

BUSINESS CASE DEKRA SUPPLY CHAIN RISK MANAGEMENT SERVICES

Effective Protection of Your Supply Chain against Global Risks

Best Practice: Using DEKRA Supply Chain Risk Management Services and an AI-based information platform, a leading Electronics Manufacturing Services (EMS) contract manufacturer was able to increase the risk management resilience of its global supply chain. The customer can now identify risks as soon as they emerge and quickly assess their consequences for the supply chain. What was the initial situation? How were the changes implemented?

Initial Situation

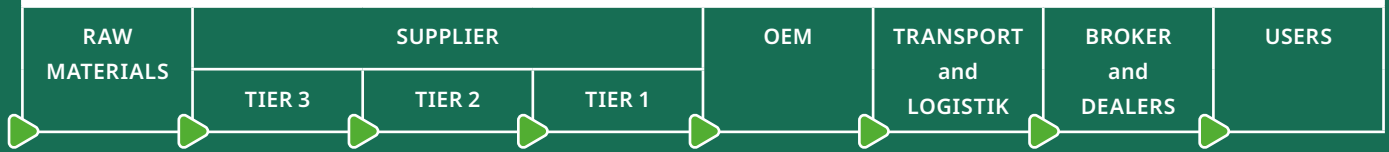
The customer, a medium-sized manufacturer of complex mechatronic assemblies for the automotive industry, set up a plant in Taicang 15 years ago. The goal: to be closer to the Asian automotive industry and its suppliers. Meanwhile, the Taicang plant's supply chain now consists of over 150 direct and indirect suppliers.

ISO/TS 16949 certification has enabled the Chinese plant to achieve a high level of process accuracy and reproducibility, and to impose the same quality

benchmarks on its main suppliers. Similarly, the group has been able to identify and reduce the environmental and cyber risks in its processes since introducing ISO 14001 and ISO/IEC 27001. However, the threats to the supply chain are becoming increasingly dynamic. Numerous resources are exposed to critical volatilities. Political requirements, raw material shortages, environmental events and new forms of cybercrime are further risks that need to be reassessed. The list of events is growing and is now affecting the entire supply chain of the EMS specialist, up to and including disruptions to deliveries.



The EMS specialist is a Tier 1 supplier to a major car manufacturer and supplies sensors and control units for the infotainment systems of all models. The OEM pursues a dual procurement strategy based on two Tier 1 suppliers for the procurement of complete assemblies.



In networked supply chains, one supplier can also serve as the hub of another chain. High risks to supplies arise when the links between suppliers are not transparent. A previously unknown and risk-encumbered Tier 4 supplier, for instance, can indirectly supply the entire supply chain with an essential resource. The result? Risky bottlenecks and dependencies.

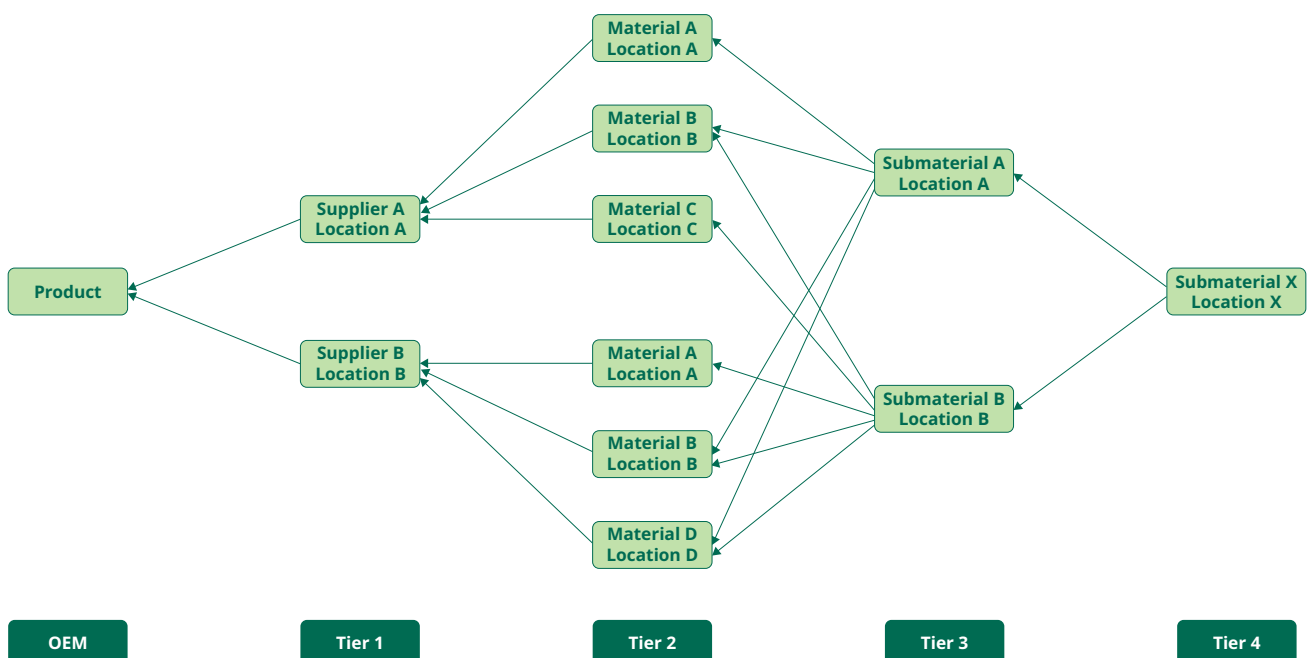
Requirements Profil

The OEM requires its Tier 1 suppliers to continuously screen their supply tiers for possible disruptions and identify potentially vulnerable suppliers at an early stage. Delivery performance and reliability need to be stabilized overall.

In order to not only meet customer requirements, but also gain a strategic competitive advantage for itself, the EMS specialist talked to DEKRA about a comprehensive early warning system for supply chain

risk management. The customer wished to create end-to-end (inbound/outbound) structures across the entire chain in order to put the supply chain on a secure footing and to identify critical risks with suppliers at an early stage.

- ▶ **Identification of key risks in the supply chain**
- ▶ **Transparency regarding the relevant suppliers (Tier 1 to N) and their chains**
- ▶ **Reduction of dependencies**
- ▶ **Increased resilience of the supply chain**





Solution

The management is keen to exploit the fact that the underlying circumstances are not likely to change in the foreseeable future. A new, monitored end-to-end process in the supply chain should give the company a competitive advantage in meeting customer requirements even during crises, and help generate further resilience for new business.

DEKRA's Supply Chain Risk Management (SCRM) services are based on specific risk matrices for particular supply chains and on AI-supported research conducted in global databases. The solution is being overseen and supported by DEKRA experts. The industry know-how gained from numerous risk analyses ensures that the focus is firmly on the specific risks relevant for the organization and supply chain (inbound/outbound).

The AI platform scrutinizes the risks which have been defined and prioritized for the supply tiers. Suppliers that pose a risk for the supply chains are

identified – e.g., those which have suffered cyber-attacks or liquidity problems, or have violated health and safety regulations. Screening sources include publicly available information in all widely spoken languages, e.g., from databases, social media, annual reports, trade portals and local press reports. The platform highlights damage events in the supply chain, even those in distant regions. The EMS contract manufacturer buyers and risk managers can therefore react immediately and contact affected suppliers.

Implementation

Companies need a high level of risk maturity to be able to identify, evaluate (risk matrix) and reduce the risks that threaten their existence in the supply chain. Long-term increases in risk management resilience begin with an analysis of the organization and its internal structures. Is there a risk policy? How is it implemented? These are key issues to be addressed at the start of the project.





1. Risk maturity level of the organization and supply chain

Clear responsibilities and consistent implementation are the prerequisites for a high degree of risk maturity. It must be clarified from the outset whether a risk policy and an action plan are in place, and whether these are drawn up and updated by staff and management on a regular basis (leadership and resources). Other criteria include tools for risk identification (risk matrix, software tools), proactive prevention and response plans, documentation and training. The supply landscape should be known for at least Tiers 2-3 (customers and suppliers). Stable communication channels (up to C-level) and crisis communication scenarios must be developed with key suppliers.

The DEKRA risk management score (0-5) revealed a risk maturity (RM) of between 3 (extended RM) and 4 (advanced RM) for the EMS customer.

2. Identification of key risks in the supply chain

Key risks were identified and prioritized through further discussions with process users in the organization as well as suppliers. The criticality assessment was based on the risk matrix and its probabilities of occurrence. A key factor here was close coordination between users in the organization, the suppliers and DEKRA experts who contribute findings from customer audits.

For the EMS client, the following key risks emerged in Tiers 2 to 3:

- ▶ Rising energy and transport costs
- ▶ Power outages due to heavy rain events
- ▶ Regulatory constraints due to tense geopolitical situations, export barriers
- ▶ Significant price fluctuations for commodities, in some cases with jumps in price

3. AI-based identification of risk-prone suppliers

The use of an AI platform allowed the defined risk characteristics of the information environments to be checked at each identified supply tier. The sources included databases, registers of companies and publicly available information in roughly 50 languages, e.g. from social media, business figures, trade portals and local press. DEKRA helped in the selection of suitable databases. Use of the AI-supported assistance system exponentially increased the number of research results. This was previously not feasible using manual methods.

The AI platform used register data, weather information and local news to identify a Tier 4 supplier and the contract manufacturers of a Tier 3 supplier that were frequently affected by power interruptions due to heavy rainfall in the region.



4. Risk assessment of risk-prone suppliers

The risk classification was discussed directly with the Tier 3 supplier specifically in regard to power and supply interruptions. Because it was not possible to validate the reliability of the power supply excluding the environmental events, DEKRA recommended self-assessment of the Tier 3 supplier and its sub-suppliers.

A power supply checklist was developed for the self-assessment. This included aspects such as operational security measures from the ISO 22301 (Business Continuity Management) and ISO 27001 (Information Security) standards. Remote, on-site and hybrid assessments can also be included in cases of higher risk ratings.

5. Risk reduction and monitoring

Targeted measures and new processes – dual or multi-sourcing, supplier selection documentation and qualifications – soon reduced the number of risk positions in the supply chain. Financial and human resources were made available for further measures. After three months, the AI platform began a new monitoring phase. The results provided additional characteristics for the Risk Matrix, thereby further improving the sensitivity of the risk management.

The new findings improved the organization's maturity and resilience to further supply chain risks. Similarly, the client was able to significantly improve its response time and quality by offering training and awareness-raising measures to its staff.



Each risk category requires specific expertise if the risks are to be successfully countered. Auditors with years of experience in the application of standards and management systems are important partners when it comes to identifying which current indicators and risk characteristics can compromise the supply capability.



Client's conclusion

- ▶ Information from the AI platform and our reassessment of the risk matrix have revealed layers of the supply chain that were previously hidden from us.
- ▶ The overall analysis provides us with sound recommendations and key performance indicators (KPIs) to mitigate supplier risks. And these are not limited to sustainability risks, but can also be derived from the operational processes, depending on the particular circumstances.
- ▶ The speed with which AI detects and transmits relevant online information allows us to assess potential supply chain risks in a timely manner and respond quickly.
- ▶ Several risk types can be monitored in parallel and continuously adjusted. This cannot be done manually at the global level.
- ▶ Selected risk-prone Tier 1 to Tier N companies can be expertly and quickly audited using checklists, self-assessments and remote assessments, for example.
- ▶ With regard to Resilience and Compliance, it is important that all links in the supply chains meet the requirements. We make the documented results and action plans available to the suppliers.
- ▶ We plan to intensify our risk management in the future by conducting digital supply chain monitoring beyond the immediate suppliers themselves.

PHASE 1: RISK ANALYSIS

1.1 Risk Maturity

Analysis of risk policy, leadership, risk matrix, resources. Do any action plans exist?

1.2 Supplier Relationships

Which tiers are known? Evaluation of documentation, communication channels.

1.3 Key Risks

Identification of key risks based on audits, industry trends, interviews with process users.

1.4 Management Review

Clarification of the maturity level, including recommendations relating to supply chain management, risk policy, objectives, process performance, market risks, technical risks.

PHASE 2: RISK ASSESSMENT

2.1 AI Platform

Automatically conducts global scans for risk-related information on suppliers. Sources: databases, press, social media, business figures etc.

2.2 Assessment

Risk-prone suppliers are given the support they need in the form of self-assessments, remote assessments, on-site assessments etc.

2.3 Documentation

Management review, including documented results and recommendations for risk management.

PHASE 3: RISK MONITORING/ REDUCTION

3.1 Risk Reduction

Development of targeted measures and new processes such as dual/multi-sourcing, alternative supply routes, optimized market transparency, manuals, qualifications, training.

3.2 Monitoring

Renewed monitoring by AI platform. Assurance that results are incorporated into risk matrix and training. Initiation of continuous improvement (increased resilience).



How DEKRA can support your supply risk management

Our international network of interdisciplinary industry experts and auditors is available to you all over the world, 24/7. Take advantage of our superior know-how. We provide specially tailored end-to-end services which are essential for protecting your supply chain. Offering over 40 different types of accreditations, we can help you achieve your goals and gain a competitive edge in times of dynamic change.

Would you like to learn how our Supply Chain Risk Management Services can serve your business?

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