ORBCOMM®

WHERE DATA DRIVES DECISIONS

E-Book

Finding success in the new era of satellite IoT

Exploring how customer demand and satellite innovation are ushering in ubiquitous IoT connectivity.

As satellite IoT technology has evolved, so too have the demands of customers. The dream, for many, is to have global uninterrupted connectivity, enabling customers to stay connected to their assets virtually anywhere.

While this has yet to be a reality, it's getting closer than ever due to advancements in satellite technology. Satellite IoT hardware is getting smaller, more powerful and more efficient, opening up new growth opportunities and lowering the cost of adding satellite to traditionally cellular use cases.

Satellite-cellular dual mode IoT solutions benefit both solution providers and their customers. It enables IoT solution providers to expand their addressable market and opens new IoT applications. And for customers, having satellite backup for mission-critical applications can add an extra layer of security in areas with inconsistent cellular coverage.

Did you know?

Despite decades of network expansion, only 15% of the Earth's surface is covered by cellular networks.

Supporting cellular connectivity with satellite helps businesses and their customers stay connected to what matters most, no matter the region.

CUSTOMER USE CASE:

Deploying satellite-powered smart agriculture in Brazil

ORBCOMM customer Zeus Agrotech **serves the massive Brazilian agriculture market with IoT-enabled weather stations** that provide farmers with field-by-field microclimatic data that can help them better plan their planting and harvesting schedules.

In some cases, Zeus Agrotech's solutions enabled their customers to add a full additional crop rotation per growing season.

By using ORBCOMM satellite connectivity for their weather stations, Zeus Agrotech allows their customers to receive the data they need to grow more crops, even outside of cellular coverage—which accounts for 75 million hectares of Brazil's farmland.

The convergence opportunity for cellular IoT solution providers

Improved capabilities and reduced costs are making satellite IoT more accessible and affordable, enabling solution providers to solve age-old industry challenges, unlock potential in new markets and deliver more value to their customers.

If you're a cellular IoT solution provider, satellite connectivity gives you a new way to grow your business. No longer limited by network availability, cellular IoT solution providers can now sell dual-mode solutions that deliver always-on connectivity to their customers.

Industry-specific examples of next-generation satellite IoT applications:

There are tremendous opportunities emerging for IoT solution providers across key industries, driven in large part by recent satellite innovation. Jumping on these early can help you establish a strong market foothold and meet the industry demand before the competition.

Agriculture

Smart agriculture solutions are benefiting greatly from advances in satellite technology, as they can help farms grow more crops with less resources, despite often-remote farm locations. Farmers can move beyond simple sensor data and see key parameters at a crop-by-crop level via image data, localized weather information and more. Plus, farmers can detect pests earlier using remote monitoring to help prevent crops from being damaged.

Transportation

Cost-effective satellite IoT connectivity is paving the way for always-on connectivity in transportation. This can help eliminate network gaps in the supply chain where fleets aren't connected to their assets, providing improved transparency and security in areas with little to no cellular coverage due to remoteness, congestion or infrastructure damage from natural disasters. With insurance companies paying closer attention to fleet telematics, showing your ability to stay connected to your assets can help reduce insurance premiums and fleet risk.

Maritime

Maritime telematics is within reach for small vessels thanks to lower-cost satellite hardware. It can be used to help protect ocean stocks, inform when there's ideal fishing conditions based on weather, temperature and more, and fight against illegal, unreported and unregulated fishing. For larger ships, high-data satellite connectivity is enabling solution providers to use email and imaging data to improve crew welfare, quicken disaster response time and enable virtual inspections.

Oil and gas

Satellite IoT solutions can provide significant value in oil and gas IoT applications. Remote site imaging can help verify the safety and security of assets around the clock, without sending personnel to remote locations. Satellite can also play a pivotal role in supervisory control and data acquisition (SCADA) applications, enabling data flow from remote field controllers to monitor site conditions and adjust as necessary, without the time and expense of sending staff to a site. Staying connected is especially critical when it comes to pipeline monitoring, as a delayed response could have catastrophic results.

Mining, construction and heavy equipment

Keeping an eye on expensive heavy equipment in industries like mining and construction is vital. Satellite can help IoT solution providers ensure their customers remotely monitor and control water pumps on their mine sites, while also delivering data about engine hours, fuel consumption, idle ratio and more to help improve efficiency and reduce costs. Plus, it can enhance capabilities by supporting remote site imaging, device firmware updates and log file retrieval. Thanks to the reduced cost of satellite connectivity, deploying a dual-mode solution makes more economic sense for even the less expensive equipment at a site, creating a fully connected ecosystem that helps protect personnel and assets.

Electrical utilities

Satellite IoT solutions can strengthen grid resiliency and reduce service interruptions by connecting businesses to key data from their reclosers and transformers. Having the ability to correctly react when issues occur using an IoT-enabled smart grid system can help improve damage control and disaster recovery.

Choosing the right satellite IoT connectivity provider

While the benefits of satellite connectivity are clear, it's vital to choose the right connectivity provider for your business. Here are four key things to consider when choosing a satellite IoT provider:

Regulations

Achieving regulatory compliance for satellite connectivity is harder than it is for cellular. Because of this, it's crucial that you understand the regulatory map of the provider you look to partner with. This includes where they can transmit data and where they can't, as this has a direct impact on where you can to operate.

Financial stability

Launching satellites to build out a network—not to mention the maintenance and infrastructure support involved—isn't cheap. Ensuring any satellite provider you're considering has strong financial backing and some history in the industry can help you avoid inherently riskier satellite startups.

Technical support

Having access to comprehensive technical support through your connectivity provider can help you fix problems before customers get angry. Plus, they can assist you in avoiding technical pitfalls and can play a vital role in getting your satellite solution up and running faster. Finding an experienced team of engineers who have seen a wide range of different IoT applications can pay dividends by reducing unnecessary downtime during solution ideation, creation and deployment. It can also be beneficial to choose a provider that can help you develop your solutions faster as well. Some may offer development kits that enable experimenting with new ideas, or terminal applications that can act as the building block for your solution.

CUSTOMER USE CASE:

Boosting mine visibility in Australia

AAMG is **fixing operational inefficiencies for their customers across Australia** by using ORBCOMM's satellite and dual-mode satellite-cellular terminals to help their customers stay connected to their mining equipment and personnel, no matter how remote.

With their in-house technical expertise and cutting-edge ORBCOMM technology, AAMG was named a finalist in Innovation and Productivity at the Queensland Mining Awards, and plan on expanding into leak detection solutions in the future.

Innovation and technology

The satellite industry continues to change as technology advances, making it crucial that you choose a satellite connectivity provider that will continue to innovate its offering. Whether it's lower message latency, improved hardware battery life or larger data loads, being able to build something with the latest technology is vital to staying competitive. You can learn more about **choosing the ideal satellite connectivity provider** by reading our eBook.

Introducing OGx: the future of satellite IoT

OGx—our next-generation satellite service—is ushering in a new era of IoT innovation, empowering solution developers to evolve their business and expand to new markets.

With OGx, we've combined our pioneering technology with almost three decades of satellite industry experience to help solution developers build better. That means you have the data, devices and support you need to tackle today's challenges with the latest in satellite innovation.

Power-efficient hardware

The OGx network's unique design can help considerably reduce the power consumption of terminals compared to those on our previous satellite networks. The power savings help enable solution providers to reduce hardware costs—by using smaller batteries, solar panels, power supplies and enclosures—or increase message frequencies and reduce latencies using the same hardware.

Flexible data pricing

OGx's flexible data plans provide as much data as you need, when you need it, to help reduce overage charges. With this, IoT solution providers can build innovative IoT applications that use varying levels of data at more predictable—and competitive—price points.

Superior satellite network

With OGx satellite connectivity, IoT solution providers can deploy in some of the most remote parts of the globe, supported by our extensive regulatory coverage. Our comprehensive satellite network will be supported until 2035 at minimum, adding an extra level of assurance that your solutions will have the powerful satellite connectivity it needs for the long run.

Experience the future of satellite IoT development with ORBCOMM

ORBCOMM helps system integrators and IoT solution providers build winning IoT solutions that address some of today's biggest challenges, from optimizing crop yield and reducing over-the-road emissions to monitoring mining equipment and tracking shipping container cargo across global supply chains. We offer a full suite of satellite and dual-mode connectivity options along with terminals, modems and other devices to system integrators and IoT solution providers so they can build with the latest technology at their disposal.

Our mission is to help our customers expand their IoT applications, grow their businesses, improve the economics of their solutions and give them a competitive edge with our world-class satellite IoT technology.

We provide multi-language technical support backed by our experienced team of field application engineers to help you from ideation to deployment to troubleshooting. Our development toolkits enable you to experiment with new ideas and build your solutions faster using ORBCOMM technology. Our terminal apps can be used as is to act as a foundation for your IoT solution or can be fully customized to meet your needs.

Plus, for those more complex technical challenges, our team of field application engineers can help with detailing customer requirements, system and application consulting, custom software development and more.

Learn why system integrators and IoT solution providers **power their products with ORBCOMM satellite technology by reading our brochure**.

Visit our website **www.ORBCOMM.com**

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ORBCOMM is a pioneer in IoT technology, empowering customers with insight to make data-driven decisions that help them optimise their operations, maximise profitability and build a more sustainable future. With 30 years of experience and one of the most comprehensive solution portfolios in the industry, ORBCOMM enables the management of over a million assets worldwide for a diverse customer base spanning transportation, supply chain, heavy equipment, maritime, natural resources and government. For more information about how ORBCOMM is driving the evolution of industry through the power of data, visit www.orbcomm.com.