



Company Data

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Case Study 17: Preventing Supply Disruption through Sole-Source Risk Mitigation

Aerospace Electronics Manufacturing

Background: A Hidden Vulnerability in the Supply Chain

In 2025, a leading aerospace electronics manufacturer uncovered a critical vulnerability in its supply chain: dozens of components were sourced from only one supplier each, with no backup available. Such sole-source and single-source dependencies are deceptively common – and dangerous. In fact, sole-source suppliers rank **among the top supply chain risks**, since a single unforeseen event (a factory fire, strike, or even a supplier's bankruptcy) can **shut down production entirely**.

The problem is that these vulnerabilities often lurk deep in the supply network. Studies show **85% of disruptions originate in lower-tier suppliers that companies often lack visibility into**, meaning organizations may not even know they have a sole-source risk **until it's too late**. This manufacturer was no exception: its procurement team had not fully mapped which parts were sole-sourced, so the risk remained **overlooked**.

Compounding the issue, one of the company's most critical parts – a specialized navigation microchip – came from a **single overseas supplier**. This supplier was located in a region experiencing rising geopolitical tension. A new regulatory restriction or political incident in that one country could **instantly choke off supply**, halting the manufacturer's production of flight control units. The company realized that this **often-overlooked risk** had the potential to cause **catastrophic disruption** to deliveries and revenue if a geopolitical shock, natural disaster, or trade embargo struck. They needed a way to illuminate these single points of failure *before* they triggered a crisis.

Solution: Intelleges Illuminates and Mitigates Sole-Source Risk

Seeking to proactively manage this threat, the manufacturer turned to **Intelleges**, a supply chain risk intelligence and procurement compliance platform. Intelleges allowed the company to shine a light on hidden sole-source dependencies and take action before disaster struck. The platform securely integrated the company's internal data (purchase orders, supplier lists, bill-of-materials) with external risk indicators and Intelleges' own questionnaires and analytics. This provided a **unified, real-time view** of supplier risk across the enterprise.



Key capabilities of the Intelleges solution included:

- **Sole-Source Identification:** Intelleges automatically analyzed purchasing and supplier records to flag which parts had only a single source. It created a centralized database of these sole-source suppliers, making the scope of the problem immediately visible. For this manufacturer, Intelleges identified over **150 components** (including that navigation chip) that were **100% reliant on one supplier**.
- **Part Dependency Mapping:** The platform **cross-referenced part numbers with their dependencies** in the company's product designs and bill of materials. This revealed **which finished products and programs would be impacted if a given supplier failed**. For example, multiple avionics and guidance systems were shown to depend on the sole-sourced navigation chip – a single point of failure for an entire product line.
- **Risk Linkage for POs:** Each purchase order in Intelleges was **linked to external risk data** about the supplier's country and context. The system pulled in country-of-origin risk scores, political instability indicators, and global trade news. In this case, Intelleges highlighted that the navigation chip's supplier was based in a country facing new **trade restrictions and political unrest**, elevating its risk profile.
- **Procurement Category Classification:** Through internal questionnaires and workflows, Intelleges prompted buyers and engineers to classify each procurement as **sole-source or competitively sourced**. This ensured that sole-source situations were **consciously acknowledged and justified** (in line with FAR/DFARS guidelines for government contractors) rather than creeping in unnoticed.
- **Integrated Risk Dashboard:** Intelleges combined the sole-source data with other risk protocols – including Country of Origin (COO) checks, Financial Stability Vetting (FSV) of suppliers, PO delay alerts, Conflict Minerals compliance status, and Site Security audit results – into a **real-time global risk dashboard**. This "full-spectrum" view gave the manufacturer's risk team and executives instant insight into how a disruption anywhere would impact their supply chain.

The PODS Advantage: FAR-Compliant Sole-Source Documentation

As part of its strategy, the manufacturer deployed the Intelleges **PODS (Purchase Order Documentation Summary)** to document every sole-source procurement event. Unlike traditional systems that target suppliers, Intelleges' PODS tool used its proprietary questionnaire engine to collect justifications directly from buyers and procurement managers, in compliance with **FAR Part 12 requirements**.

The system required buyers to select one or more FAR-justified rationale categories — such as "Unique Capability," "Exclusive Rights," or "Specialized Expertise" — and then provide written substantiation. This created a **fully documented, time-stamped, audit-ready record** of why the procurement could not be competed. Every justification was reviewed, validated, and automatically linked to the associated part number and supplier.



Figure 1: Intelleges PODS interface for FAR Part 12 sole-source justification

Using Intelleges' illumination capabilities, the company's supply chain team pinpointed exactly where they were "**beholden to one supplier**" **unnecessarily**. They then launched targeted risk mitigation efforts: expediting the qualification of a secondary source for the high-risk navigation chip, building additional inventory buffer for a handful of other sole-sourced parts, and collaborating with engineering to redesign two components to use more standardized (multi-source) parts. Intelleges facilitated these actions by **tracking progress** and **alerting the team to any delays** or issues in real time.

Results: From Potential Shutdown to Resilience

Just weeks after the Intelleges platform was implemented, the aerospace manufacturer gained unprecedented visibility into its supply base. The findings were eye-opening: roughly **15% of all purchased components were sole-sourced**, a hidden exposure that was now quantified and prioritized. More importantly, the company took swift action on the **20 highest-risk items**, eliminating or mitigating threats that could have otherwise caused a production standstill.

One major success came when geopolitical turmoil did in fact strike. Midway through the risk mitigation project, **a sudden regulatory change hit the sole-source chip supplier's country**, temporarily restricting exports of high-tech components. What could have been a plant-wide shutdown was **completely avoided** – Intelleges had already enabled the company to qualify an alternate supplier in a friendly nation and build **8 weeks of safety stock** for the navigation chip. Production continued without a hitch, with the procurement team seamlessly switching to the backup source. **Not a single delivery to customers was missed.**

By averting an unplanned assembly line stoppage (which can cost an aerospace OEM **upwards of \$20,000 per hour** of downtime), the company estimates it **saved several million dollars** in potential losses. For example, avoiding even a one-month (160 hour) outage at \$20k/hour protects about **\$3.2 million in output**. Moreover, by proactively



addressing sole-source risks, the manufacturer **protected an estimated \$50 million in revenue** tied to those at-risk programs, safeguarding customer contracts and confidence.

Beyond preventing disaster, the Intelleges initiative delivered tangible business improvements:

- The company **reduced its count of sole-source components by 30%** within six months, significantly lowering overall supply chain risk exposure.
- Supply chain managers can now **instantly visualize risk levels** for each supplier and part, whereas previously this information was scattered in spreadsheets and tribal knowledge.
- The organization noted efficiency gains. By automating data collection and supplier outreach, Intelleges cut out tedious manual work – one major aerospace client reported a **600% increase in productivity** after automating formerly manual processes.
- Executives now have **real-time risk insight** at their fingertips. The sole-source risk dashboard is reviewed in leadership meetings, ensuring that what was once an overlooked vulnerability has become a strategic focus.

Why This Makes Sense for Your Organization

Sole-source and single-source supplier risks are the "**sleeping giants**" of supply chain disruption – often underestimated until they bring operations to a halt. If your organization relies on any critical suppliers or parts without a backup, you are one geopolitical event, natural disaster, or supplier bankruptcy away from potentially **catastrophic downtime**. Yet, most companies are still flying blind to these risks: **fewer than 15% of procurement teams use continuous monitoring tools** for supplier risk today, despite the clear dangers.

Intelleges makes the invisible risks visible. By illuminating which suppliers are sole-source, which parts have no redundancy, and how global events could impact your supply chain, Intelleges gives you the power to act early. This isn't just about avoiding negatives; it's about gaining a **competitive edge**. Companies that leverage Intelleges can confidently navigate volatility while others get caught flat-footed.

Don't wait for a crisis to reveal your weak links. As this case study showed, what you don't know *can* hurt you – but with the right tools, you can transform hidden vulnerabilities into actionable insights and resilient strategies. Intelleges empowers you to not just survive disruptions but **thrive despite them**. With Intelleges, you gain the peace of mind that no single supplier failure will ever take you by surprise.

Ready to Transform Your Compliance Operations?

Intelleges automates complex compliance workflows, reduces risk, and delivers audit-ready documentation — so your team can focus on what matters most.

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