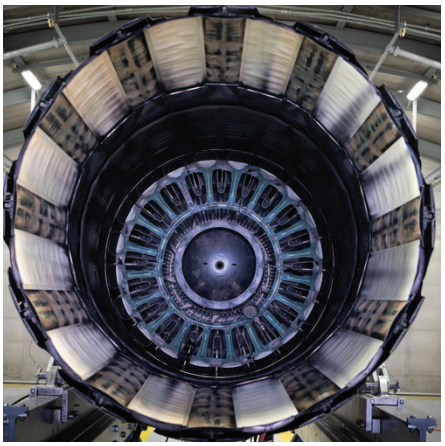
CUSTOMER SUCCESS STORY

C3.ai

Defense Manufacturer Strengthens Network Resiliency with AI



Value-Driven Benefits

28,000+

Parts analyzed across the global supply network

700+

Suppliers monitored across the global supply network for performance, risk, and impact

42 weeks

From project kickoff to scalable deployment across three business units

Introduction

A leading European defense manufacturer faced mounting pressure to scale operations across its three business units: aerospace, defense, and digital security. Driven by a strong post-COVID recovery in commercial air traffic, increased military spend across Europe, and rapid adoption of cybersecurity, biometrics, and other modern digital security technologies, demand surged and drove double-digit growth in net new sales.

Challenges

However, the company struggled to meet the surge in the demand. The company operates a vast and complex global supply chain network - spanning over 5,000 suppliers - and was increasingly at risk due to disruptions such as geopolitical instability and natural disasters. Despite the complexity of its network, the company relied on manual, spreadsheet-based processes to assess the impact of disruptions and identify mitigation strategies – a time-consuming and error-prone process. The network's complexity, combined with the lack of real-time visibility and the ability to perform timely impact analyses resulted in longer lead times, inventory imbalances, and higher costs.

Solution

To address these challenges, the company partnered with C3 AI to launch a digital transformation initiative focused on improving end-to-end supply chain visibility and resiliency, starting with the implementation of C3 AI Supply Network Risk (SNR), an AI-enabled control tower and resiliency application. Within 42 weeks, the joint C3 and customer team deployed C3 AI SNR, unified data from 33 disparate data sources, and configured two modes of resiliency planning to help the company assess the impact of immediate and emerging risks to develop short-term and long-term mitigation strategies.

Results

The defense manufacturer gained unprecedented visibility and resiliency modeling capabilities across its multi-tier supply chain. With C3 AI, the company can identify supply chain risks, simulate scenarios, automate impact assessments, and mitigate risks with AI-driven recommendations - shifting from reactive, manual processes to preventive, holistic supply chain management. With the success of the initial production deployment, the company is expanding its partnership with C3 AI and scaling AI-driven capabilities across its operations.

Challenges

Following the COVID-19 crisis, the company saw a surge in demand in its three fast-growing business units: aerospace, defense, and digital security. The growth was driven by the recovery of the commercial air traffic, increased defense spending across Europe, and rising adoption of cybersecurity and biometric technologies. However, the company struggled to meet the growing demand due to its volatile and highly complex supplier network. For example, a single order for 10 finished goods could require a nine-layer bill of materials (BOM) involving more than 200 entities (e.g., manufacturing, assembly, and storage sites) across the company's 5-tiered ecosystem with over 5,000 suppliers – with a lead time of up to 18 months. Network complexity, combined with a lack of real-time visibility and insights, made it difficult to track parts and suppliers or quickly assess which finished goods were affected by disruptions.

Moreover, the company relied on manual, spreadsheet-based processes to assess impact and determine mitigation strategies. Extracting data from siloed systems would take weeks, and strategic decisions were often based on intuition rather than data. This reactive approach limited the company's ability to act decisively and quickly during crises. To improve resiliency, the company needed a more robust, scalable solution to visualize end-to-end supply network, assess impact, and develop proactive mitigation plans.

Approach

Over 42 weeks, the company partnered with C3 AI to configure and deploy C3 AI SNR to enable real-time visibility, simulate scenarios, and support proactive, data-driven decision-making across global operations.

The team started by unifying three years of historical data from 33 disparate sources across the three business units into a centralized digital twin. With the digital twin, the company can simulate disruptions, conduct precise impact analyses, and evaluate different mitigation strategies. Additionally, company gained interactive maps and visualizations, including supplier details such as performance and risks, and parts details such as capacity load, lead time trends, and market data. Analysts could also access real-time alerts such as delays and capacity issues to address risks before they escalated.

Building on this foundation, the company configured two modes of resiliency planning. In crisis mode, the company can quickly assess the impact of real-world events on components, suppliers, and finished goods, and respond with short-term tactics. In resiliency planning mode, the company can simulate emerging risks such as geopolitical tensions, assess potential impacts, and develop both short-term and long-term mitigation strategies.

With C3 AI, the company transformed its supply chain from manual, reactive processes to automated, proactive supply chain management - unifying its network of over 700 suppliers and 28,000 parts with powerful resiliency planning capabilities. With the success of the initial production deployment, the company is expanding its partnership with C3 AI and scaling AI-driven capabilities across its operations.

About the Company

- €20+ billion annual revenue
- Tier 5+ network with 5,000+ suppliers
- 60+ countries in operation
- 80,000+ employees

Project Highlights

- 33 data sources unified across three business units into a single digital twin for end-to-end supply chain visibility
- 3 years of historical data integrated - live data connections configured for daily updates
- 9-layer BOM simplified and visualized for analysis
- 3 interactive UI screens configured with 20+ real-time alerting rules
- 5 recommendation categories configured to mitigate disruptions, including alternative SKUs, ports, and suppliers
- 10 user roles configured with dynamic access controls and collaborative scenario planning
- Machine learning model configured to evaluate and score mitigation strategies based on service and financial impact

Solution Architecture

C3 AI Supply Network Risk

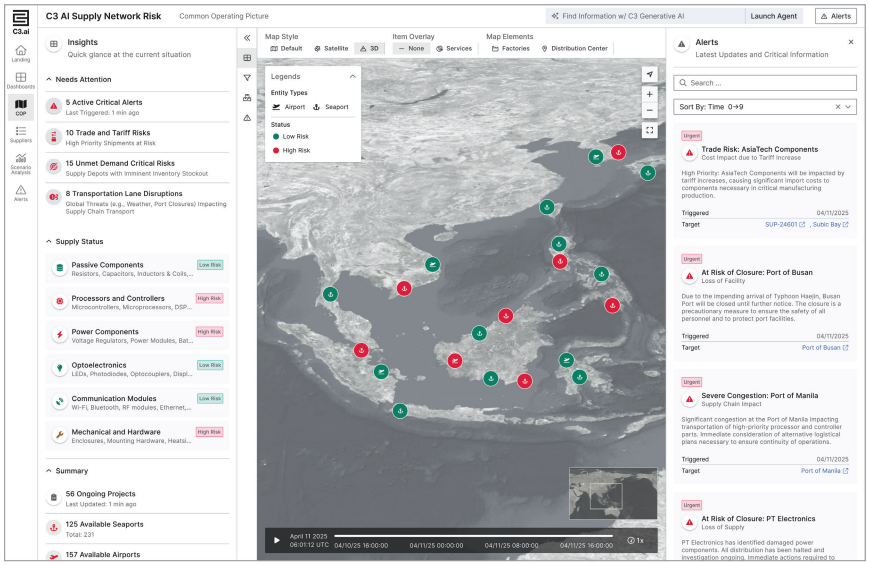
Enterprise Data

Internal Data

- Material Master
- Purchase Orders
- Inventory
- Production Orders
- Bill of Material
- Supplier Performance
- Procurement

External Data

- Market Data



Proven Results in Initial Production Deployment

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