EMBS Supplier Management System

Part 1: Global Supplier Manual
Valid from: August 2024

The English version of the Global Supplier Manual is the master version. Although translations are provided by EMBS, should there be any ambiguity in the translation, then the original English version shall take precedence.

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0 Introduction

0.1 Purpose and Objectives

The purpose of this manual is to describe the requirements of the EMBS Supplier Management System (EMBS-SMS) as run by the Battery Systems Sector; all subsequent references to EMBS within this manual are to these two divisions only. Suppliers shall familiarize themselves with the EMBS-SMS and comply with its requirements.

The objectives of the EMBS-SMS are to

- provide a consistent set of processes across all EMBS sites for working with suppliers,
- ensure that products and services provided by suppliers meet the requirements of EMBS and its customers,
- monitor the performance of products and services provided by suppliers,
- provide performance feedback to suppliers, and
- provide a consistent and timely way of addressing issues with suppliers.

0.2 How to Use this Manual

Suppliers shall ensure that they are using the latest version of all documents that comprise the Global Supplier Manual.

The Global Supplier Manual is split into three parts:

Part 1: Global Supplier Manual

This is the primary manual for outlining EMBS requirements of its suppliers. It is split into six sections:

- Section 1: General Requirements
- Section 2: Operation of the EMBS Supplier Management System
- Section 3: Quality Requirements
- Section 4: Health and Safety Requirements
- Section 5: Environmental Standards and Sustainability
- Section 6: Corporate Social Responsibility

Part 2: Appendices

This part includes detailed information, specific to Battery Systems division, and should be read in conjunction with Part 1.

Part 3: Site-Specific Requirements

This part details requirements specific to each EMBS site.

1 General Requirements

1.1 Overview of the EMBS Supplier Management System

The EMBS-SMS is split into four primary processes:

- Supplier Approval Process;
- Supplier Performance Process;
- Supplier Complaint and Escalation Processes;
- Supplier Development Process.

1.2 General Principles

EMBS is committed to deliver defect-free products to its customers on time, every time. Similarly, EMBS requires the same commitment from its suppliers to supply

- the right product,
- at the right quality,
- at the right time,
- in the right condition, and
- at the right price.

EMBS is committed to continual improvement and it expects the same commitment from its suppliers. Suppliers shall employ a defined process for delivering continual improvement that is managed at all levels of their business.

1.3 Management System Requirements

Suppliers should be certified to ISO 9001 by an accredited certification body, or shall be actively following a plan to achieve ISO 9001 certification. Suppliers who are not certified to ISO 9001, or have been certified by a body that EMBS does not recognize, shall follow a realistic action plan to achieve certification with a EMBS-recognized certification body* and may be subject to enhanced monitoring.

Suppliers should aim to progress to compliance with IATF 16949:2016. The first step in achieving this goal is adherence to the EMBS-SMS.

Unless otherwise confirmed in writing by EMBS, all suppliers shall be design responsible for their products. All business processes associated with the manufacture and supply of product to EMBS shall be covered in the scope of a supplier's certification.

Suppliers should be certified to ISO 14001 by an accredited certification body, or actively working towards certification. EMBS recommends that suppliers work to ISO 45001 principles.

Suppliers shall submit copies of relevant certificates to EMBS upon any change of status or upon any change in the organization of the supplier; *e.g.*

- acquisition;
- merger;
- relocation.

Supplier is obliged to provide renewed ISO 9001/IATF certificates without a reminder from EMBS within 2 weeks from the expiration date of the certificates.

*: For guidance on EMBS-recognized certification bodies, please refer to your local EMBS quality contact.

1.4 Management of Supply Chain

The supplier shall ensure that its suppliers and sub-suppliers who work on products that will be purchased by EMBS comply with EMBS's requirements on

- quality,
- health and safety,
- environmental standards and sustainability, and
- corporate social responsibility.

1.5 Supplier Audits and Access to Supplier Facilities

EMBS may conduct periodic audits of the supplier's systems, products and processes to ensure that they meet requirements. These may be performed by EMBS or in conjunction with a EMBS customer. The supplier shall provide access to enable audits to be performed; *e.g.* to the following:

- areas associated with the manufacture, storage and testing of product purchased by EMBS;
- training and competency records;
- EHS data for the supplier's locations.

Reasonable restrictions to ensure confidentiality of supplier information will be permitted.

The supplier shall take all reasonable steps to facilitate an audit on the premises of its own suppliers or sub-contractors if requested by EMBS.

1.6 Conduct on EMBS Sites

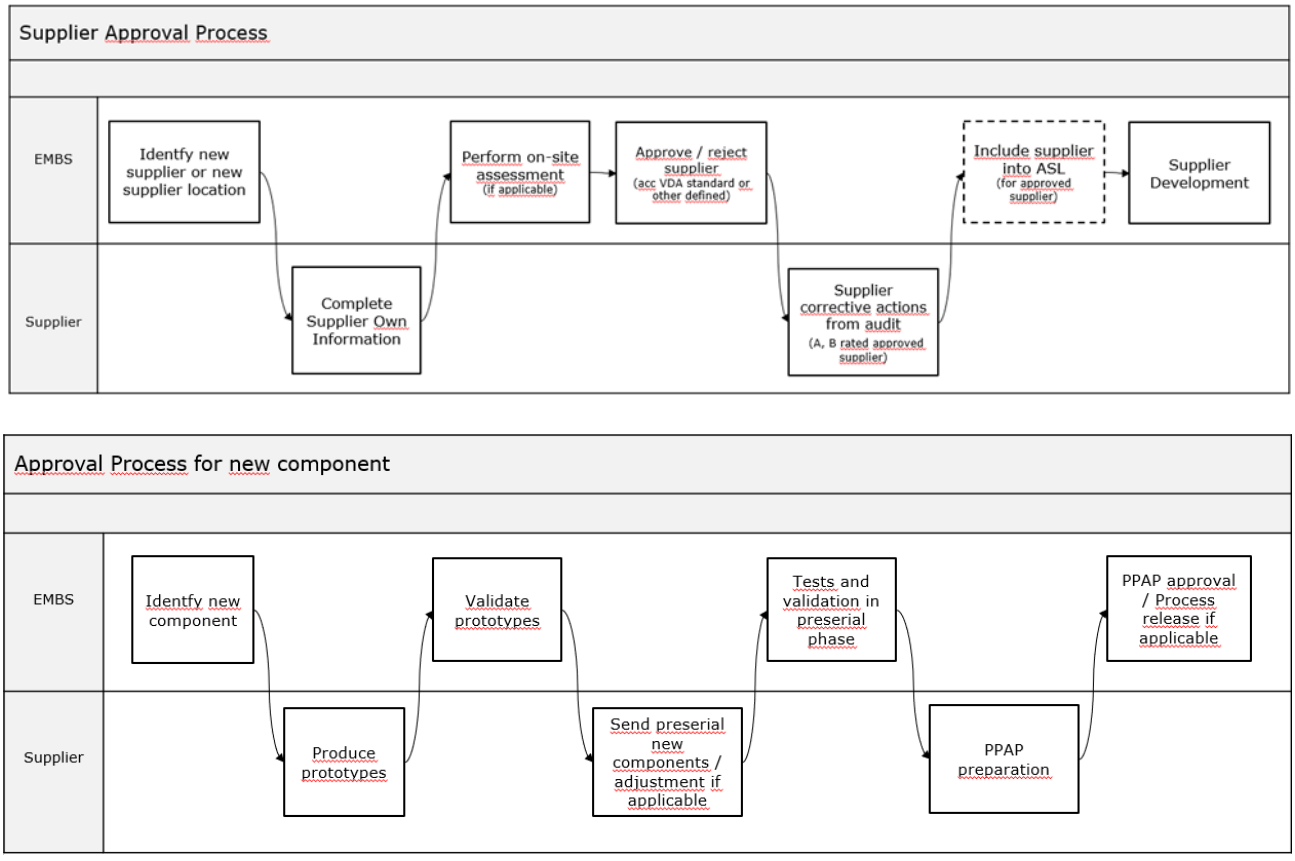
The supplier is responsible for the conduct of its personnel on any EMBS site (including contracted delivery drivers). The supplier's personnel shall adhere to local EMBS conduct rules, as detailed in the Site-Specific Requirements, or as advised by EMBS staff.

2 Operation of the EMBS Supplier Management System

2.1 Supplier Approval Process

There are a number of steps that need to be completed to become an approved supplier to EMBS (Figure 1).

Figure 1 Overview of the Supplier Approval Process



These processes are outlined in more detail in the appropriate Appendix C.

2.2 Supplier Performance Process

EMBS completes periodic assessments of its suppliers, based upon the following areas:

- on-going performance data:
  - quality performance;
  - delivery performance;
  - commercial performance;
- business assessment:
  - technical capability & product performance;
  - financial stability;
  - capacity;
  - pricing;
- management systems:
  - quality systems;
  - environmental and sustainability performance;
  - health and safety.

EMBS will share the supplier's overall rating, along with areas for improvement, with the supplier.

2.3 Supplier Complaint and Escalation Processes

The supplier shall resolve issues and problems in a robust and timely manner. Details of the supplier complaint process can be found in the appropriate Appendix B.

In situations where problems cannot be resolved using the supplier complaint process, EMBS may employ an escalation process, which can include further containment actions to assure product quality, *e.g:*

- reinspection or testing of all parts/materials by the supplier prior to shipment to EMBS;
- reinspection or testing of all parts/materials by a third party, approved by EMBS, prior to shipment to EMBS;
- reinspection or testing of all parts/materials by EMBS or a third party at a EMBS plant.

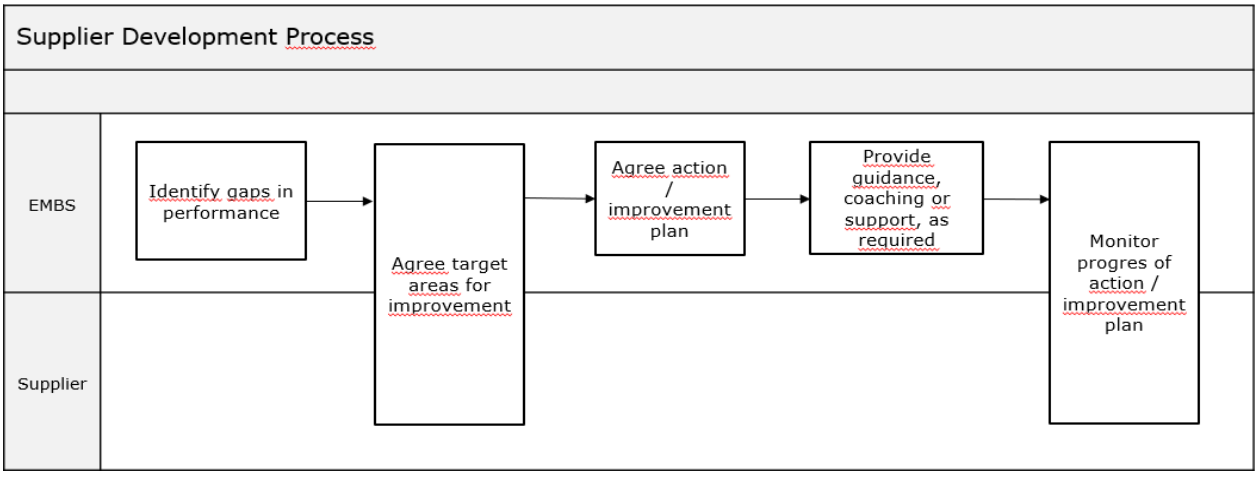
The supplier shall bear any costs associated with reinspection or testing, and any consequential disruption to EMBS manufacturing.

In addition to these controls, EMBS may undertake supplier development actions (see Section 2.4). These may include targeted process audits and improvement planning. This may lead to downgrading of the supplier and possible deselection.

2.4 Supplier Development Process

EMBS may become involved in development activities with the supplier to improve business performance, see Figure 2.

Figure 2: Overview of the EMBS Supplier Development Process



There are a number of tools that EMBS may use during any of these processes, which are detailed in the appropriate Appendix B.

3 Quality Requirements

3.1 Document and Record Retention Requirements

The supplier shall maintain all documents and records for a minimum retention period to prove conformance to

- legal requirements (*e.g.* SDS, RoHS, REACH),
- EMBS-specific requirements (*e.g.* copies of process control plans),
- EMBS specification requirements (*e.g.* certificate of analysis values),
- the supplier's quality management system requirements (*e.g.* 3rd party certification information),
- traceability requirements (*e.g.* raw materials utilised, through to product shipment), and
- OEM requirements (*e.g.* N2580, IMDS).

The supplier shall make documents and records available to EMBS upon request during the minimum retention period, even in the event that the supplier ceases to supply products to EMBS.

The minimum retention period is as specified in the contract and/or purchase order.

3.2 Risk Assessments and Key Characteristics

The supplier shall complete risk assessments on the manufacturing process and, if design is owned by the supplier, on the product. The default tool is Failure Mode and Effects Analysis (FMEA) performed according to AIAG's 'Potential Failure Mode and Effects Analysis' reference manual (see the appropriate Appendix A). The supplier shall complete process risk assessments at each location where parts/materials are manufactured; subcontracted processes are included in this requirement.

The supplier shall pay particular attention to key characteristics. A key characteristic is a product or process characteristic which can impact the safety, performance, subsequent processing, compliance with regulations, or fit, form or function of the product (*i.e.* special characteristics as outlined in IATF 16949).

The supplier shall make the product and process risk assessments available for review by EMBS prior to the production of the validation batch and upon subsequent request.

3.3 Process Flow Diagrams and Process Control Plans

The supplier shall develop and document a process flow diagram (PFD) and process control plan (PCP), which shall include subcontracted processes, prior to production of the validation batch. The default tool for developing a PCP is outlined in AIAG's 'Advanced Product Quality Planning and Control Plan' reference manual (see the appropriate Appendix A). The supplier shall submit the PFD to EMBS as part of the EMBS Product Approval Process. The supplier shall make the PCP available for review by EMBS prior to the production of the validation batch.

The supplier shall review and update the PFD and PCP when any change occurs that impacts the product, manufacturing process, measurement systems, logistics or supply sources, or when there are updates to the product or process risk assessments. The supplier shall make the PFD and PCP available for review by EMBS following any changes.

3.4 Specifications

Suppliers with design responsibility shall complete a product review with EMBS to capture and document the requirements for each product supplied. This information shall be contained in a specification approved by EMBS.

3.5 Work Instructions

The supplier shall employ documented work instructions for processes that impact conformity to product requirements. Work instructions shall be available for use at necessary workstations.

3.6 Product Approval Process

The supplier shall follow a EMBS-defined product approval process, details of which can be found in the

appropriate Appendix C.
EMBS has a specific procedure for internal validation of raw materials.

3.7 Process Performance

Unless otherwise specified by EMBS, the supplier shall manage all identified key characteristics to ensure that the "long-term process performance" meets the following criteria:

long-term process performance ≥ 1.67

3.8 Production Batch/Lot Sample Retention

The supplier shall retain a representative sample from each production batch/lot as specified in the contract and/or purchase order.

3.9 Change Management

The supplier shall employ a defined change management process. Changes initiated by EMBS shall be included within the scope of the change management process.

3.9.1 Change Request and initial samples (validation batch)

The supplier shall notify in writing any change to EMBSBS Purchasing Department, if the product will not be made with the intended production equipment or by the intended production process (planned process change by supplier) or need a design change (planned design change by supplier). In case of product change supplier shall send an agreed batch of material/component (initial sample) for EMBS validation process.
Criteria of changes are outlined in the appropriate Appendix D.

3.9.2 Production Change Management after submission of a EMBS validation batch

For changes outlined in the appropriate Appendix D, the supplier shall obtain written approval from Supplier Quality Team prior to supplying material with the changes applied.

If a requirement for a new validation batch is identified according to the criteria outlined in the appropriate Appendix D, or by the EMBS, the product approval process shall be followed.

3.10 Inventory Management

The supplier shall use a 'first-in-first-out' (FIFO) inventory management system. Obsolete stock shall be managed in a similar manner to non-conforming product.

3.11 Premium Freight

Any premium freight or alternative transport must be arranged in conjunction with the relevant purchasing site.

3.12 Training

The supplier shall ensure that appropriate training needs are identified and documented including those for subcontracted processes. This shall include training to cover EMBS-SMS requirements and the tools identified in the appropriate Appendix A.

3.13 Problem Solving

The supplier shall employ a defined problem-solving process, which leads to identification and elimination of root causes. An example technique is outlined in AIAG's 'Effective Problem Solving' guideline manuals (see the appropriate Appendix A).

3.14 Contingency Planning (Business Continuity Plan)

The supplier shall assess and document the risks facing the supplier's business, especially those that could affect supply to EMBS. The supplier shall assess the likelihood of occurrence of these risks and document plans to ensure that supply to EMBS is not interrupted. Examples of such risks include utility

interruptions, labor shortages, key equipment failure and field returns.

The supplier shall make contingency plans available for EMBS to review upon request. The supplier shall perform periodic updates on an appropriate basis.

3.15 Preventive Maintenance

The supplier shall employ a defined system for carrying out planned total preventive maintenance. This shall include having replacement parts available for key manufacturing equipment.