication critical in case of accidents or medical emergencies.
- **Exposure to hazardous conditions**  
Many remote workers operate in extreme weather conditions, dangerous terrains, or high-risk environments where communication can mean the difference between life and death.
- **Lack of reliable communication networks**  
Cellular networks often do not reach the locations where remote and lone workers operate, leaving them disconnected from their teams and employers.



Satellite handhelds can help in these instances in the following ways:

**+ Instant emergency communication**

Satellite handhelds provide an always-available communication link, ensuring that remote workers can connect for help immediately.

**+ GPS tracking and location sharing**

Many satellite devices come equipped with GPS tracking, which allows employers to monitor worker locations and ensure safety in real time.

**+ Two-way communication capabilities**

Some satellite handhelds enable two-way voice and text communication, improving coordination and response times.

**+ Weather and hazard alerts**

Satellite networks can be used to send weather and hazard alerts, helping workers avoid dangerous situations before they arise.

By integrating satellite handhelds into their operations, businesses can significantly enhance the safety, productivity, and efficiency of remote and lone workers while ensuring compliance with industry safety standards.





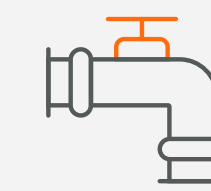
# Staying Connected in Isolation: The Strong Use Case for Satellite Handheld Devices

Unlike cellular-based communication tools, satellite handheld devices are not limited by coverage gaps. They communicate directly with satellites in orbit, providing global reach across isolated regions. This makes them an essential part of any organization's safety strategy for remote workforces.

SOS and emergency communication are among the most important features these devices offer. With the push of a button, a lone worker can trigger an emergency alert that includes their GPS location and sends help to their exact position. Time-sensitive situations – such as medical emergencies, equipment failures, or environmental hazards – can mean the difference between a close call and a crisis.

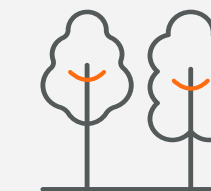
Satellite handhelds also allow for routine check-ins, enabling companies to maintain visibility into the well-being and location of field staff without relying on vulnerable cellular infrastructure. Some models include two-way messaging, which is especially useful for dynamic work environments where conditions and plans can change quickly.

## Key Use Cases



### Utilities and energy

Field technicians working on power lines, pipelines, or oil and gas infrastructure often operate in hard-to-reach areas. Satellite handhelds connect them to dispatch and emergency services even during outages or storms.



### Forestry, agriculture, and environmental work

From wildlife monitoring to conservation efforts, workers in remote ecosystems depend on satellite connectivity for data reporting and safety.



### Mining and construction

Large-scale operations frequently extend beyond cellular range. Satellite handhelds help coordinate logistics and protect workers who may be spread across rugged and expansive worksites.



### Search and rescue/emergency services

These teams often go where others can't. Satellite handhelds provide uninterrupted communication in the most challenging terrain and during natural disasters when other systems fail.

Ultimately, satellite handheld devices aren't just a backup but a frontline tool. For lone and remote workers, they enable not just connection but confidence, safety, and control in even the most unpredictable environments.





# Key Features to Consider in Satellite Devices for Enterprise Workforce Support

To meet the demands of safety, reachability, and reliability, enterprises must carefully evaluate several key features to ensure they invest in the right solutions for their workforce. Not all devices are created equal.

## Network Reliability and Coverage

One of the most crucial factors in selecting a satellite handheld device is the reliability and global reach of the network it operates on. Many satellite phones and communicators rely on varying coverage and service availability constellations. Enterprise users need devices that ensure uninterrupted connectivity, even in most locations.

Finding a provider with a robust low Earth orbit (LEO) satellite network that offers extensive coverage is important, ensuring reliable voice and data transmission. This makes devices ideal for oil and gas, mining, forestry, emergency services, and remote field operations. When searching for a provider, it's important to distinguish robust connectivity from those with limited regional access or frequent connectivity gaps. Uninterrupted communication and location tracking is crucial for mission-critical operations.



## Two-Way Communication and Emergency Support

For enterprises deploying personnel in hazardous environments, seamless two-way communication is particularly beneficial.

Two-way messaging allows workers to send and receive messages, even in off-grid locations. Some devices even have a dedicated SOS feature connecting users to emergency response centers. This provides immediate assistance and location tracking during crisis situations, enhancing worker safety.

## Durability and Ruggedization

Enterprise satellite handhelds must be designed to withstand extreme environments, including exposure to water, dust, impact, and harsh temperatures. Many consumer-grade satellite devices fail in rugged conditions, making them unsuitable for industrial and field applications.

It is important to look for devices that meet stringent durability standards, ordering weatherproof and shock-resistant designs tailored for demanding work environments. The rugged construction of these devices should ensure continued performance in industries such as offshore operations, military applications, and remote construction projects, where reliability can mean the difference between success and failure.

## Location Tracking and Workforce Management

Personnel tracking and location monitoring are essential for enterprises managing large-scale field operations. Satellite handheld devices should provide accurate GPS tracking to enhance worker safety and optimize logistical planning.

Satellite handheld devices can – and should be – bolstered with integrated tracking capability to provide an added layer of security by allowing supervisors to monitor workforce locations, ensure compliance with safety protocols, and respond swiftly in emergency situations.

## Battery Life and Power Management

Satellite communications often take place in environments where recharging options are limited. Therefore, devices with extended battery life are essential to maintaining operation efficiency. Handheld satellite devices should be engineered with long-lasting battery performance to avoid frequent recharging. A longer battery life ensures users can maintain connectivity over extended periods without the constant need for power sources, making them highly effective for search and rescue teams, remote surveyors, and offshore workers.



## Ease of Use and Portability

Enterprises need satellite handheld devices that are not only powerful but also user-friendly. Overly complex interfaces and bulky designs can hinder efficiency, especially in high-pressure situations.

Simple navigation can help reduce employees' training time and encourage easier adoption. Devices with QWERTY keyboards and smartphone-like usability can significantly enhance ease of operation compared to satellite handheld devices that rely on complicated menu systems and button-based inputs.

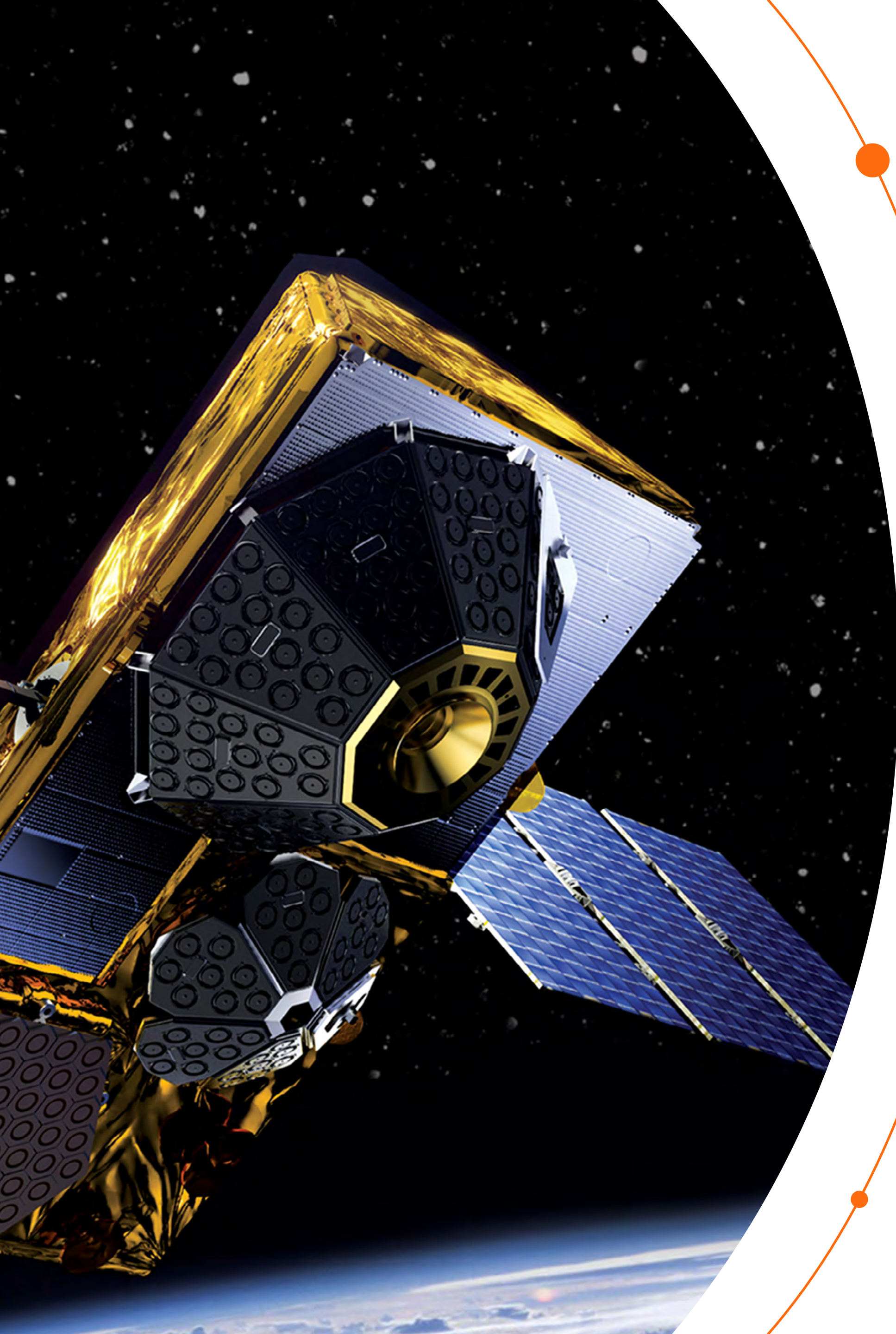
## Cost Efficiency and Scalability

Budget considerations play a crucial role in enterprise technology investments, and when considering price, it's important to consider device pricing and service plans.

Competitively priced solutions with scalable service plans ensure businesses can optimize costs without compromising reliability. Devices that can provide value, particularly for organizations that need to deploy multiple units across a workforce without incurring excessive operational expenses, are preferable.







# Capture Seamless Satellite Connectivity with Globalstar

Globalstar's hardware and LEO satellite connectivity ensure safety, workforce support, and communication that is "always on."

[Reach out to our team of experts to learn more.](#)

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