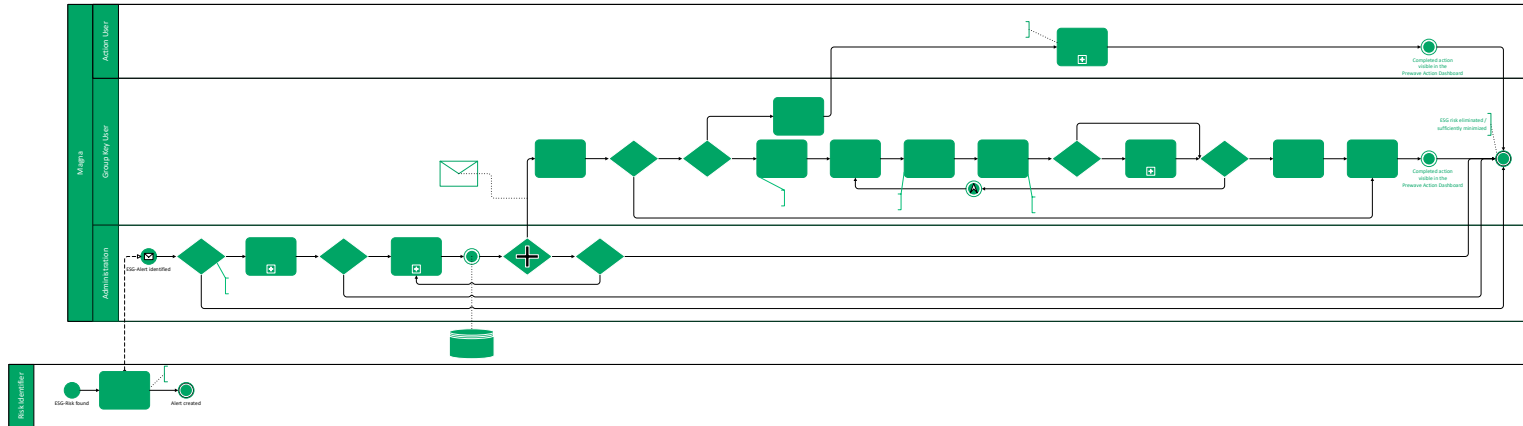


From Alerts to Action: Development of a Process Framework for Real-Time ESG Risk Management in Automotive Supply Chain Management



Training plan

Roles: Functions, Duties and Responsibilities

ESG Risk Measurement Matrix

Process Function or Role	Definition	Definition	Definition	Definition	Definition	Definition
Legal & Compliance	Identify relevant legal and regulatory requirements and ensure compliance with legal obligations	Identify relevant legal and regulatory requirements and ensure compliance with legal obligations	Identify relevant legal and regulatory requirements and ensure compliance with legal obligations	Identify relevant legal and regulatory requirements and ensure compliance with legal obligations	Identify relevant legal and regulatory requirements and ensure compliance with legal obligations	Identify relevant legal and regulatory requirements and ensure compliance with legal obligations
Reporting & Communication	Identify relevant reporting requirements and ensure compliance with reporting obligations	Identify relevant reporting requirements and ensure compliance with reporting obligations	Identify relevant reporting requirements and ensure compliance with reporting obligations	Identify relevant reporting requirements and ensure compliance with reporting obligations	Identify relevant reporting requirements and ensure compliance with reporting obligations	Identify relevant reporting requirements and ensure compliance with reporting obligations
Supplier Onboarding	Identify relevant onboarding requirements and ensure compliance with onboarding obligations	Identify relevant onboarding requirements and ensure compliance with onboarding obligations	Identify relevant onboarding requirements and ensure compliance with onboarding obligations	Identify relevant onboarding requirements and ensure compliance with onboarding obligations	Identify relevant onboarding requirements and ensure compliance with onboarding obligations	Identify relevant onboarding requirements and ensure compliance with onboarding obligations
Supplier Classification	Identify relevant classification requirements and ensure compliance with classification obligations	Identify relevant classification requirements and ensure compliance with classification obligations	Identify relevant classification requirements and ensure compliance with classification obligations	Identify relevant classification requirements and ensure compliance with classification obligations	Identify relevant classification requirements and ensure compliance with classification obligations	Identify relevant classification requirements and ensure compliance with classification obligations
Supplier Monitoring	Identify relevant monitoring requirements and ensure compliance with monitoring obligations	Identify relevant monitoring requirements and ensure compliance with monitoring obligations	Identify relevant monitoring requirements and ensure compliance with monitoring obligations	Identify relevant monitoring requirements and ensure compliance with monitoring obligations	Identify relevant monitoring requirements and ensure compliance with monitoring obligations	Identify relevant monitoring requirements and ensure compliance with monitoring obligations
Supplier Disengagement	Identify relevant disengagement requirements and ensure compliance with disengagement obligations	Identify relevant disengagement requirements and ensure compliance with disengagement obligations	Identify relevant disengagement requirements and ensure compliance with disengagement obligations	Identify relevant disengagement requirements and ensure compliance with disengagement obligations	Identify relevant disengagement requirements and ensure compliance with disengagement obligations	Identify relevant disengagement requirements and ensure compliance with disengagement obligations
Supplier Improvement	Identify relevant improvement requirements and ensure compliance with improvement obligations	Identify relevant improvement requirements and ensure compliance with improvement obligations	Identify relevant improvement requirements and ensure compliance with improvement obligations	Identify relevant improvement requirements and ensure compliance with improvement obligations	Identify relevant improvement requirements and ensure compliance with improvement obligations	Identify relevant improvement requirements and ensure compliance with improvement obligations
Supplier Evaluation	Identify relevant evaluation requirements and ensure compliance with evaluation obligations	Identify relevant evaluation requirements and ensure compliance with evaluation obligations	Identify relevant evaluation requirements and ensure compliance with evaluation obligations	Identify relevant evaluation requirements and ensure compliance with evaluation obligations	Identify relevant evaluation requirements and ensure compliance with evaluation obligations	Identify relevant evaluation requirements and ensure compliance with evaluation obligations
Supplier Feedback	Identify relevant feedback requirements and ensure compliance with feedback obligations	Identify relevant feedback requirements and ensure compliance with feedback obligations	Identify relevant feedback requirements and ensure compliance with feedback obligations	Identify relevant feedback requirements and ensure compliance with feedback obligations	Identify relevant feedback requirements and ensure compliance with feedback obligations	Identify relevant feedback requirements and ensure compliance with feedback obligations
Supplier Training	Identify relevant training requirements and ensure compliance with training obligations	Identify relevant training requirements and ensure compliance with training obligations	Identify relevant training requirements and ensure compliance with training obligations	Identify relevant training requirements and ensure compliance with training obligations	Identify relevant training requirements and ensure compliance with training obligations	Identify relevant training requirements and ensure compliance with training obligations
Supplier Support	Identify relevant support requirements and ensure compliance with support obligations	Identify relevant support requirements and ensure compliance with support obligations	Identify relevant support requirements and ensure compliance with support obligations	Identify relevant support requirements and ensure compliance with support obligations	Identify relevant support requirements and ensure compliance with support obligations	Identify relevant support requirements and ensure compliance with support obligations
Supplier Communication	Identify relevant communication requirements and ensure compliance with communication obligations	Identify relevant communication requirements and ensure compliance with communication obligations	Identify relevant communication requirements and ensure compliance with communication obligations	Identify relevant communication requirements and ensure compliance with communication obligations	Identify relevant communication requirements and ensure compliance with communication obligations	Identify relevant communication requirements and ensure compliance with communication obligations
Supplier Collaboration	Identify relevant collaboration requirements and ensure compliance with collaboration obligations	Identify relevant collaboration requirements and ensure compliance with collaboration obligations	Identify relevant collaboration requirements and ensure compliance with collaboration obligations	Identify relevant collaboration requirements and ensure compliance with collaboration obligations	Identify relevant collaboration requirements and ensure compliance with collaboration obligations	Identify relevant collaboration requirements and ensure compliance with collaboration obligations
Supplier Engagement	Identify relevant engagement requirements and ensure compliance with engagement obligations	Identify relevant engagement requirements and ensure compliance with engagement obligations	Identify relevant engagement requirements and ensure compliance with engagement obligations	Identify relevant engagement requirements and ensure compliance with engagement obligations	Identify relevant engagement requirements and ensure compliance with engagement obligations	Identify relevant engagement requirements and ensure compliance with engagement obligations
Supplier Relationship Management	Identify relevant relationship management requirements and ensure compliance with relationship management obligations	Identify relevant relationship management requirements and ensure compliance with relationship management obligations	Identify relevant relationship management requirements and ensure compliance with relationship management obligations	Identify relevant relationship management requirements and ensure compliance with relationship management obligations	Identify relevant relationship management requirements and ensure compliance with relationship management obligations	Identify relevant relationship management requirements and ensure compliance with relationship management obligations
Supplier Performance Management	Identify relevant performance management requirements and ensure compliance with performance management obligations	Identify relevant performance management requirements and ensure compliance with performance management obligations	Identify relevant performance management requirements and ensure compliance with performance management obligations	Identify relevant performance management requirements and ensure compliance with performance management obligations	Identify relevant performance management requirements and ensure compliance with performance management obligations	Identify relevant performance management requirements and ensure compliance with performance management obligations
Supplier Risk Management	Identify relevant risk management requirements and ensure compliance with risk management obligations	Identify relevant risk management requirements and ensure compliance with risk management obligations	Identify relevant risk management requirements and ensure compliance with risk management obligations	Identify relevant risk management requirements and ensure compliance with risk management obligations	Identify relevant risk management requirements and ensure compliance with risk management obligations	Identify relevant risk management requirements and ensure compliance with risk management obligations
Supplier Sustainability Management	Identify relevant sustainability management requirements and ensure compliance with sustainability management obligations	Identify relevant sustainability management requirements and ensure compliance with sustainability management obligations	Identify relevant sustainability management requirements and ensure compliance with sustainability management obligations	Identify relevant sustainability management requirements and ensure compliance with sustainability management obligations	Identify relevant sustainability management requirements and ensure compliance with sustainability management obligations	Identify relevant sustainability management requirements and ensure compliance with sustainability management obligations
Supplier ESG Risk Management	Identify relevant ESG risk management requirements and ensure compliance with ESG risk management obligations	Identify relevant ESG risk management requirements and ensure compliance with ESG risk management obligations	Identify relevant ESG risk management requirements and ensure compliance with ESG risk management obligations	Identify relevant ESG risk management requirements and ensure compliance with ESG risk management obligations	Identify relevant ESG risk management requirements and ensure compliance with ESG risk management obligations	Identify relevant ESG risk management requirements and ensure compliance with ESG risk management obligations

Problem Statement

Regulatory requirements such as CSRD, LkSG and EUDR, combined with rising sustainability expectations, make ESG risk management a central challenge for multinational companies.

At Magna International, the lack of a standardized and company-wide process for real-time ESG risks has so far resulted in decentralized and partly uncoordinated approaches within the different groups. Suppliers are contacted multiple times by different functions on the same issues, assessments vary across the organization and important risks remain undetected. This approach not only causes inefficiencies but also reduces transparency and potentially causes blind spots.

Unidentified ESG risks can lead to increased costs including regulatory penalties, weaker resilience or reputational damage. These risks underline the need for a structured and scalable framework that ensures consistent handling of real-time ESG risks across Magna International.

Approach

The master thesis is based on Systems Engineering, combining conceptual and qualitative methods. A literature review and stakeholder analysis formed the starting point. Six expert interviews were conducted to capture the current situation and stakeholder needs. Their results were transferred into a SWOT analysis and an evaluation matrix. The solution space focused on developing and validating a structured process framework that systematically addresses the identified ESG risk management challenges.

Results

The developed process framework, which includes the ESG Risk Management Process, the ESG Risk Measurement Matrix, defined user roles (including functions, duties and responsibilities), a group key user overview and a training overview was validated by the experts as very practical and feasible for implementation. It strengthens transparency across all groups, reduces blind spots in risk detection and ensures consistent collaboration within Magna.

The evaluation of the thesis showed that nine out of ten defined key results were fully achieved, while one was largely fulfilled. With this outcome, Magna International gains a robust foundation for the company-wide rollout of real-time ESG risk management. At the same time, the framework creates the basis for the long-term development of supplier risk management and supports compliance with increasing regulatory requirements.

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