



Orbital Insight GO

Geospatial analytics – anywhere, anytime

7 Keys to Your Supply Chain Success

How to modernize supply chain management and a roadmap to guide your digital transformation

Introduction

Not long ago, supply chain leaders had a standard playbook - driving cost efficiency, managing global networks of suppliers, and keeping tight control on inventory. Those were the days when lean manufacturing, just-in-time inventory management, six sigma, and globalization were at their prime. Then an earthquake and tsunami struck Japan leading to the Fukushima Daichi nuclear disaster in March 2011. Throughout Japan, manufacturing plants were closed, and the unfortunate event sent shock waves across the computer, electronics, and automobile industries worldwide.

The Covid-19 pandemic hit supply chains even harder. Factory lockdowns, transportation network disruption, tight supply led to panic buying and higher prices. For example, used cars prices went up 30% from a year ago. The global shortage of semiconductor chips has had cascading effects on the availability of industrial and consumer products. The trickle-down effects of the Covid-19 outbreaks brought supply chains back into the limelight.



Introduction (Continued)

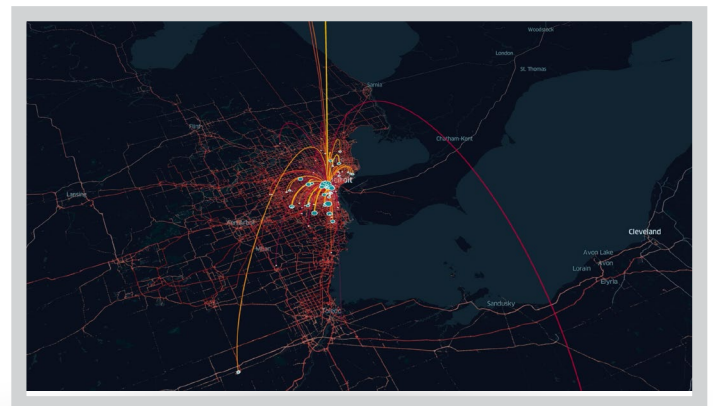
Both Fukushima Daichi nuclear disaster and the Covid pandemic exposed global supply chains' vulnerability and the urgent need to change the supply chain management. Today, the executive leadership teams at global fortune 500 companies are laser focussed on supply chains. The chief supply chain officer (CSCOs), strategy, and digital innovation teams have the budget and timeline to transform supply chain operations. So how can supply chain leaders respond? What can they do to make their supply chains more robust, resilient, and responsive before the next disaster strikes? And which technological solutions should they pursue to address supply chain challenges?

7 Keys to supply chain success

Today, the supply chain is no longer a cost reduction engine. Supply chain leaders have unprecedented opportunities to leverage technology and offer a distinct competitive advantage. What should be the focus of their supply chain investment that will drive innovation and disruption? Below are seven keys to supply chain management success and a great source of inspiration to transform your supply chain:

1. Transparency

Transparency has become one of the most debated hot topics in the supply chain community. But what does it mean? According to Alexis Bateman, director of Sustainable Supply Chains at the MIT Center for Transportation and Logistics, there are two elements to supply chain transparency - Visibility and Disclosure. Visibility is accurately identifying and collecting data from all links in your supply chain. Disclosure is communicating that information, both internally and externally, at the level of detail required or desired. This can be a daunting task based on your specific industry, pertinent government regulations, suppliers, and corporate culture. Yet, there is pressure from governments, consumers, NGO's and stakeholders for granular information about supply chains. There is growing awareness about environmental issues, climate change, and social responsibility. Savvy consumers ask questions about product ingredients, where these materials are coming from, and any child labor practices in the supply chains. The regulations are becoming more stringent, particularly in the food industry. Beyond compliance, there are additional benefits of transparent supply chains. Data shows that consumers are willing to pay more for greater transparency. Researchers at MIT found that supply chain visibility is a surefire way for companies to gain consumer trust and can even lead to increased sales from specific customers segments. Unfortunately, traditional supply chains were designed to be opaque.



As a result, organizations have been investing in visibility tools to bring transparency to supply chains. And this is an area where geospatial technology is playing a significant role. Advanced analytics and location intelligence solutions can provide unprecedented visibility and traceability, allowing supply chain leaders to make informed strategic decisions that drive revenue and reduce risk.



2. Resiliency

A Gartner survey of more than 1,300 global supply chain professionals found that 87% of respondents plan investments in supply chain resiliency within the next two years. The CSCOs have to find a new balance between resiliency, cost-efficiency, and fulfilling increasing customer demands. The supply chain technology leaders are grappling with issues such as where to invest and how to prioritize? McKinsey partner Ed Barriball said in a McKinsey on Government podcast,

“Most companies and governments know who they buy from directly, but our research finds that more risk emerges from tier two, tier three, and tier four of the supply chain, which would be your supplier’s suppliers.”

The problem is that most organizations don’t have this level of details and granular data about indirect suppliers. Moreover, supplier information is considered proprietary. Hence the first step to assess risk and improve resilience is to map the end-to-end supply chain ecosystem. AI-powered geospatial analytics can help to identify tier-2 and tier-3 suppliers. And investing in tools for site monitoring that have automated anomaly detection will increase supply chain resiliency and improve operational efficiency.

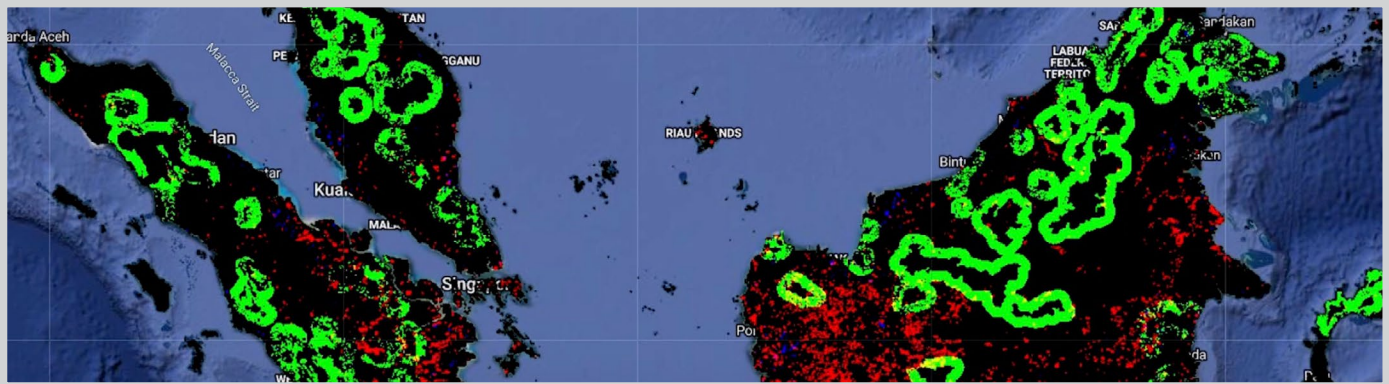
3. Hyperconnected Supply Chain

The advent of a hyperconnected supply chain and the necessary infrastructure, interconnected components at multiple layers for pervasive connectivity is redefining supply chain management. Organizations are moving away from linear supply chains into connected supply networks where all linked partners share data across the ecosystem. The IoT, smart manufacturing, and Industry 4.0 initiatives are acting as catalysts accelerating supply chain transformation, demanding real-time visibility and driving connectivity. The connected supply network leverages next-generation tools such as cloud-based digital supply chain platforms to sense demand signals and respond accordingly. Real-time transportation visibility appears to be a key priority for third-party logistics, shippers, and customers, with the hyperconnected supply chain providing the fundamental underpinnings of visibility and resiliency.



4. Sustainable Sourcing

The sustainability theme is gaining momentum primarily driven by pressure from NGOs, the government, investors, and consumers. Both B2C and B2B companies are increasingly becoming aware of environmental and social impact. Conscious of their brand image, many multinational companies have policies to work only with suppliers that adhere to social and environmental standards. The biggest consumer companies take issues such as air pollution mitigation, carbon emissions reduction, deforestation, and child labor seriously. E.g., at Unilever, sustainability is a top priority. The British multinational corporation is working with the geospatial analytics leader Orbital Insight, to help identify the individual farms and plantations most likely supplying the palm oil mills in their extended supply chain. The technology leverages GPS data, aggregated and anonymized, to spot traffic patterns. A consistent flow of traffic between an area of land and a mill suggests a potential link. Using Orbital Insight's location intelligence platform GO, sustainability champions at Unilever get a clear picture of where harvested crops are coming from, down to the individual field. It allows Unilever to predict the possibility of issues such as deforestation and to take appropriate action. In this era of climate change, we desperately need circular supply chains that eliminate waste and focus on reused, recycled materials.



5. Agile Supply Chain

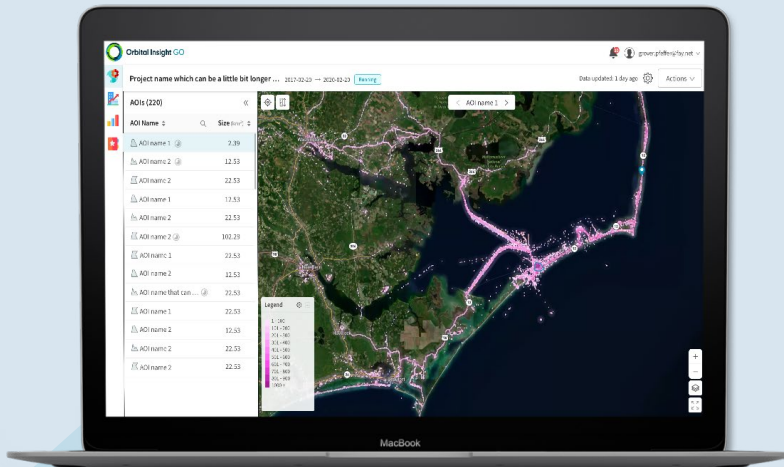
Gartner's global supply chain survey revealed that 89% of supply chain professionals want to invest in agility. Factory lockdowns, transportation network failure, and a worldwide shortage of essential goods stemming from the covid pandemic exposed the vulnerability of supply chains. As a result, there is an urgent need to pivot to a strategy that boosts agility and makes the supply chain more responsive. The traditional supply chains were focused on Lean - eliminating wastes and reducing costs. Agile supply chains, on the other hand, focus on flexibility and adaptability. Agility means efficiently responding to fluctuating market dynamics - changing consumer behavior, competitive plays, and economic conditions. And one approach towards agile supply chains is leveraging advanced analytics. Organizations are making massive investments in technology to make informed decisions about demand forecasting, pricing, and business risk analysis to respond to potential disruptions. Anomaly detection and predictive analytics can boost agility and help organizations to respond to disruption much better.



6. Advanced Risk Management

A vast majority of organizations lack formal processes to manage supply chain risks. Often the problem is finding out where to start. In multi-tier industrial supply chains that span countries, thousands of suppliers contribute to a single product. For example, an automaker has 250 tier-1 suppliers, a reasonable number to track and manage. However, the number of suppliers jumps to 18,000 across the entire value chain, growing exponentially in complexity and risk. How can you identify all suppliers providing the raw material in the upstream supply chain to the final assembled system? Businesses with multi-tier supply chains need specialized risk management solutions. The first step is to implement tools that enable organizations to trace

the complete supply chain to get visibility and traceability beyond direct suppliers. Next, supply chain leaders need to build a framework to assess risk, and finally, monitor that risk. This McKinsey report suggests that organizations must build robust programs to manage both known and unknown supply-chain risks and give a practical approach to manage risk. It is important to note that persistent monitoring is one of the critical success factors in identifying supply chain risks.



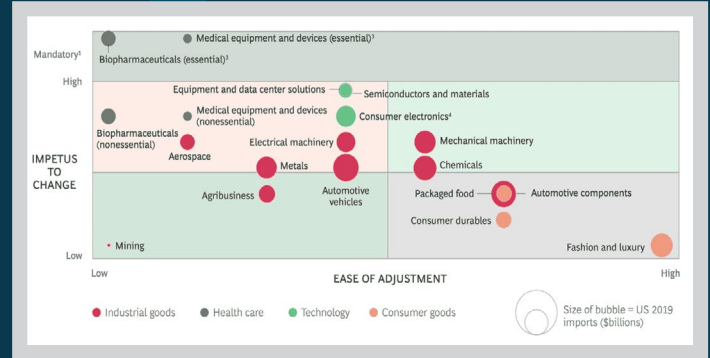
7. Intelligent Supply Chains

Gartner predicts that through 2024, 50% of supply chain organizations will invest in applications that support AI and advanced analytics capabilities. Process automation, cloud-based analytics, and real-time transportation visibility solutions are some technology areas that have already made inroads in the supply chain world. Tomorrow's supply chain will be intelligent, driven by data, AI, and machine learning. Supply chain 4.0, the digitization of supply chains, combines IoT, robotics, and advanced analytics to redefine the supply chain - faster, more flexible, accurate, and efficient supply networks.

As product life cycles get shorter, products become more personalized, and more consumers gravitate towards sustainable, ethical companies, supply chains will become transparent, resilient, responsive, and intelligent. Supply chain intelligence powered by location data and geospatial analytics can help you embark on your supply chain transformation journey.

A Roadmap

A recent McKinsey article on the industrial supply chain highlighted that all supply-chain operations areas benefit from digital technologies leading to 20-30% on time, in full improvement. As a supply chain leader, you need to leverage digital technologies to understand anomalies, outages, and disruptions at your suppliers and your supplier's suppliers, and your competitors. And this needs to happen in near real-time to allow efficient and cost-effective business decisions. Timely operational planning is crucial to maintain operations and to be better informed around pricing and supply. Post-pandemic visibility, traceability, and resiliency have become even more critical. The following illustration from the Boston Consulting Group is a great visualization to understand which supply chains are most at risk and likely to experience the most significant change.

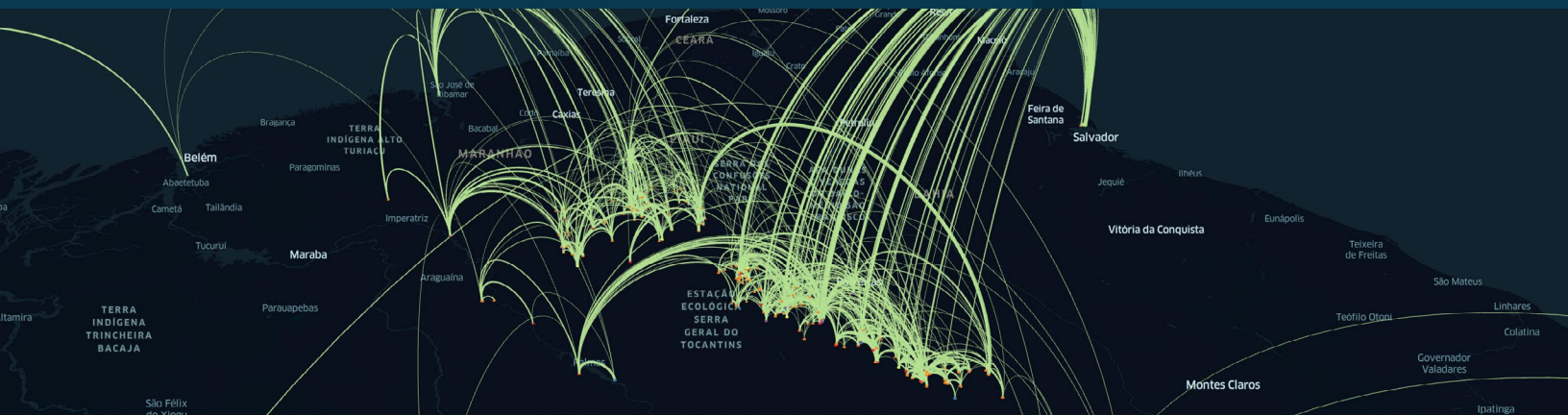


Comparing impetus of change to ease of adjustment for US goods sector

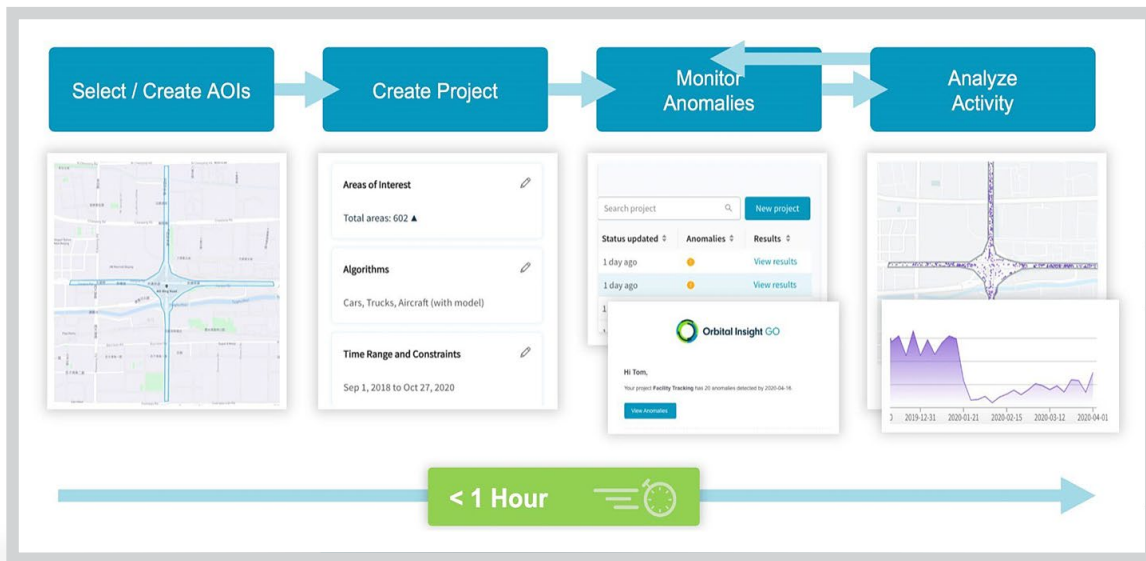
Location intelligence and geospatial analytics can help you to increase supply chain visibility, enhance traceability, and improve operational efficiency. An AI-powered geospatial platform can illuminate your supply chains, monitor daily activity levels, perform anomaly detection, and reduce disruption risk by combining satellite imagery, computer vision algorithms, and multiple data sources. An advanced geospatial analytics platform can enable you to analyze production activity, track shipments, monitor supply chains, and answer critical questions around risk:

- **Map out end-to-end supply chain to see all suppliers, monitor risks/disruptions**
- **Make critical operational decisions, in time, based on pricing and supply data**
- **Identify key suppliers and visualize interdependencies to mitigate risk**
- **Which ports are having delays, where to reroute goods to improve utilization**
- **Identify ships that are taking longer to arrive, make alternate plans**

Supply chain leaders should evaluate location intelligence tools to improve performance. The first step is to get a clear picture of the entire supply chain - begin with mapping the end-to-end supply chain and trace all suppliers in your ecosystem. Once you have a good handle on your indirect suppliers, you can start assessing risk. The best supply chain intelligence solutions facilitate collaboration between procurement, sales & operations, and demand planning teams and mitigate the risk of disruption with actionable insights. Supply chain intelligence solutions that leverage AI, location data, and automation empower supply chain managers to analyze delivery patterns, spot warning signs from suppliers struggling to keep up with demand, and check their financial health to identify alternatives quickly. For example, Unilever, one of the world's largest consumer goods companies, uses satellite imagery, location data, and AI to track and monitor their raw material sourcing for Palm oil.



To gain greater insight into links between farmers and processors, Unilever's sustainable sourcing team uses Orbital Insight GO to build a system that combines satellite imagery with GPS geolocation data, allowing it to visualize precisely where its raw materials are coming from taking action to ensure they are sustainable

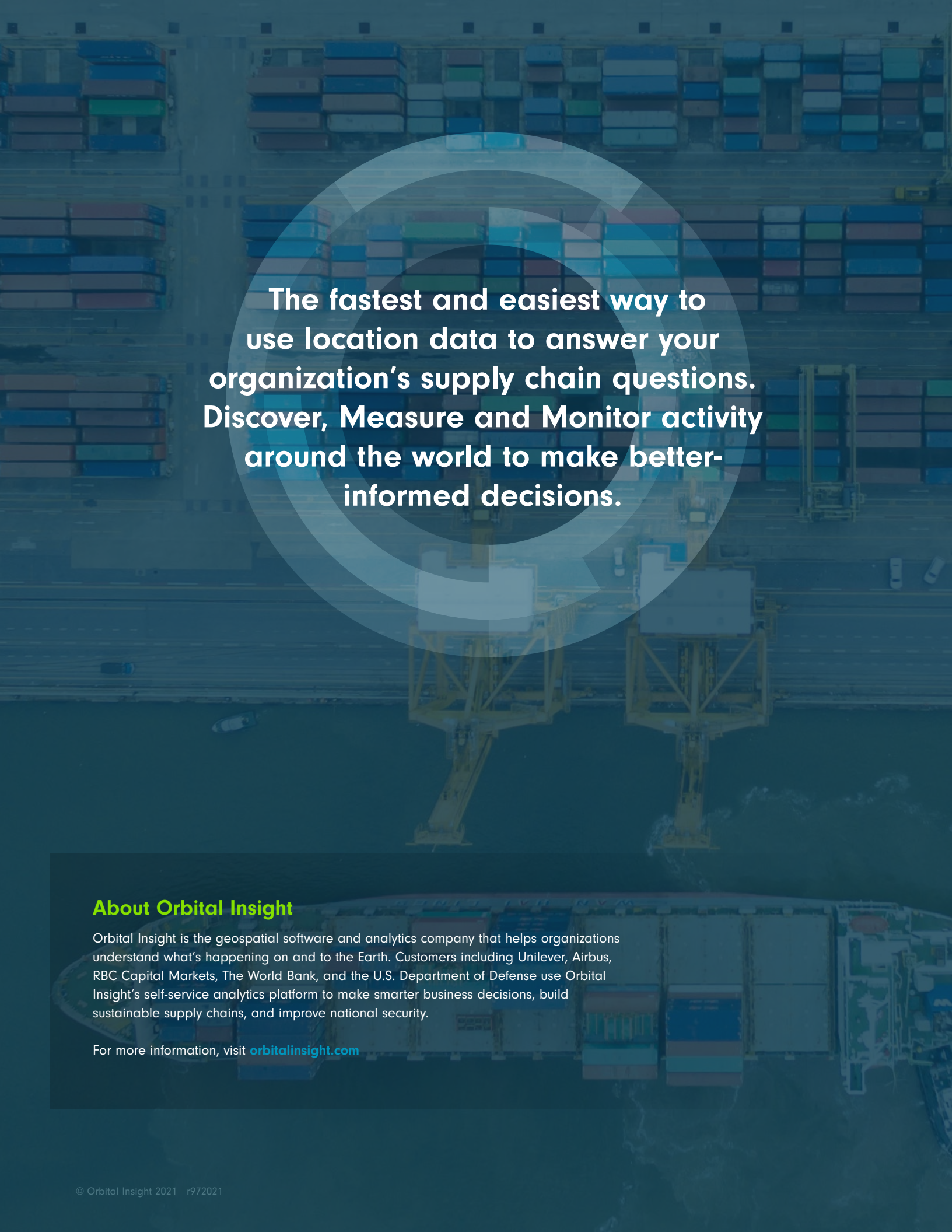


It's time for consumer packaged goods, chemical, and automotive companies to leverage location intelligence for enhanced supply chain visibility and traceability. Novel location-based supply chain intelligence solutions can detect changes in the supplier ecosystem, uncover hidden patterns indiscernible to the naked eye, and deliver competitive insights at scale. And, supply chain intelligence will further expand the Industry 4.0 vision, accelerate smart manufacturing with digital, transparent, and connected supply chains. The best part is that the technology can also be applied to fight deforestation, promote responsible sourcing, and progress towards sustainability goals. The right supply chain intelligence solution will capture competitive insights, improve sourcing and build long-term strategic differentiation.

Learn more about how our customers, such as Unilever, Celanese, BP, and others, are using geospatial analytics and location intelligence to transform supply chains; check out few use cases:

<https://orbitalinsight.com/resources/case-studies>





**The fastest and easiest way to
use location data to answer your
organization's supply chain questions.
Discover, Measure and Monitor activity
around the world to make better-
informed decisions.**

About Orbital Insight

Orbital Insight is the geospatial software and analytics company that helps organizations understand what's happening on and to the Earth. Customers including Unilever, Airbus, RBC Capital Markets, The World Bank, and the U.S. Department of Defense use Orbital Insight's self-service analytics platform to make smarter business decisions, build sustainable supply chains, and improve national security.

For more information, visit orbitalinsight.com