

# SUPPLIER LOGISTICS MANUAL

JANUARY 2020



**KONGSBERG**  
AUTOMOTIVE





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## **PREFACE**

The supply chain organization at Kongsberg Automotive contributes to manufacturing excellence in quality, cost and delivery to the customer. In particular, the supply chain function assures the on-time delivery of component material and shipment of finished goods at the lowest cost.

Continued improvement in our global supply chain systems is and will continue to be a competitive advantage for Kongsberg Automotive.

## **1 INTRODUCTION**

### **1.1 PURPOSE**

This logistics manual has been created to assist our suppliers in understanding the expectations and logistics requirements when supplying goods to Kongsberg Automotive.

The purpose of this document is to clarify the requirements that Kongsberg Automotive (KA) has on the suppliers regarding logistics/supply chain management.

### **1.2 SCOPE**

The document describes the minimum requirements for which the supplier has responsibility. However, system improvements that exceed the requirements specified in this document are always encouraged.

The requirements presented in this document and all related documents, are provided as a complement to, and do not replace or alter any Purchase Agreement, the Kongsberg Automotive General Purchasing Conditions (KA GPC), Supplier Quality Manual, or requirements included in applicable engineering drawings, specifications or other contractual documents.

Specific logistics details to be defined in the Blanket Purchase Order, or a Logistics Agreement between the legal entities of supplier's delivery location and KA's receiving location, as applicable.

### **1.3 APPLICATION**

The expectations and requirements described in this manual apply to all suppliers of serial production products supplying to an affiliate or subsidiary of Kongsberg Automotive Holding ASA (such affiliate or subsidiary and Kongsberg Automotive Holding ASA are collectively and individually hereinafter referred to as "Kongsberg Automotive" or "KA"). Suppliers must meet all applicable requirements specified herein. Acceptance of any and/or all purchase orders constitutes acceptance by the supplier to comply with the requirements in this document.

### **1.4 IMPLEMENTATION**

Suppliers are responsible for the development, documentation, implementation and maintenance of their processes to support the requirements in this document. The suppliers are encouraged to implement MMOG/LE as a guideline for their supply management process.

## 2 LOGISTICS ORGANISATION

Supplier should set up an independent and professional logistics management department and establish a corresponding clear and complete organizational structure. The departments will directly report to senior management of the company.

For each position in the logistics department, there is a detailed job responsibility described and approved by the management personnel with signature.

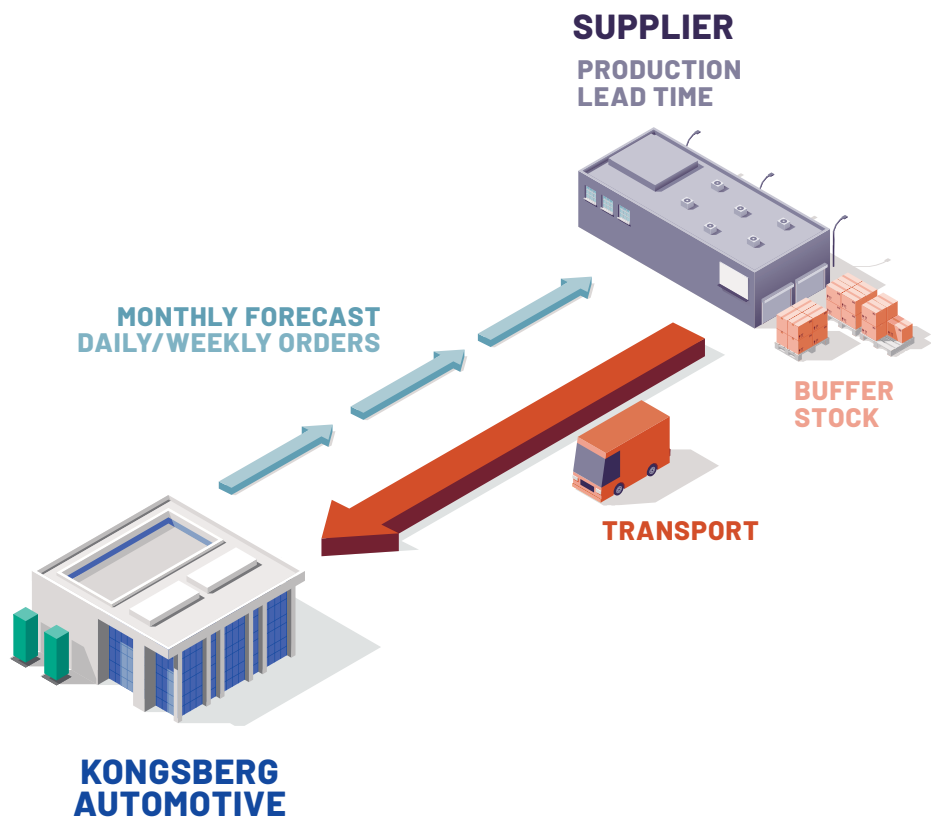
## 3 PROCESS DEFINITION

### 3.1 DELIVERY MODEL

The delivery model describes the physical flow of material between supplier and Kongsberg Automotive plant.

Details regarding organization of the process between KA and the supplier are defined in the Logistics Agreement.

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### **3.2 COMMUNICATION**

Questions and inquiries regarding delivery dates, current delivery situations and the location of the dispatched goods must be answered by the supplier immediately, or within a time agreed with Kongsberg Automotive material specialist in charge. For the handling of purchase orders and deliveries, the permanent contact persons and their substitutes shall be named in writing. These must be able to make decisions competently and reliably and take the necessary actions within the relationship between the customer and the supplier.

### **3.3 CONTACT LIST**

Supplier must deliver all contact details including names, e-mail addresses and phone numbers for all people involved in supply chain process. Same type of details is presented by Kongsberg Automotive in the same document.

If needed, contact details of forwarder must be filled in as well. Contact details to be reviewed and updated as soon as any personnel change appears.

### **3.4 AVAILABILITY**

The contact designated by the supplier (or their deputy) must be available on working days during normal local working hours (at least from 8:00 to 16:00 - local time for the supplier in each case) and is communicated to the Kongsberg Automotive contact.

Outside normal local working hours, the supplier must be available using the emergency telephone during the production hours of the Kongsberg Automotive plant supplied. The emergency contact reached using the emergency telephone must be authorized to make decisions on production and shipping (particularly the organization of special transports).

## **4 ELECTRONIC DATA INTERCHANGE (EDI)**

### **4.1 MEANS OF EDI**

Kongsberg Automotive has a target to achieve 100% Electronic Data Interchange between Kongsberg Automotive and the supplier to eliminate manual interference in the information flow. It is the intention of the parties to render their exchange of information more effective by replacing the flow of paper between them with EDI. The manual interference is often causing considerable delays and severe errors that can cause expensive and urgent actions from Kongsberg Automotive and the supplier.

This guide details the usage of EDI to ensure that Kongsberg Automotive and the supplier can communicate in a flawless way that is understood and agreed by the parties. Electronic communication shall be implemented, including sending and receiving capabilities with all suppliers, sub-contractors and logistic providers.

The supplier shall have the capability to interface with the Kongsberg Automotive receiving plant through one of the following solutions:

- Full EDI (preferred):
  - » Based on automotive standards and practice in the applicable region.
  - » Refer to Kongsberg Automotive EDI specification for more detailed information (EDIFACT DELFOR D97A).

- Web-EDI:
  - » KA Web-EDI solutions as defined per region.

Please contact [edisupport@ka-group.com](mailto:edisupport@ka-group.com) for any questions regarding EDI set-up for your company.

#### **4.2 DELIVERY NOTIFICATION**

Electronic Delivery Notification (Advanced Shipment Notification (ASN) or Despatch advise message (DESADV)) must be delivered at the moment of truck departure from supplier plant. It is used by Kongsberg Automotive to monitor the materials in transit and to simplify the receiving procedure.

Timely and accurate submission of electronic Delivery Notification is required for improvement of supply chain effectiveness.

Electronic Delivery Notification submission is an important input for the evaluation of supplier delivery performance.

#### **4.3 DATA PROTECTION**

The respective national laws and regulations for data protection must be complied with. Contractors must be obligated by the management of the supplier company to comply with the legal requirements concerning data protection.

### **5 DELIVERY SCHEDULES**

#### **5.1 APPLICABLE CALENDAR**

Supplier is expected to support collections based on Kongsberg Automotive's working calendar (working days, holidays, factory shut-downs), defined by KA in an appendix to the Logistics Agreement. If the supplier plant is on holiday, the supplier must take special action to ensure that all documents are printed and parts are prepared on time for collection or delivered on date mentioned in schedules (depending on Incoterms). Supplier should make their own preparations in advance to support their closure and coverage of demands for Kongsberg Automotive. All supplier closures should be reported to Kongsberg Automotive within a reasonable timeframe.

#### **5.2 DELIVERY TIME AND QUANTITY**

Kongsberg Automotive requires all suppliers to provide 100% on-time delivery performance with the correct quantity, documentation, packaging and labelling. Monitoring of performance levels in this area will be ongoing with formal reporting on a monthly basis (see section 10).

To further clarify this, we consider unauthorized early or late deliveries and partial or over shipments to be unacceptable. The quantity shipped per order or release cannot vary from specified quantity without the consent of the material specialist who is responsible at the receiving plant.

### **5.3 ACCEPTANCE OF DELIVERY SCHEDULES**

Supplier is obliged to review received schedules from Kongsberg Automotive and alert Kongsberg Automotive material specialist in charge within 24h in case of facing any constraint in fulfilling the demand. Otherwise, the supplier is considered as able to meet Kongsberg Automotive needs.

## **6 CAPACITY MANAGEMENT**

### **6.1 MANUFACTURING CAPABILITY**

Suppliers are expected to have the resources necessary (people, property, facilities, equipment, and materials) to supply the products required to meet Kongsberg Automotive's production schedule. Supplier is obliged to inform KA material specialist, logistics manager, operational buyer by mail within 24h from identification of the constraint.

### **6.2 CAPACITY**

Suppliers to Kongsberg Automotive shall be able to provide a weekly capacity as defined in Project documentation. Generally, this capacity shall be met by maximum two shifts per day and five days per week.

Please note that any capacity figures, provided by Kongsberg Automotive to supplier, are for planning purpose only and do not represent a binding commitment.

### **6.3 FLEXIBILITY**

If not otherwise agreed in writing, in order for Kongsberg Automotive to be able to meet our customers' fluctuating demands, it is required that the suppliers have the flexibility to meet week over week schedule changes of  $\pm 15\%$ . This will normally be balanced over time.

The above requirement is valid during the stable production phase. During ramp-up and phase out of parts the flexibility must be increased so it is adapted to the lower level of production.

The flexibility requirement can generally be met by keeping a safety stock, see 6.4.

### **6.4 SAFETY STOCK**

If required by KA due to supplier performance, the supplier agrees to keep safety stock in order to meet Kongsberg Automotive's requirements regarding Flexibility. Details on the safety stock will be defined in the Logistics Agreement with the local plant based on provided forecasts.

### **6.5 CONSIGNMENT STOCK**

In certain cases, depending on transport time, type of product etc. it might be recommended that the supplier sets up a Consignment Stock at, or close to, a Kongsberg Automotive plant. Details for this will then be agreed in a separate Consignment Stock Agreement.

### **6.6 LEAD-TIMES**

Kongsberg Automotive requires the shortest possible lead times in order to support their customer base. In alignment with point 14.2 Material Authorisation, lead times

from supplier to Kongsberg Automotive should reflect Supplier Planning and production timings. Where supplier has ownership of shipping, transit time should also be accounted for. Supplier should not include lead times from their own supplier, and this should be managed by using the supplier forecast from Kongsberg Automotive. Where Kongsberg Automotive is responsible for shipping, transit time will be automatically reflected within the schedules.

## 7 PACKAGING

### 7.1 PACKAGING PROPOSAL

Proposal of packaging for each part number is presented by supplier and approved by Kongsberg Automotive after packaging trial. The proposed packaging is defined for each part number separately in the Packaging Proposal Form (an appendix to the Logistics Agreement), which is to be signed by supplier and approved by Kongsberg Automotive.

### 7.2 PACKAGING GUIDELINE

Proposed packaging shall be in accordance to Kongsberg Automotive Standard Packaging List, which provides an overview of possible container dimensions and types. For standardization reasons, deviations from this catalogue are only possible in justified exceptional cases and must not cause additional costs for Kongsberg Automotive.

#### **General Requirements:**

- There must be only one part number per container
- All parts must be shipped in a standard off-the-shelf packaging if appropriate
- Packaging must be able to withstand international shipments overseas
- Total palletized weight must not to exceed 1000 kg (or in line with the legal requirements in the country of use)
- Unit load sizes should be sized to optimize the density in a sea container and must not exceed 107 cm

#### **Box Requirements:**

- Boxes must have all readable barcode labels facing out
- Boxes must be affixed to the pallet by stretch-wrap or banding
- A box cannot extend beyond the edges of the pallet; the corners of the carton must be supported by the deck board of the pallet
- Carton boxes must be of appropriate corrugated board strength to ensure pack integrity based on the size and weight of the container and the shipping method
- All containers must be able to withstand, at minimum, the weight of a pallet of like parts double stacked upon it inside a sea container
- If additional stacking strength is needed, corner posts are to be used
- Corner posts must be affixed to the corrugated carton

#### **Pallet Requirements:**

- Pallets must have four-way forklift entry
- Pallets must be of durable construction; no pine pallets are allowed



- Pallets must be sized correctly to optimize the density per sea container and in order to fit the carton(s)
- Returnable pallets are to be used where economically feasible
- Pallets should be in accordance with global standards, as seen within Kongsberg Automotive Standard

**Packaging List:**

TYPE: EU & ASIA	PACKAGING DESCRIPTION	HEIGHT (MM)	LENGTH (MM)	WIDTH (MM)
PALLET	EUR 1	X	1200	800
PALLET	EUR 2	X	1000	1200
PALLET	EUR 3	X	1200	1000
PALLET	EUR 6	X	600	800
PALLET	ASIA	X	1100	110

**Other Requirements:**

- Components with “sensitive” surfaces must be packed with protective material
- ESD (Electrostatic Discharge) protection and VCI (Vapor Corrosion Inhibitor) must be used when appropriate
- Moisture Resistant Adhesive (MRA) is recommended for all corrugated shipping overseas
- All wooden material packaging (especially pallets) shall be according to IPPC (International Plant Protection Convention) standards

**7.3 RETURNABLE PACKAGING**

If returnable packaging is requested from Kongsberg Automotive or our customers this will be defined in RFQ and in Logistics Agreement (or purchase order). The cleanliness of the returnable packaging remains with the owner.

**7.4 CHANGE OF PACKAGING**

In case of necessity to redefine or change packaging, Packaging Proposal Form must be filled in once more and sent to Kongsberg Automotive for approval.

**8 LABELS AND DOCUMENTS**

**8.1 LABEL REQUIREMENTS**

The adherence to labelling requirements will be continuously monitored. Non-compliance may result in an administrative claim. Labels must be according to automotive standard (see [www.aiag.org](http://www.aiag.org) or [www.odette.org](http://www.odette.org)).

**8.2 PROTOTYPE AND PRE-SERIES LABELS**

For any delivery of prototypes, validation samples or pre-series parts, as well as in case of engineering change, new batches must be marked with special labels and accompanied with the correct PPAP, which are placed in a highly visible area and have a different color.

### **8.3 DOCUMENTS**

All shipments must be accompanied by appropriate documentation. Documentation may include, but not limited to, packing slip, bill of lading, NAFTA certificates, Certification of Origin or other needed documentation depending on area, commercial invoices and hazardous materials information. Where needed, documents should be sent directly to the local Logistics representative via email. A Delivery Notification must be attached to one of the skids/pallets in each shipment.

### **8.4 CERTIFICATE OF ORIGIN (COO)**

Kongsberg Automotive requests that suppliers submit relative COO to buying plants each year, in the month of October, to allow for existing records to be modified and/or updated.

## **9 TRANSPORT**

### **9.1 DELAYED NOTIFICATION**

Delayed notification of the forwarding company by the supplier can cause postponements, which can in turn lead to shortages. Proof of any late notification is provided by the forwarding company. Any costs for expedited shipments shall be paid by supplier.

### **9.2 DISRUPTIONS**

All disruptions must be notified to the material specialist in Kongsberg Automotive and the forwarding company immediately, giving the reason for and type of disruption.

### **9.3 EMERGENCY SHIPMENTS**

Expedited shipments at Kongsberg Automotive expense must be always agreed with the material specialist in charge in writing.

### **9.4 SCHEDULED DELIVERY**

Suppliers are required to give prior notice and gain agreement of any delivery that is being made to Kongsberg Automotive via the local Logistics department and representative.

### **9.5 CARGO INSPECTION**

Where applicable, supplier is to maintain the responsibility for shipments and their chosen carriers. Kongsberg Automotive reserve the right to reject any delivery that is deemed unsafe to unload and/or damaged in accordance with point 11 Logistics Claim.

## 10 DELIVERY PERFORMANCE

### 10.1 SCORING SYSTEM

Kongsberg Automotive relies on industry standard OTIF (On time, In Full) to score supplier performance.

The OTIF definition consists of two parts - on time and in full. It refers to the KPI measuring the efficiency and accuracy of delivery or logistics in the supply chain.

#### Delivered On Time:

- Organizations define a time which they should be able to reach
  - » This KPI can refer to the requested delivery date, production cycle, or agreed response time
- One typical on time criteria is that the delivery should not be late. However, what is equally important is that it should not be too early, either. If a case closes much faster than average, it typically means some exceptions have occurred.

#### Delivered In Full:

- The most common way to define in full is that the customer gets exactly the amount that has been ordered.

### 10.2 CALCULATION

Kongsberg Automotive is monitoring supplier delivery performance with reporting on a monthly basis.

Delivery performance is calculated in the following way:

		QUANTITY	
		OK	NOK
DATE	OK	100%	50%
	NOK	50%	0%

#### OTIF formulas:

On Time In Full = (Cases matching the criteria) / (Total number of cases)

On Time = (Delivery time) - (Confirmed delivery time)

- In this case, supplier should be able to match a delivery time agreed with Kongsberg Automotive.
- Target: = 0

In Full = (Delivered amount) - (Confirmed amount)

- Target: = 0, if the delivered amount should be exactly what is agreed with Kongsberg Automotive.

If a production line is shut down due to poor quality, late delivery, or incorrect quantity on any shipment, the supplier will be responsible for compensation as defined in KA GPCs.

## 11 LOGISTICS CLAIM

### 11.1 LOGISTICS NON-COMPLIANCE

Any deviation related to Kongsberg Automotive requirements on time, quantity, documentation, packaging or labelling is considered a Logistics non-conformance. The following types of claims can be registered:

**Quantity:**

- Actual delivered quantity deviates from requested quantity in current schedule

**Date:**

- Actual delivery date deviates from requested delivery date in current schedule

Part number:

- Wrong part number or mixed parts delivered

**Document:**

- Discrepancy in quantity between physical delivery and delivery documents or
- Missing documents or
- Wrong information of documents

**Label:**

- Missing label or
- Label with wrong information

**Delivery Notification/ASN:**

- Missing Delivery Notification/ASN or
- Wrong information sent in Delivery Notification/ASN

**Packaging:**

- Packaging not according to approved Packaging Instruction or
- Damaged packaging and/or pallet

**Communication:**

- Lack of effective communication with supplier

For all such cases, supplier will be notified with an administrative claim. Number of claims will be measured and included in supplier performance reporting.

### 11.2 DELAY CLAIMS

If suppliers fail to deliver parts as per the given time and quantity, which makes Kongsberg Automotive suffer from production stoppage, retrofit, production adjustment and order placed with a third party, the supplier shall compensate Kongsberg Automotive according to the KA GPC. The standard claim values are set by each KA plant.

## 12 SUPPLIER ESCALATION PROCESS

### 12.1 PURPOSE OF SUPPLIER ESCALATION PROCESS

The supplier escalation process is a formalized method of working, when handling supplier related problems in Kongsberg Automotive production and projects. The intention is to monitor supplier performance data, to prioritize and to focus on poor performers and to use a structured approach to problem solving, with the target to improve supplier performance.

### 12.2 ESCALATION CRITERIA, LEVELS AND CONSEQUENCES

This is an overview over the Logistics Supplier Escalation levels and consequences:

ESC. LEVEL	CRITERIA	STATUS	IMPACT
2	<ul style="list-style-type: none"><li>Action plan from level 1 not followed and/or not sufficient in order to solve problem or</li><li>Repeated level 1 issues or</li><li>Delivery issue disturbing KA production</li></ul>	Conditionally Approved (CA)	New business can be awarded under certain conditions
3	<ul style="list-style-type: none"><li>Action plan from level 2 not followed or not sufficient in order to solve problem or</li><li>Repeated disturbances to KA production or</li><li>Delivery issue disturbing KA's customer's production</li></ul>	New Business on Hold (NBH)	New business awards while escalated to this level

### 12.3 EXPECTATIONS ON THE SUPPLIER

The supplier is expected to ensure that there are resources dedicated to working on the issue causing the escalation. The supplier must confirm the reception of the letter, provide, recovery plan, root cause analysis and action plan, and participate in follow-up meetings as requested by Kongsberg Automotive.

There shall be targets set for the supplier to achieve, in order to close the escalation. When these targets are met the supplier will be de-escalated.

## 13 EMERGENCY SITUATIONS

### 13.1 CONTINGENCY PLAN

A contingency plan must be defined in order to secure continued supply of goods to Kongsberg Automotive, should the supplier enter into an emergency situation. The contingency plan shall be an appendix to the Logistics Agreement.

### 13.2 EXTERNAL SUPPORT

In extreme cases, Kongsberg Automotive reserve the right to provide on-site resources to support supplier in relation to procurement of materials, production planning, production execution and shipping of products, in relation to Kongsberg Automotive fulfilling customer demands.

## 14 END OF PRODUCTION (EOP)

At the EOP of a product, Kongsberg Automotive expects the supplier to contribute to minimizing the risk for obsolescence. This means that the supplier must plan to consume safety stock before EOP. The previously agreed min. order quantity (MOQ) can then be revised by Kongsberg Automotive based on actual demand.

Kongsberg Automotive commits to communicating product end dates as soon as they are known.

### 14.1 CLAIMS

The supplier commits to informing Kongsberg Automotive about its claim related to the end of production of a part, based on their inventory (components and finished products), and the applicable Material Authorization times.

Any acceptance from Kongsberg Automotive regarding costs for obsolete material does not free the supplier from providing spare parts according to the agreement or gives the supplier the right to scrap any tool owned by KA or KA's customer, unless explicitly approved by KA in writing.

### 14.2 MATERIAL AUTHORIZATION

Unless otherwise agreed in writing, the Kongsberg Automotive general authorization times are applicable:

AUTHORIZATION	LIABILITY PERIOD	DELIVERY SCHEDULE RELEASE CODE
Fabrication authorization (FAB)	2 weeks (day 1-15)	1
Raw material authorization (RAW)	6 weeks (day 16-45)	2
Forecast only	Day 46-	Blank

The authorization means that, should the demands drop, Kongsberg Automotive accepts liability for the material produced or purchased within the defined FAB and RAW authorization times. This does not mean that the periods are fixed.

In the event that obsolescence occurs due to discontinuation of a part, the highest RAW and FAB authorizations must be identified through reviewing the schedule release history. Kongsberg Automotive does not accept liability for any raw material or produced parts outside the RAW and FAB authorizations.

## 15 SUB-CONTRACTING

All subcontractors are obligated to comply completely with the Logistics Manual. Scrap quantities and physical inventory owned by Kongsberg Automotive should be reported at least once per month, in order to correctly track the inventory being under Kongsberg Automotive ownership. The report shall contain information on number of scrapped parts with explanation of reasons. Scrap should not be grouped across a period of more than one week.

## 16 MMOG/LE SELF ASSESSMENT

Materials Planning and Logistics (MP&L) is the process of managing the procurement, movement, and storage of materials, parts, and finished goods (and the related information flows) throughout the organization through the timely and cost-effective fulfilment of orders.

The Materials Management Operations Guideline/Logistics Evaluation (MMOG/LE) is an assessment tool jointly created by the Automotive Industry Action Group (AIAG), Odette representatives, OEM representatives, and automotive suppliers, in order to assist organizations in developing and implementing world class MP&L processes. It defines recommended business practices for the supply chain management processes of automotive industry suppliers and is intended to establish a common definition of materials practices to facilitate effective communication between supply chain partners.

The purpose of the MMOG/LE, as well as the reasoning behind the deployment of this by KA, is to produce one common material planning and logistics evaluation that can be used by the supplier and customer throughout the product life cycle, including the early development phases.

MMOG/LE self-assessment is part of logistics evaluation. Suppliers to Kongsberg Automotive are encouraged to use MMOG/LE as a self-assessment tool, and it is recommended to follow a training course in MMOG/LE with a certified training society, before self-assessment.

Kongsberg Automotive reserves the right to field an inspection mission to examine the supplier's MMOG/LE implementation and to take part in logistics reviews to monitor the supplier's logistics action plans.

MMOG/LE documentation is available on [Odette](#) and [AIAG](#) web site.

## 17 RELATED DOCUMENTS

All related documents, as well as our requirement documents (Kongsberg Automotive General Purchasing Conditions and Kongsberg Automotive Supplier Quality Manual) are available through Kongsberg Automotive Internet site:

[www.kongsbergautomotive.com/for\\_suppliers/](http://www.kongsbergautomotive.com/for_suppliers/)

The related documents are:

- Kongsberg Automotive Standard Packaging List
- EDIFACT DELFOR D97A
- FO-IT-006-KA EDI Parameter Form
- FO-LG-003-KA Contact List
- FO-LG-004-KA Packaging Proposal Form
- FO-LG-005-KA Premium Freight Approval Request
- FO-LG-006-KA Scrap Inventory Report
- FO-LG-007-KA Emergency Situation - Contingency Plan

