

## 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.

**Schedule a Demo:** [www.intelleges.com/demo](http://www.intelleges.com/demo)

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