

MAKE EVERY LINK STRONGER



If automotive supplier ZF Friedrichshafen were suddenly no longer able to supply the 8-gear automatic transmission, production lines at a number of automotive companies would quickly come to a standstill. In order to prevent this worst-case scenario, experts from Horváth & Partners assessed ZF's complex supply chain for risks, and developed measures to make it more robust.

The supply chain for a product is as complex as the product itself. Within the automotive industry, for example, a single vehicle draws on countless suppliers around the globe, each of which in turn works with its own suppliers. If just one link in the chain breaks, production delays and serious financial damages may be the result. The risk is especially high in the case of single-source supply, when the required part can only be provided by one supplier. However, even a supposedly secure supply that is covered by multiple suppliers may harbor unexpected risks if these suppliers all use the same upstream supplier, or if they have not implemented sufficient safeguards.

THE GOAL: 100% SUPPLY SECURITY

"There are few automotive components as complex as a modern automatic transmission. Certain individual products require a wide range of components from more than 100 Tier 2 suppliers," explains Stefan Bultmann, who is responsible for risk management at the Horváth & Partners Automotive Center. Because of this complexity and the very high quality of the product, the 8HP automatic transmission is supplied by ZF Friedrichshafen AG to a large number of OEM customers, on a single-source supply basis. In order to prevent a situation in which ZF – which, with a purchasing volume of €20 billion and sales of almost €37 billion is now the second-largest Tier 1 supplier in the industry – would be unable to deliver this crucial product, the automotive supplier commissioned Horváth & Partners with developing an efficient, holistic Supply Chain Risk Management (SCRM) system. The goal was to guarantee 100% supply security, taking efficiency and cost awareness into consideration at the same time. A collaborative approach also needed to be applied for the integration of the supply chain, and a standardized method developed that could be applied to the entire supplier base for use as a toolbox for future rollouts.

SUPPLY RISK COMPARABILITY

ZF first worked with the experts at Horváth & Partners to identify potential risks. "We mapped the supply chain as far as Tier



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2 and 3 suppliers in order to gain a clear view of upstream suppliers and material flows," reports Stefan Bultmann. To this end, all components of the automatic transmission were analyzed and evaluated across nine risk categories: Nature, production processes, IT infrastructure, finances, sabotage, fire and explosion, logistics and inventory, security and politics, media supply. They were then weighted according to three factors.

At the end of this process, the Risk Assessment Indicator (RAI) presented a standardized figure for risk identification. In particular, this methodology offers a robust means of comparing breakdown risk for various suppliers. The experts from ZF and Horváth & Partners then identified which 15 of the company's many suppliers were most important in this context.

SENSIBLE PRIORITIZATION, NOT AD HOC MEASURES

Following the analysis, the project team sought out appropriate preventive measures that would eliminate or reduce risks in the supply chain. Alongside simple ideas such as introducing continuous monitoring for various risk aspects, these also included the preparation of emergency plans with clearly defined responsibilities, and technical solutions for early fire detection. The processes were tested and refined at the ZF factory in Saarbrücken and at a number of supplier sites; another important requirement was ensuring a broad understanding of risk management among the Executives of the various suppliers. Tier 3 suppliers were also involved in developing the solution and worked actively to help do so. "Everyone involved was aware of the importance of the topic, and the feedback on the process was extremely positive across the board," emphasizes Bultmann.

As well as the project being a complete success for ZF Friedrichshafen, it also resulted in a win for Horváth & Partners in the 2018 Best of Consulting prize awarded by German business news magazine Wirtschaftswoche. "The tools used and tested have produced an efficient toolbox, which can also be applied very effectively to other supply chains. The methods represent an interdisciplinary refinement of SCRM," explains Jochen Kröber, Head of Supply Chain Management, Production & Development at Horváth & Partners. Indeed, discus-

sions are already under way as to whether the project could serve as the basis for a SCRM standard that is certified by the German Association of the Automotive Industry (Verband der Automobilindustrie/VDA). ■

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THREE QUESTIONS FOR DR. MICHAEL KARRER, HEAD OF SUPPLIER MANAGEMENT AT THE ZF GROUP

What do you consider to be the greatest risks in terms of the supply of your factories?

KARRER / The ongoing globalization of the supply network results in increased volatility and complexity. That momentum is reinforced by the technological shift towards hybrid and electromobility solutions and also because of new players emerging on the customer side. Both Brexit and the trade dispute between the USA and China are also adding to uncertainty here. Apart from this, the scope of supply-related risks has expanded: In addition to traditional performance criteria such as supplier delivery reliability, quality and financial stability, considerations relating to social responsibility are also of great importance these days.

To what extent is ZF benefiting from SCRM?

KARRER / Today we are using active escalation management to respond quickly to performance risks, and as a result the resolution process takes less than half the time, which saves hugely on costs – both internal and external. The area of preventive risk management has even better potential, since we have been able to reduce the risk exposure of our supply chain at a very early stage by means of well-balanced sourcing decisions.

How have procurement procedures changed with respect to risk management?

KARRER / There is now a stronger focus on the risks because some manufacturers and large Tier 1 suppliers have had bad experiences in the past. Also, the topic is given stronger consideration in the IATF16949 (guideline for the global quality standard in the automotive industry); this means it carries a higher weighting in audits, and additionally leads to vehicle manufacturers more frequently querying which individual instances – for example a natural disaster – would affect the ZF supply chain and to what extent. This is because requirements concerning transparency within the supply chain have become much more stringent. ■

You can find the long version of the interview online at www.horvath-partners.com/Interview_ZF_en