éolane

Guidelines for eolane suppliers

15/07/2024

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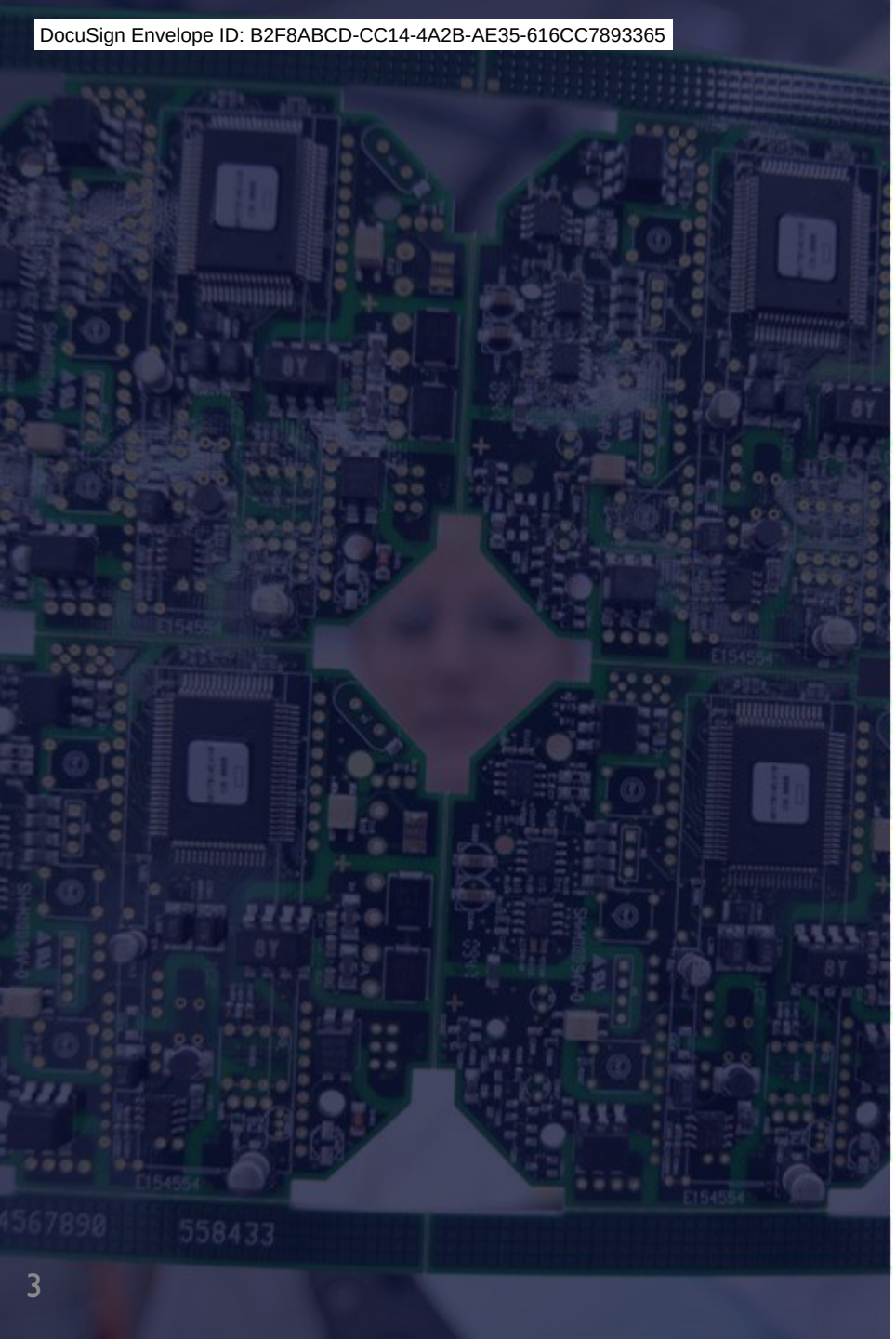
Content



1. Purpose

The purpose of this document is to define the Quality Guidelines relating to Purchasing for all the sectors that Eolane addresses, including:

- Civil Aeronautics, Aerospace,
- Defense, Civil Security, Navy,
- Automotive, Rolling Stock,
- Railways, Public Transport,
- Medical Devices.

2. Field of application

It is applicable to all SUPPLIERS (Manufacturers, Subcontractors, Distributors or Stockists), from qualification to after-sales, in order to guarantee a design, a manufacturing and a supply in conformity with the said guidelines.

It complements the "EOLANE General Purchasing Conditions" (GRP-ACH-INS-0291).

SUPPLIERS who supply products or services to any Group subsidiary undertake to comply with these conditions.

Eolane will of course be very attentive to any comments.

3. Purchasing Policy

At EOLANE, we seek to provide a sustainable competitive advantage through a globalization of our actions at the Group level, focused on value creation, innovation, business partnerships, risk management, anticipation and operational excellence.

Our Suppliers are committed to respecting these Guidelines for Socially and Environmentally Responsible Purchasing. Our main focuses are:

- Establishment of quality relationships based on mutual respect / goodwill
- Involvement of our Suppliers in controlling our environmental impact
- Sharing of expertise to stimulate innovation, improvement of product and service specifications,
- Improvement of mutual performance by controlling costs, quality and deadlines
- Development of commercial partnerships with committed Suppliers (Distributors and Manufacturers)
- Expansion of the use of social and solidarity economy actors
- Compliance of Suppliers with applicable legislations and regulations

4. Responsible Purchasing Charter

4.1 Compliance with regulatory requirements
[**4.1.1**] Respect the principles of the ILO (International Labor Organization) Global Jobs Pact, the ILO Declaration on Fundamental Principles and Rights at Work and the 8 fundamental ILO conventions. Respect and ensure compliance by its employees, contractors, subcontractors and suppliers with all applicable laws and regulations.
Use and supply products in compliance with regulatory requirements, including:

- REACH regulations,
- European directive known as RoHS,
- Conflict Minerals Directive (Dodd Franck Act, CMRT, EMRT).

4.2 Prohibition of fraudulent practices
[**4.2.1**] Do not tolerate or engage in any form of active or passive bribery, direct or indirect, in any form whatsoever and with respect to anyone, with the aim of obtaining preferential treatment or influencing the outcome of negotiations.

4.3 Respect for the fundamental rights of employees
[**4.3.1**] Promote equal opportunity and treatment for its employees regardless of their skin tone, race, nationality, social origin, any disability, sexual orientation, political or religious beliefs, gender or age. To promote access to work for disabled workers. Respect the personal dignity, privacy and personal rights of each individual. Not hire anyone against their will or force them to work. Not tolerate unacceptable treatment of workers, such as psychological difficulties, sexual and personal harassment or discrimination.

4.4 Prohibition of child labor
[**4.4.1**] Do not hire workers under the age of 15. In countries that fall under the exception of ILO Convention 138, the minimum age may be reduced to 14.

4.5 Employee Health and Safety Assurance
[**4.5.1**] Assume responsibility for the health and safety of its employees. Contain risks and ensure the best possible precautions against accidents and professional illnesses. Provide training and ensure that all employees are competent in the area of workplace safety. Establish and implement an appropriate occupational safety management system.

4.6 Environmental Protection
[**4.6.1**] Commit to environmental protection beyond regulations and at least at the level of the most demanding European and International standards. Establish and apply an appropriate environmental management system. Aim to reduce and eliminate potential environmental pollution and continuously improve risk prevention for optimal protection of the environment.

4.7 Adoption of a Responsible Purchasing approach
[4.7.1] Adequately promote respect of the content of the Responsible Purchasing Charter from its suppliers. Adhere to the principles of non-discrimination when selecting and dealing with Suppliers.

4.8 Assurance of confidentiality and data protection
[**4.8.1**] Do not use information provided by EOLANE other than for business discussions between EOLANE and the SUPPLIER and/or perform services under an EOLANE contract or order. Implement measures to protect the information (physical and computer), allowing only those persons who need to have access to it to do so, and guaranteeing this information against misuse.

4.9 Compliance with Import-Export regulations
[**4.9.1**] Be informed that all or part of EOLANE sells products subject to restrictions related to war materials and equivalent. Respect all applicable regulations concerning the possession, manufacture and marketing of war materials or similar, and export controls concerning any component, sub-assembly or document containing technical data in the countries where it operates.

5. General Requirements

5.1 Quality, Health, Safety and Environmental Management System

[**5.1.1**] The SUPPLIER must have a Quality Management System certified to ISO 9001 by an accredited organization.
If the SUPPLIER's quality management system is not ISO 9001 certified, it must be documented.

Aeronautics, Aerospace and Defense Markets Supplement
[**5.1.2**] EN 9100 certified SUPPLIERS are preferred.

Supplement to the Automotive / Rolling Stock Markets
[**5.1.3**] The SUPPLIER has a Quality Management System certified to ISO 9001 by an accredited organisation and has developed a management system in accordance with IATF 16949 or supply us with AEC-Q qualified electronic components.

Rail Market Supplement
[**5.1.4**]Preference will be given to certified SUPPLIERS ISO/TS 22163.

Medical Device Market Supplement
[**5.1.5**] Preference must be given to ISO 13485 certified SUPPLIERS.

Nuclear Market Supplement
[**5.1.6**] ISO 19443 certified SUPPLIERS must be preferred.

[**5.1.7**] Preference will be given to ISO 14001 certified SUPPLIERS.

[**5.1.8**] The SUPPLIER must inform EOLANE of any change in its certifications (new certification, renewal, loss).
Certificates must be sent to EOLANE upon request.

[**5.1.9**] The SUPPLIER must have a Business Continuity Plan to minimize any major event.

[**5.1.10**] When requested by the CUSTOMER, UL certification may be required.

5.2 Respect of CUSTOMERS requirements and specifications

[**5.2.1**] The SUPPLIER commits to respect and to ensure that its Employees, Contractors, Subcontractors and SUPPLIERS respect the CUSTOMERS requirements and specifications referred to in the plans, orders or other documents transmitted by EOLANE.

It is the SUPPLIER's responsibility to ask EOLANE for the specifications that are missing.

5.3 Right of inspection and access

[**5.3.1**] The SUPPLIER and its own Suppliers may be visited by :

- EOLANE's representatives,
- official supervisory organisations,
- EOLANE's CUSTOMERS (in the presence of EOLANE).

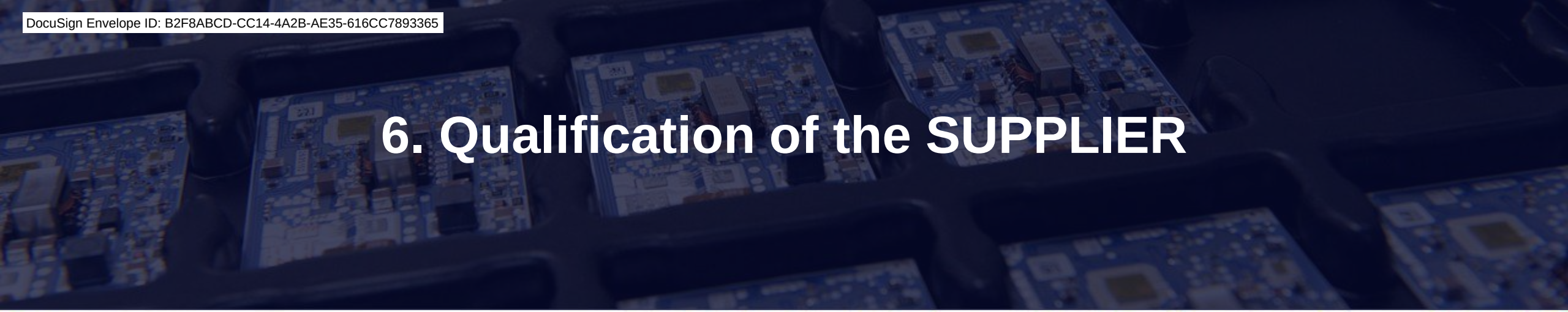
These visits may concern:

- The Quality, Health, Safety and Environment management system,
- The means implemented or likely to have an impact on the execution of the contract,
- The processes,
- The products produced or in the process of being produced.

The SUPPLIER and its own Suppliers must ensure free access to:

- To the facilities,
- To documents contributing to the realization of the product,
- Records that demonstrate that the contract has been performed in accordance with all requirements.

Such visits must not relieve the SUPPLIER of its responsibility to provide a product that complies with the requirements and may lead EOLANE to make claims against the SUPPLIER.



6. Qualification of the SUPPLIER

Any new SUPPLIER identified to join the panel of EOLANE Suppliers must be subject to qualification.

6.1 Mandatory SUPPLIERS

[**6.1.1**] Mandatory SUPPLIERS are not subject to this Qualification by EOLANE.

When the SUPPLIER is imposed by the CUSTOMER, a Responsibility Matrix (A104 or GRP-ACH-FOR-0288) defines the responsibilities of the SUPPLIER, EOLANE and the CUSTOMER at all stages of the product and process life cycle. The Responsibility Matrix is validated by all parties.

6.2 Prerequisites

[**6.2.1**] In order to verify that the SUPPLIER's organization respects the prerequisites, any new SUPPLIER identified to join the EOLANE SUPPLIER Panel is required to:

- Sign a Non Disclosure Agreement (NDA),
- Complete a SUPPLIER Qualification File (GRP-ACH-FOR-0282).

6.3 Qualification Audit

[**6.3.1**] The SUPPLIER's Quality Management System must be audited by EOLANE in accordance with the SUPPLIER Audit Criteria (GRP-ACH-FOR-0289).

A minimum score of 75% and the removal of all major Non-Conformities are required for SUPPLIER qualification.

Market Supplement

It may be decided not to carry out the audit if the SUPPLIER has a certification appropriate to the market concerned:

- Aeronautics, Aerospace, Defense: EN 9100
- Automotive: IATF 16949
- Railway: ISO TS 22163
- Medical devices: ISO 13485
- Nuclear: ISO 19443

6.4 SUPPLIER's status on the panel

[**6.4.1**] There are 5 statuses for the SUPPLIER on the panel:

TO EVALUATE	In probationary period; SUPPLIER consulted (outside of strategic project).
PREFERRED	SUPPLIER systematically consulted and given priority in the attribution of Contracts and Projects.
RECOMMENDED	SUPPLIER consulted.
NOT TO DEVELOP	No consultation (unless imposed by CUSTOMER).
FORBIDDEN	No consultation (unless imposed by CUSTOMER); disengagement process.

6.5 Maintaining the panel

[**6.5.1**]The SUPPLIER's level of risk is assessed by EOLANE:

- SUPPLIER's financial health,
- SUPPLIER's dependence on its main CUSTOMERS,
- SUPPLIER's organization,
- Ongoing problems.

The level of risk is assessed between 0 (no risk) and 9 (major risk).

[**6.5.2**] The SUPPLIER's performance is evaluated by EOLANE:

- Business Conditions,
- Logistics and Quality performance,
- Risk level,
- R&D and Responsiveness.

The SUPPLIER is rated A, B, C or D.

[**6.5.3**]The SUPPLIER's risk level and ABCD ranking influence its continued inclusion in the panel.

An improvement plan is required:

- For a risk greater than or equal to 6,
- For a C or D rating.

Without improvement, the SUPPLIER may be downgraded to "NOT TO DEVELOP" or "FORBIDEN" status.

7. New Product / Process

7.1 Project management

[**7.1.1**] The SUPPLIER must have a project management approach adapted to the complexity and risks:

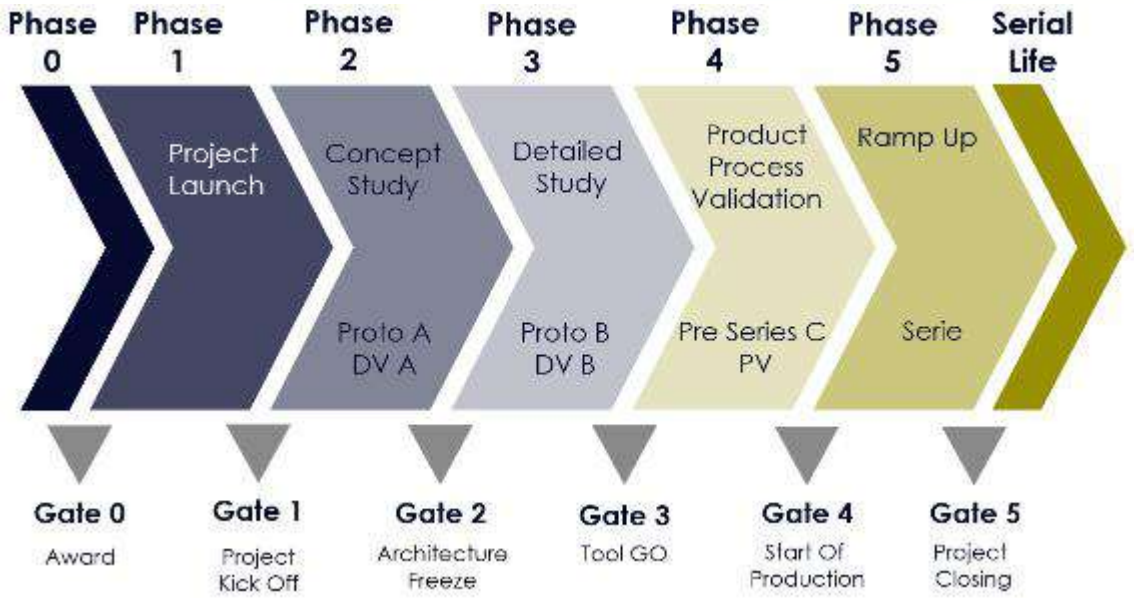
- New product / process,
- Product evolution,
- Change of manufacturing location (inter-site transfer, subcontracting),
- Implementation of new internal or subcontracted industrial processes (machine, tooling, material, etc.),

The SUPPLIER will take into account, according to the services entrusted, the following phases and associated milestones:

- **Phase 1**: Launching,
- **Phase 2** : Preliminary design (proto A),
- **Phase 3**: Final design (proto B),
- **Phase 4**: Production set-up (pre-series C),
- **Phase 5**: Ramp-up.

[**7.1.2**] The SUPPLIER must designate a Project Manager who will ensure the achievement of objectives including:

- Planning and monitoring the progress of the project,
- Resource management,
- Control and monitoring of quality, costs, deadlines, risks,
- Control and monitoring of supplies,
- Control and monitoring of safety and the environment.



7. New Product / Process

7.2 Product and process qualification

[**7.2.1**] The SUPPLIER is responsible for demonstrating the conformity of its product as well as the validity of the process and means used to produce it.
A PPAP (Production Part Qualification Process File GRP-PRJ-FOR-0004) must be produced in order to :

- Verify that the supply is in conformity and that it holds the expected performances,
- Verify that the production processes, production documentation and tooling are adequate to produce items and assemblies that meet the requirements,
- Verify that all quality assurance requirements are addressed to produce the relevant supply,
- Analyze any deviations and plan the necessary corrective actions for the other samples.

[**7.2.2**] Initial Samples (IS) are taken during a full day's production and are delivered in serial packaging.
Acceptance of the IS is made after:

- Examination of the PPAP file,
- Control of the products at the reception,
- Industrial test.

If the results do not comply with expectations, a corrective action plan must be established by the SUPPLIER.

The delivery of mass-produced products is authorized only after acceptance of the IS.
Acceptance of the IS must in no way reduce the SUPPLIER's responsibility.

[**7.2.3**] The PPAP file and the submission of IS are also required after a manufacturing break of more than 2 years.

Supplement to the Automotive / Rolling Stock, Railway Markets

[**7.2.4**] The PPAP file must also be produced in case of resuming production after a break of more than 1 year.

7.3 PPAP submission level

[**7.3.1**] By default, and unless otherwise required, the PPAP submission level is Level 2..

Supplement to the Automotive / Rolling Stock Markets/Railway

[7.3.2] For Automotive, Rolling Stock and railway applications, the PPAP submission level is Level 3.

[**7.3.3**] The requirements vary with the PPAP submission level:

#	Requirements	PPAP Level 1	2	3
1	Drawing & Technical specifications	Y	Y	Y
2	BOM (Bill Of Material)	N	Y	Y
3	Product Design Validation	N	Y	Y
4	Design FMEA	N	N	Y
5	Process flow diagram	N	Y	Y
6	Process FMEA	N	N	Y
7	Process Control plan (including Special Processes)	N	Y	Y
8	Measurement Systems Analysis studies	N	N	Y
9	Dimensional results	Y	Y	Y
10	Records of Material / Performance Test Results	N	N	Y
11	Capability Studies	N	Y	Y
12	Qualified Laboratory Documentation	N	N	Y
13	Appearance Approval Report (AAR)	Y	Y	Y
14	Initial Samples (IS)	Y	Y	Y
15	Toolings list	Y	Y	Y
16	Usage recommendations	Y	Y	Y
17	Part Submission Warrant (PSW)	Y	Y	Y
18	Material Declaration	Y	Y	Y
19	Packaging	Y	Y	Y

7. New Product / Process

7.4 Checklist PPAP
[**7.4.1**] Plan & Technical Specifications
SUPPLIERS are consulted on the basis of plans, technical requests or specifications.
The SUPPLIER must be able to demonstrate, at no extra cost, that he has taken all the requirements into account (via a conformity matrix if necessary). If necessary, a contract or design review to remove any ambiguity may be organized at the request of EOLANE or the SUPPLIER. Any deviation from the statement of requirements must be clearly stated at the time of submission of the offer.
The SUPPLIER must submit the plan with the latest signed index and the references of the Technical Specifications used.

[7.4.2.1] Bill of Materials
The SUPPLIER must provide a list of all the items (raw materials, surface treatments, parts and assemblies) required to manufacture a product, together with the Material Certificates.
In the case where the final CUSTOMER specifies a list of approved Manufacturers or Subcontractors, the SUPPLIER must respect it.

Automotive Market Supplement
[**7.4.2.2**] The sourcing of electronic components must be in accordance with AEC-Q100 and AEC-Q200.

[7.4.3] Validation of the Product Design
If the Product Design is the SUPPLIER's responsibility, the SUPPLIER must submit the report of the inspections, measurements and tests performed to validate that the Product Design meets the requirements.

[7.4.4] AMDEC Product
If the SUPPLIER is responsible for the Product Design, he must submit his Failure Mode, Effects and Criticality Analysis for the Product. The purpose of the analysis is to ensure that the product meets the CUSTOMER's and the application's requirements.

This AMDEC Product must allow to :
- Identify and describe the risks (especially those concerning key characteristics),
- Quantify the risks (occurrence, severity, detectability),
- Identify the root causes,
- Define risk reduction actions and ensure their follow-up,
- Evaluate the level of residual risks,
- Verify the effectiveness of risk reduction actions.

The SUPPLIER must define the criteria for updating the analyses during the life of the product. In particular, the SUPPLIER must complete it when the product evolves.

[7.4.5] Manufacturing synoptic
The SUPPLIER must draw up the synoptic of the industrial process of production (internal and external) from the reception of the raw material to the dispatch and delivery of the product, including **:**
- The main phases of manufacturing, inspection and testing of the sub-assemblies and the product,
- The identification of external activities entrusted to Suppliers or Subcontractors.

If all or part of the manufacturing is subcontracted, the SUPPLIER must inform EOLANE to obtain its prior agreement on the Manufacturers involved. In all cases, the SUPPLIER must be responsible for the quality and control of its lower-ranking Subcontractors.

[7.4.6] AMDEC Process

The SUPPLIER must submit its Analysis of Failure Modes, their Effects and their Criticality for the Process. The purpose of the analysis is to identify all potential risks related to the production process (including by taking into account feedback) leading to non-conforming products or loss of output.

This AMDEC Process must allow :
- Identify and describe the risks (especially those concerning key characteristics),
- Quantify the risks (occurrence, severity, detectability),
- Identify the root causes,
- Define risk reduction actions and ensure their follow-up,
- Evaluate the level of residual risks,
- Verify the effectiveness of risk reduction actions.

The SUPPLIER must define the criteria for updating the analyses during the life of the product and the process. In particular, the SUPPLIER must complete it during major modifications to the product, process or procedure, and during internal non-conformities or CUSTOMER complaints.

7. New Product / Process

[7.4.7.1] Monitoring Plan
Based on the AMDEC Process, the SUPPLIER must establish the Monitoring Plan or Control Plan of the production process (internal and external) from the reception of the raw material to the shipment and delivery of the product including:

- The manufacturing, inspection and testing phases of the sub-assemblies and product,
- The identification of external activities entrusted to suppliers or subcontractors,
- Key characteristics (product and process) and other characteristics or parameters,
- The departments or functions responsible,
- The means and tools used (including error prevention devices),
- The associated documents,
- The reaction plans.

The SUPPLIER must ensure the control of the production process:

- Control changes to the documentation,
- Ensure and maintain the qualification of operators,
- Ensure the qualification of the products, processes and means implemented, including at his SUPPLIERS,
- Calibrate and check metrology equipment against international or national measurement standards,
- To set up an environment and a maintenance adapted to the means of manufacture and control,
- Implement provisions for the prevention, detection and removal of foreign objects,
- Demonstrate that all production and inspection/verification operations have been carried out as planned, or if not, that they have been documented and authorized.

If all or part of the manufacturing is subcontracted, SUPPLIER must inform EOLANE to obtain its prior agreement on the manufacturers involved. After agreement, the manufacturing site must be confirmed on the acknowledgement of receipt. In all cases, the SUPPLIER must be responsible for the quality and control of its lower-tier subcontractors.

Aerospace, Defense, Railway, Medical Devices, Nuclear Markets Supplement

[7.4.7.2] Special Processes
Special processes are those processes for which the post control does not give sufficient guarantee of the conformity of the result of its implementation.

To ensure product conformity, special processes must be identified, qualified and monitored. The SUPPLIER commits himself to keeping an up-to-date list of his special processes.

For each special process implemented on the products, the SUPPLIER must establish a qualification file containing the following items:

- Operating procedures, including equipment and consumables, their parameters and recording conditions (example: DWOP "Description of the Welding Operating Procedure" for welding),
- Qualification report (example: QWOM "Qualification of Welding Operation Mode" for welding),
- Personnel Qualification (example: WOQ "Welder or Operator Qualification" for Welding).

Throughout the implementation period, the SUPPLIER must apply a maintenance and monitoring program. Periodic verification of results on test specimens, articles, and standards must be carried out.

The SUPPLIER commits himself to provide EOLANE with proof of qualification, maintenance and monitoring.

These requirements will be reflected to the SUPPLIER's SUPPLIERS where applicable.

[7.4.8] Analysis of Measurement Systems
The SUPPLIER must submit the validation of the specific measuring systems used to control the products (R&R study Reproducibility & Repeatability).

[7.4.9] Dimensional inspection report
The SUPPLIER must submit the dimensional inspection report for all the dimensions in the plan on 5 pieces (at least 1 piece from each cavity) from the production process.
These pieces represent the Initial Samples (IS).

[7.4.10] Product / Process test report
The SUPPLIER must submit the report of the tests carried out in accordance with the requirements noted in the plan and the Technical Specifications.

[7.4.11] Capability studies
The SUPPLIER must submit the Capability study of the key characteristics on 30 parts / cavity from the production process.
The requirement is Cpk must>1.33; otherwise, a 100% control must be carried out (Go/NoGo, anti-error or other control means).

[7.4.12] Laboratory qualification
If required by the CLIENT, the SUPPLIER must provide the Laboratory's accreditation (ISO/IEC17025 or equivalent).

7. New Product / Process

[7.4.13] Appearance Control Report
In the case of cosmetic pieces, EOLANE must provide the SUPPLIER with a cosmetic specification. Otherwise, the EOLANE document "Quality acceptance criteria for appearance pieces" (Form 060003) must serve as a reference.

Along with the Initial Samples, the SUPPLIER must submit the Appearance Control report (including color control if applicable) along with:
- Signed appearance criteria,
- Control range,
- Defect check and/or limit samples if applicable.

[7.4.14] Initial Samples (IS)
The SUPPLIER must deliver 5 pieces (at least 1 piece of each cavity) from serial production in a package identified with a yellow label.

[7.4.15] Tooling list
The SUPPLIER will provide a list of specific tools.

For tools owned by the Customer, he must also send photos of the tools and property plates.

[7.4.16] Recommendations for usage
The SUPPLIER must transmit its recommendations for usage: Shipping/transportation, Reception, Storage, Unpacking, Handling, Assembly, Proximity parts, Pollution, Scratches/scratches, Dismantling, Recycling, Traceability, ...).

[7.4.17] Part Submission Warrant (PSW)
SUPPLIER must submit the PSW (Part Submission Warrant) completed, signed and accompanied by the requested proof of conformity.

[7.4.18.1] Material declaration
The SUPPLIER commits to:
- Respect REACH regulations,
- Respect the European directive known as RoHS,
- Respect the Conflict Minerals Directive,
- Comply with any restrictions and traceability rules imposed on it
- To check developments at least every 6 months.

The SUPPLIER must transmit (if applicable):
- The position of each article in relation to the SVHC REACH limit,
- The number and the copy of the declaration in the SCIP database in case the limits are exceeded.

The SUPPLIER also transmits (if applicable):
- The RoHs declaration,
- The UL déclaration,
- The E-Certificate as well as any other documents of origin / traceability required

Automotive Market Supplement
[7.4.18.2] The SUPPLIER commits to submit to EOLANE the composition of its product in the IMDS database.
- Angers: 81145
- Combrée: 47548
- Suzhou: 79257
- Valencia : 177231
- Tallinn : 139839

[7.4.19] Packaging
The SUPPLIER must be responsible for preserving the product until it reaches its final destination.
The product must be packaged in suitable packaging to ensure the integrity and protection of the product, taking into account the transport conditions.
The definition of the packaging must be defined jointly by the SUPPLIER and EOLANE. The SUPPLIER must ensure that packaging is reduced as much as possible (quantity, dimensions, plastics) and must give preference to reusable packaging, then to packaging made of recycled materials, then to packaging made of recyclable materials, and finally to banning all others.
The packaging imposed by the final CUSTOMER must be respected.

Unless a written agreement is given by EOLANE, the reference packaging is :
- a GALIA 1000x1200 pallet or a Europe 1200x800 pallet,
- a Packaging Unit weighing a maximum of 10 kg and easily accessible at a maximum height of 1.4 m.

The SUPPLIER must provide the following information concerning the packaging
- Description (including labelling),
- The validation plan (e.g. transport test),
- The Operating Procedure (packaging / unpacking).

8. Execution of the services

8.1 Order, amendment, call for delivery, and acknowledgement of receipt

[**8.1.1**] The EOLANE order specifies:
- Designation of the product or service,
- Applicable documents (plans, technical specifications, ...),
- Additional documents to be supplied (Declaration of conformity, measurement records, material certificates, etc.),
- Manufacturer,
- General conditions of purchase or special conditions,
- Quantity, price and deadlines.
- International Commercial Terms
- Due date and method of payment.

[**8.1.2**] By acknowledging receipt of an order (or amendment) within 48 hours, the SUPPLIER commits to meet all the requirements expressed, in terms of conformity, cost, lead time, quantity, means, resources and technical know-how.

[**8.1.3**] These specifications are also valid for calls for delivery. In this case, the logistics annex will contain the elements mentioned.

8.2 Production planning

[**8.2.1**] The SUPPLIER must be responsible for plan up the production plan and adapting its resources to meet the required volumes and deadlines

8.3 Control of the Supply Chain

[**8.3.1**] The SUPPLIER must have full responsibility for the quality of its services, including those that it may purchase or subcontract. Whether he chooses them or they are imposed by éolane or our end customers.

In particular, it must:
- Carry out the requirements applicable to the entire supply chain, including EOLANE and CUSTOMER requirements,
- Define according to an established process the approval status of Suppliers,
- Maintain a list of approved Suppliers and scope,
- Select Suppliers according to their status and define the level of monitoring according to the risks.
- Periodically review Supplier performance and review Supplier approval status and monitoring level as necessary.

8.4 Purchasing from Brokers

[**8.4.1**] Procurement from brokers is subject to EOLANE's written agreement.
The SUPPLIER must follow the requirements of the appendices to our procedure GRP-ACH-INS-0310 at its latest revision.

Nuclear Market Supplement

[8.4.2] In the context of the supply of components for the nuclear sector, the use of a broker-type supply network is strictly prohibited.

Nuclear, Aeronautics, Defense Market Supplement

8.5 Counterfeit, Fraudulent or Suspicious Items (CFSI)

[**8.5.1**] The SUPPLIER must have measures in place to prevent and detect counterfeit, fraudulent or suspect (CFSI) items at all levels of operational activities, including:
- Internal operations,
- Selection of external service providers,
- Specific information provided to external providers, including requirements for the control of their subcontractors,
- Control of outsourced processes, products and services as applied to the output element,
- Monitoring and measurement activities.

Measures implemented include, but are not limited to :
- All staff are made aware of CFSI, compliance and the nuclear, aeronautical and defense safety culture.
- Quality assurance staff must be independent of the entity performing the activity and aware of CFSI detection. Inspection methods include CFSI detection practices,
- As part of the deployment of safety culture, any employee must have the opportunity to anonymously alert the NSA to nuclear safety or compliance observations, EASA for aeronautics and DGA for defense, and any other competent authority,
- When CFSI are detected, the deviations from the requirements must be managed as non-conformities and presented to the final CUSTOMER for evaluation of the impact and decision on the product concerned (derogation, additional tests, rework, scrap...). An investigation must be conducted on the duration and frequency of the detected practice, with an analysis of the root cause and the implementation of corrective actions to prevent recurrence. The end CUSTOMER and other parties concerned must be notified without delay.

8. Execution of the services

8.6 Identification of components and packaging

[**8.6.1**] A production batch is a homogeneous production carried out in one time and under the same production conditions.
All the parts are identified in accordance with the plans, at least with a year/month type date, unless EOLANE gives its prior written agreement (for example: piece too small).

[**8.6.2**] All packaging (boxes, trays, reels, sticks...) must be identified with a label bearing at least :

- The manufacturer's article code of the component,
- The batch number and/or the date code,
- The quantity,
- The moisture sensitivity level (MSL) according to IPC/JEDEC J-STD-033 if applicable,
- Country of manufacture,
- Duration/expiry date if applicable.

This data is written in legible block letters.
Chemical labeling must be in the language of the country of delivery.

[**8.6.3**] The SUPPLIER must not deliver more than 3 different code dates per delivery and 1 code date per Packaging Unit.
The code dates must be less than 5 years old.

Supplement to the Automotive / Rolling Stock Markets

[**8.6.4**] The SUPPLIER must not deliver more than 2 different code dates per delivery and 1 code date per Packaging Unit.
The code dates must be less than 2 years old.

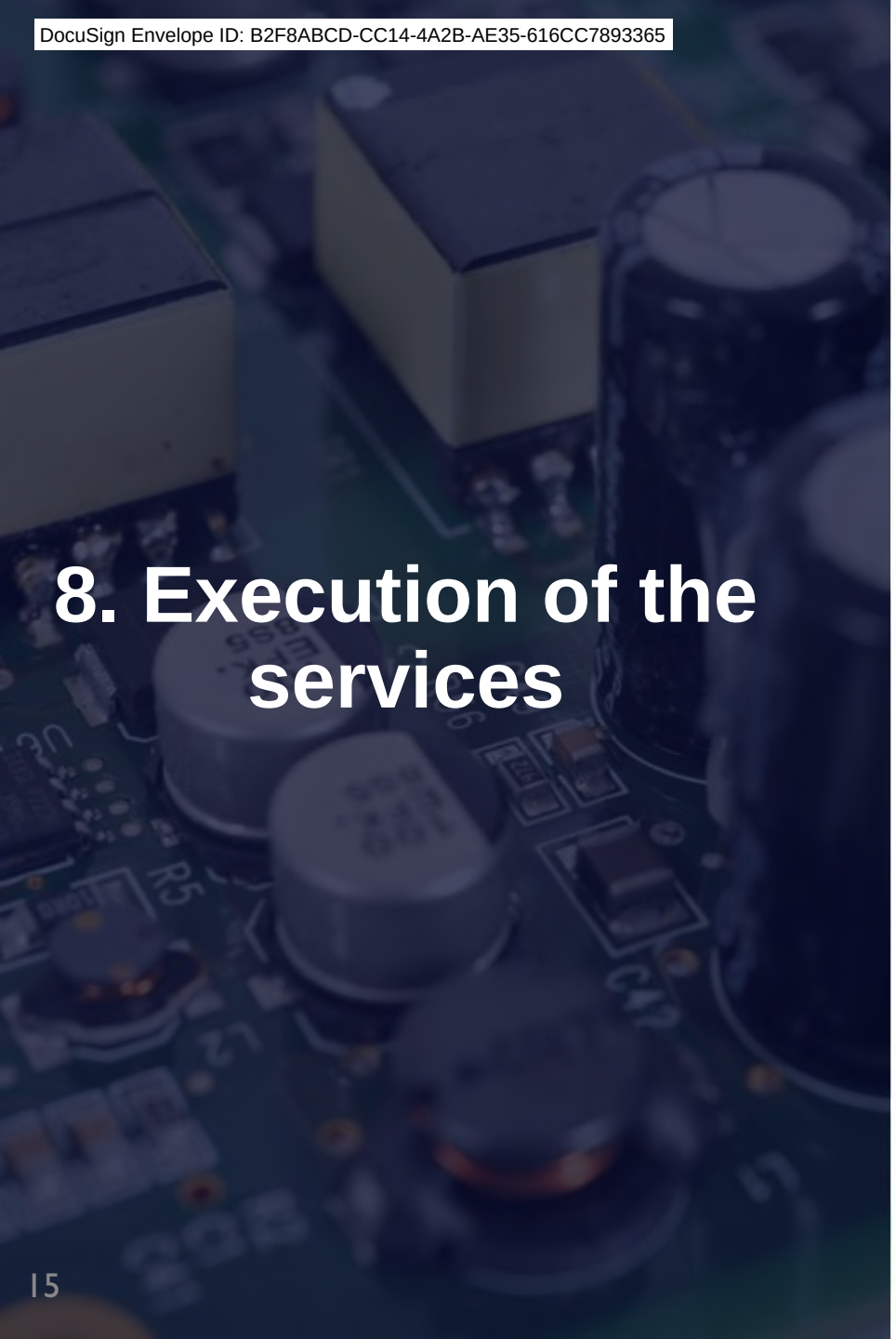
In order to ensure traceability, the SUPPLIER must mark all component packages with the manufacturer's date code down to the smallest package.

8.7 Mastering of components subject to export control

[**8.7.1**] Before placing any order, the SUPPLIER must notify EOLANE if all or part of the supplies are subject to any export control regulations, components under export licence (e.g. ML-XX, EAR, ITAR, DU-JP...) and components subject to the IIC (International Import Certificate).

The SUPPLIER declares and guarantees that the information provided to EOLANE is complete and accurate. The SUPPLIER commits to notify EOLANE in writing as soon as it becomes aware of any change that may affect the export control regime applicable to the supply.

Any item subject to the export control identification procedure must be properly marked and traced according to the regulations in force. EC items must be identified by labeling from reception, during storage, during manufacturing and upon delivery to EOLANE (EC mention on the delivery documents accompanying the product with its component(s) subject to export control).



8. Execution of the services

8.8 Traceability and archiving

[**8.8.1**] The SUPPLIER commits to

- Ensure the traceability (batch number and date code) of the products manufactured, both upwards and downwards,
- To be able to find the history of its production and proof of conformity of the products delivered,
- Guarantee the application of the FIFO (First In First Out),
- Describe its method for controlling records.

These requirements are passed on to the SUPPLIER's Suppliers for the materials making up the supply that are subject to a Product-Supplier pair qualification.

[**8.8.2**] EOLANE must be notified within 24 hours of a request for traceability of products delivered three years ago. For any delivery older than three years, the response must be provided within 5 days.

[**8.8.3**] Records must be kept by SUPPLIER for at least 5 years (unless otherwise specified in the contract or order) or returned to EOLANE in case of termination of business.

Aeronautics, Aerospace and Defense Markets Supplement

[**8.8.4**] Records must be retained for at least 30 years (unless specifically required by the contract or order).

Supplement to the Automotive / Rolling Stock Markets

[**8.8.5**] The records are kept for the life of the vehicle and for more than 5 years after that (unless otherwise specified in the contract or order).

Rail Market Supplement

[**8.8.6**] The records are kept for at least 20 years (unless otherwise specified in the contract or order).

Medical Device Market Supplement

[**8.8.7**] Records are kept for the entire life of the product (unless otherwise specified in the contract or order).

Nuclear Market Supplement

[**8.8.8**] The records are kept for at least 10 years (unless otherwise specified in the contract or order).

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8. Execution of the services

8.9 Delivery requirements

[**8.9.1**] The products delivered must be in conformity with the specifications, plans, standards and specifications included in the order or any other documents referring to it.
The SUPPLIER commits to ensure that the contract is complied with:

- The product,
- The accompanying documents.

For each delivery, SUPPLIER must provide:

- A Delivery Note (*),
- A Declaration of Conformity in accordance with standard NF EN ISO/CEI 17050 (**),
- If there are any non-conformities and these have been accepted by EOLANE, a copy of the waivers accepted, together with clear and appropriate identification,
- A test specimen (if requested),
- A material and treatment certificate (if applicable),
- If it is an IS, a yellow label "IS" and the PSW document,
- Any other document called for in the order or in the technical specifications of the product.

The access to the documentation must be possible without breaking the packaging of the product.

[**8.9.2**] (*) The Delivery Note must include the following information:

- Reference of the order and any amendments,
- A unique number,
- Title of the products (as on the order: item code, designation, plan number),
- The quantity of products delivered.

[**8.9.3**] (**) The Declaration of Conformity must include the following information:

- Unique number,
- Name and contact address of the issuer,
- Identification of the object of the declaration (e.g.: name, type, production date, process, management system, plan number indicated according to the RCC-E for the Nuclear Market...),
- Declaration of conformity,
- Complete and clear list of required standards and specifications (including REACH, RoHS and Conflict Mineral if applicable),
- Any restrictions on use (mentioning, for example, dual use) and compliance with requirements relating to sanctions and potential embargoes in force,
- Date and place of the declaration,
- Signature (or equivalent), name and position of the authorized person acting on behalf of the issuer,
- Any limitations on the validity of the declaration of conformity.

[**8.9.4**] Special cases:

- If it is a resale, a copy of the Declaration of Conformity established by the manufacturer,
- If it is a semi-finished product, a control and test report meeting the requirements of the definition (technical specifications),
- If there was a particular agreement of EOLANE, a copy of this agreement.

Nuclear Market Supplement

[**8.9.5**] For the nuclear sector, since the nuclear power stations have a lifespan of at least 60 years, the quality and legibility of the documents are specific requirements:

- Unique document number, versioned (or dated),
- Documents must be legible after scanning,
- Language: according to the requirements of the final CUSTOMER (particular attention must be paid to translations).

To facilitate scanning (QN 300 standard):

- The front side is preferred,
- Margins must be sufficient (recommendations: Header/footer 10 mm, Right 10 mm, Left 15 mm),
- Avoid color (e.g. avoid green/red for OK/NOK in control reports),
- A4 format (or A3 plans).

UL Marking Supplement

[**8.9.6**] When requested by the CUSTOMER, UL certification may be required, as well as the associated requirements:

- PCB : marking on PCB,
- Plastic parts: mandatory material certificate for each delivery with EOLANE references, name of the manufacturer and base materials including colorant, additives, etc., batch numbers and regrind rate (maximum authorized: 25%),
- Labels: UL marking of the roll,
- Display sub-assemblies: certificate of conformity with different authorized materials (with EOLANE references), the name of the materials, their manufacturer and their UL code,
- Cables: UL labels on receipt.

8. Execution of the services

8.10 Industrial change / Duty to warn / Claims for exemption

[**8.10.1**] The SUPPLIER commits to inform EOLANE in advance 6 months before :

- Any change in the definition of the product,
- Any major industrial change that may affect the appearance, dimensional characteristics, or function of the product, or that may affect the compliance with acceptance criteria, as well as the reliability of the product, such as
  - Activity transfer (inter-site transfer, subcontracting),
  - Plant reorganization (location, organization, key positions),
  - ERP change,
  - Modification of internal and subcontracted industrial processes (transfer, replacement, refurbishment or duplication of machines/tools),
  - Change of SUPPLIER or subcontractor.

As such modifications may have an impact on the qualification and functional validation of the product, EOLANE's agreement is required prior to its implementation on the product. The SUPPLIER must provide EOLANE with:

- The list of products concerned,
- A description and the reason for the change,
- The planning of the change (organization, resources, schedule),
- A risk analysis and its associated mitigation plan.

The SUPPLIER commits to initiate any industrial change only after having obtained EOLANE's formal agreement.

[**8.10.2**] Any non-conformities noted by the SUPPLIER must be the subject, before delivery, of a request for derogation with :

- A risk analysis and an associated risk mitigation/mitigation plan,
- A cause analysis and corrective action plan.

In the case where the derogation request is accepted by EOLANE, the SUPPLIER must:

- Attach a copy of the waiver request,
- Indicate on the accompanying documents (delivery note, declaration of conformity) the number of the request for exemption,
- Identify the parts or products subject to the non-conformity by labelling them with the derogation number.

Nuclear Market Supplement

[**8.10.3**] SUPPLIER must communicate any touch-up, rework or repair of product and obtain EOLANE's approval prior to delivery.

8. Execution of the services

8.11 Obsolescence treatment

[**8.11.1**] SUPPLIER must periodically ensure its ability to supply all the components required for the manufacture and repair of the Products.

Upon request, the SUPPLIER must send an obsolescence report to EOLANE including:

- Details of the situation and risks for each component, material and sub-assembly making up the product,
- The progress of risk control actions.

The SUPPLIER must inform EOLANE in writing of any case of obsolescence relating to a product no later than 5 days after becoming aware of such obsolescence.

In case of obsolescence, SUPPLIER commits to seek interchangeability of the product concerned with another supply.

In cases where interchangeability cannot be ensured, the SUPPLIER will inform EOLANE of any obsolescence of the product at the latest 6 months in advance, so that a solution can be found (e.g. qualification, stock, etc.).

The storage solution will only be chosen if it is established that other solutions are not appropriate.

Aerospace, Railway Market Supplement

[8.11.2] SUPPLIER must guarantee the availability of products and spare parts during the life cycle which, without further specification, is 30 years.

Nuclear Market Supplement

[8.11.3] SUPPLIER must guarantee the availability of products and spare parts during the life cycle, which, without further specification, is 10 years after the last part is manufactured.

8.12 After-Sales Support

[**8.12.1**] SUPPLIER must provide after-sales support including but not limited to:

- Traceability feedback and data analysis;
- Actions to be taken in the event of detection of problems after delivery;
- The control and update of the production documentation;
- Control and update of the risk analysis to ensure feedback;
- The approval, control and use of repair instructions;
- The control required for work done off-site (for example, work done on the EOLANE site or on the final CUSTOMER site).

Nuclear Market Supplement

[**8.11.2**] SUPPLIER must be able to repair the Products within 4 weeks. In cases where the parts required for the repair are not available, SUPPLIER must acquire them promptly and inform EOLANE. The repaired product must be returned in new packaging in accordance with the packaging instruction. The product must be repaired to the part number without upgrading to the reference bill of materials.

8.13 Warranty and hidden defects

[**8.13.1**] Unless otherwise specified, the Products are guaranteed for 24 months from the date of their delivery to EOLANE and according to the conditions defined in the General Conditions of Purchase and/or any other ancillary documents sent to the supplier.

[**8.13.2**] At the end of the warranty period, the SUPPLIER must remain liable for hidden defects. In the event of a latent defect, the SUPPLIER must, at EOLANE's choice, repair, replace, or refund the price of the products concerned, and must be responsible for all costs incurred by EOLANE in connection with this latent defect.

8. Execution of the services

8.14 Control of Non-Conformities and processing of complaints

[**8.13.1**]EOLANE must be empowered to make claims to the SUPPLIER in the event of any non-quality event:

- Technical Non-Compliance: Non-conformity of the product with the requirements (plan, appearance criteria, technical specifications ...)
- Logistic Non Conformity : Non conformity of the delivery (late delivery, reference error, quantity error, missing documents, labelling error, damaged packaging ...)

The category of the incident depends on the origin and the impact of the non-quality event:

- C1: Technical Non-Conformity detected by the CUSTOMER or the End User
- C2: Technical Non-Conformity detected in production
- C3: Technical Non-Conformity detected in reception
- CP: Technical Non-Conformity in project phase
- L1 : Logistic Non-Conformity with impact on CUSTOMER or End User
- L2 : Logistics Non-Conformity with production impact
- L3 : Logistic Non-Conformity in reception

[**8.14.2**] Non-conforming products will be made available to the SUPPLIER for analysis. EOLANE reserves the right to have all or part of the non-conforming products examined, without this relieving the SUPPLIER of his responsibilities.

The SUPPLIER commits to use an 8D-type problem-solving methodology and to communicate this to EOLANE:

- Within 24 hours of receipt of the characterization of the defect by EOLANE: the handling of the claim and communication of the RMA number,
- Within 24 hours: the security actions (3D) (*),
- Within 15 days: root cause analysis and corrective action plan (5D),
- Within 1 month: implementation of corrective and preventive actions, and validation of their effectiveness (8D).

(*) Security actions must include where applicable:

- Identification and isolation of all potentially non-conforming products,
- Sorting and/or reworking of defective parts on EOLANE premises
- Sorting and/or reworking of defective parts at all other stages of the supply chain (SUPPLIER stocks, transit, advanced stocks, etc.),
- Conservative actions on its manufacturing lines as long as the effectiveness of the Corrective Actions is not confirmed.

These requirements must be passed on to SUPPLIER's Suppliers where applicable.

In the event of a claim, EOLANE reserves the right, and without waiver of damages :

- To carry out or have carried out the necessary sorting and rework operations at the SUPPLIER's expense and responsibility,
- And/or to require the SUPPLIER to replace defective Supplies within the time required by EOLANE,
- And/or to procure the Supplies from another SUPPLIER at the SUPPLIER's expense,
- And/or cancel or suspend the balance of the outstanding Supplies.

If the non-conformity is the SUPPLIER's responsibility, he commits to pay full compensation for the damage suffered by EOLANE (including internal costs) and by EOLANE's CUSTOMERS who have suffered damage. It is the SUPPLIER's responsibility to declare the loss to his Insurer if necessary.

9. Performance evaluation and continuous improvement

9.1 KPI

[**9.1.1**] The operational performance of SUPPLIERS is evaluated by EOLANE:

- OTD punctuality rate
- Compliance rate
- PPM

[9.1.2] OTD punctuality rate:

$$\frac{\textit{Number of complete and compliant order lines received between D-7 and D}}{\textit{Total number of lines expected over the period}}$$

D is the date of the 1st SUPPLIER AR.
This date may not be changed, unless EOLANE requests it to do so (shift or advance) and the SUPPLIER agrees.

Unless specifically agreed in writing by EOLANE, the **OTD target is 90%.**

[9.1.3] Compliance rate 12MR :

$$\frac{\textit{Number of 12MR deliveries - Number of non-quality events 12MR}}{\textit{Number of deliveries 12MR}}$$

Unless specifically agreed in writing by EOLANE, **the 12MR compliance rate objective is 99.5%.**

[9.1.4] PPM 12MR :

$$\frac{\textit{Number of non-conforming products delivered 12MR x 1 000 000}}{\textit{Number of products delivered 12MR}}$$

Non-quality events are taken into account for the calculation of the Compliance Rate and the PPM:

- C1: Technical Non-Conformity detected by the CUSTOMER or the End User
- C2: Technical Non-Conformity detected in production
- C3 : Technical Non-Conformity detected in reception

9.2 Scorecard

[**9.2.1**] A scorecard is sent to the SUPPLIERS with the greatest impact, along with a request for an action plan.

Any SUPPLIER can obtain a scorecard on request from EOLANE.

9.3 Audit SUPPLIER

[**9.3.1**] EOLANE reserves the right to audit SUPPLIERS in the following cases:

- Verification of compliance with the obligations of the Responsible Purchasing Charter,
- SUPPLIER Certification process,
- Poor performance or major incident,
- Start-up of a new product and/or process,
- Re-audit.

9.4 Continuous improvement

[**9.4.1**] The SUPPLIER must measure its performance and have a policy of continuous improvement.
The SUPPLIER commits to implement the actions necessary to achieve the objectives and to improve its level of quality of the products or services supplied on an ongoing basis.

10. Additional PCB requirements

10.1 Purpose
[**10.1.1**] This paragraph defines the additional requirements applicable to PCB SUPPLIERS.

10.2 Consultation with the SUPPLIER
[**10.2.1**] The technical specifications include the documents necessary for the manufacture of the PCB::

- Drilling plan,
- Trimming plan,
- Flanking plan,
- GERBER files,
- EOLANE PCB checklist.

If the request is specified in the consultation, the SUPPLIER may be asked to submit a proposal for a panelization plan for approval before ordering. These plans in GERBER and pdf format will be part of the deliverables expected before manufacture.

The SUPPLIER commits not to modify the EOLANE input data for its manufacture. In particular, the removal of non-functional pads from the GERBER files is strictly prohibited.

10.3 Process requirement
[**10.3.1**] In general, EOLANE considers the entire manufacture of a PCB to be a special process (see 7.4.7.2).

10. Additional PCB requirements

10.4 Control requirements

[**10.4.1**] Control of the internal layers
The inner layers are 100% AOI tested.
No repairs are allowed on the inner layers.

[10.4.2] Electrical control
A control of continuity and absence of short-circuit by automatic equipment on 100% of the PCBs is required.
The test conditions are as follows:

- Test under voltage of 40 V
- Continuity 10 Ohms
- Insulation 100 MOhms

A visual mark must be affixed on the controlled circuits to certify the acceptability of the product to the electrical test.

Within the framework of a rejection to the control, no incomplete blank will be accepted, except by preliminary exemption validated by EOLANE or for the orders of prototypes. Validation of such an exemption implies without reservation on the part of the SUPPLIER an identification of the non-conforming circuits as well as a specific packaging for insulation purposes.
For flex PCBs, the number of X-outs is to be agreed upon during the consultation.
In the event that the industrial means allow EOLANE to authorize X-outs for circuits other than flex, the information will be communicated at the time of the initial quotation. If no specific information is provided, the SUPPLIER must consider that no X-out is authorized at the time of delivery.
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[10.4.3] Adhesion test
It must concern both the sparing varnish, the marking and the finishing.
The SUPPLIER must give preference to the areas where the prints with the smallest pitches and the BGA component areas are located.
The inspection conditions are those described in the document referenced IPC TM 650 2.4.1.

[10.4.4] Metallographic section
The location of the cut is either proposed by the reference technical file or left to the free choice of the SUPPLIER.
In the latter case, the cut must be representative of the complexity of the PCB (stackup, sequential, buried holes, stacked vias, etc.). In case of doubt, the SUPPLIER must propose a definition of the cut for EOLANE validation.
After delivery of the metallographic section, if it is not deemed sufficiently relevant, EOLANE reserves the right to ask the SUPPLIER to launch a new production batch, or to request the completion of another section at another location.

The metallographic cut must be shocked according to IPC TM 650 2.6.8.

[10.4.5] Ionic contamination
Regarding ionic contamination, the SUPPLIER must have a procedure and means of measurement that allow the delivery of PCBs meeting the requirements defined below or CUSTOMER requirements:

- OSP, Im Tin, Im Ag, ENIG, Electrolyitc Ni/Au: Max 0.3 µg/cm² (NaCl equivalent)
- SnPb and lead free HASL: Max 0.8 µg/cm² (NaCl equivalent)

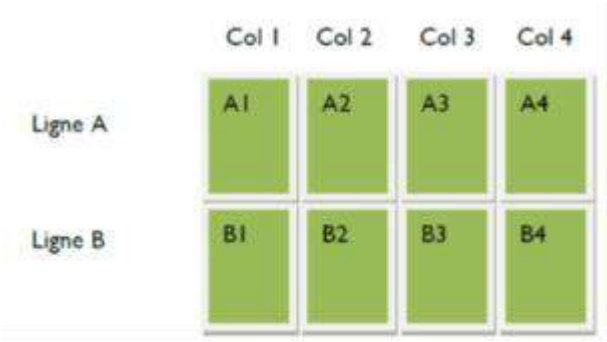
The control conditions are defined in the document referenced IPC TM 650 2.3.25 1.

[10.4.6] Special case of double varnish savings
In the case of the sparing varnish, the SUPPLIER may have to apply a double varnish not provided for in the production range. In this case, the SUPPLIER must inform EOLANE before delivery by sending a request for exemption. In all cases, the thickness of the varnish must not exceed the height of the reception areas.

10. Additional PCB requirements

10.5 Identification / Serialization / Packaging / Delivery / Accompanying documents

[10.5.1] Identification
In case of a specific request, the identification of the PCB in its panel must be done as follows (top layer view of the PCB):



The Date Code must be marked by engraving the copper or by removing the varnish. The marking of the Date Code by silk-screen printing is forbidden.

UL Marking Supplement
[10.5.2] When requested, proof of UL certification may be required. In this case the following markings must be present:
- Manufacturer's logo or file number
- The manufacturer's own approved class marking of the PCB, which can be verified on ul.com

[10.5.3] Serialization
Depending on the technical reference file, the SUPPLIER may be asked to serialize his circuits as follows: line number / column number / panel number.
The cost of this serialization must be clearly identified in the quotation.
EOLANE may consider any alternative solution that would improve the competitiveness and complexity of this serialization request.

[10.5.4] Packaging
In general, it is the SUPPLIER's responsibility to use appropriate packaging to preserve the integrity and functionality of the product until its expiration date.
In addition, packaging must be in a thermoformed bubble with a desiccant bag or in a dry pack in accordance with J-STD-033.
For SMI PCBs and in chemical silver and OSP finish, a sheet of paper must be inserted between each PCB.
The stacking of the PCBs must not exceed 10 PCBs per package of 5 DRYPACKs for a cardboard weight not exceeding 15Kg for 1.6mm thick PCBs and 3 PCBs per package of 5 DRYPACKs for a cardboard weight not exceeding 15Kg for 3.2mm thicknesses.
The SUPPLIER must distinguish by its packaging the different manufacturing batches, as well as the PCBs under exemption or under isolation.
Shipments must be made in thick, triple-fluted delivery cartons, complete with the necessary protective cushioning.

[10.5.5] Delivery
In addition to the requirements by activity, the SUPPLIER is requested to undertake to comply with the following weldability guarantees by type of finish, as well as the associated delivery rules.

finishing touches	Weldability guarantee (maximum time before expiry)
SnPb Electrolytic	18 months
HAL SnPb or SN100c	18 months
Chimical Tin	6 months
Chimical Silver	6 months
Nickel Gold Chemical (ENIG)	12 months
Nicker Gold Paladium Chimical (ENEPIG)	12 months
Nickel Gold Electrolytic	18 months
Passivation (OSP)	6 months

Any delivery of PCBs beyond the periods specified in the table above is subject to an exceptional request for a derogation with a proposal for an extension of the solderability guarantee, in particular within the framework of a reactivation if applicable by the CLIENT.
In general, the SUPPLIER will be asked for his recommendations on the use of the products, particularly for desorption and storage.
The SUPPLIER will also be responsible for ensuring compliance with the storage conditions required to guarantee these times in his own premises.
This standardisation of expiry dates does not replace the specific requirements of our CUSTOMERS, if they exist.

10. Additional PCB requirements

[10.5.6] Supporting documents

In addition to the general delivery requirements, the following deliverables are to be added (English or French minimum):

1. EOLANE reference
2. SUPPLIER reference
3. PCB article code
4. PCB code number
5. PCB code date
6. EOLANE order reference
7. REACH and RoHS certificate
8. Reference of all materials used (solder mask used include)
9. Number of layers
10. Type of metallic finish
11. Declaration of compliance

And when requested by EOLANE to complete with :

12. Metallographic section (shocked or not, if requested)
13. Microsection report including
    - 13.1 Microsection number
    - 13.2 Thickness of base copper in inner layer
    - 13.3 Thickness of the base copper in the outer layer
    - 13.4 Thickness at the center of the track and at the edge of the track of the solder mask
    - 13.5 Minimum conductor width
    - 13.6 Insulation distance between 2 conductors where there is a minimum
    - 13.7 Minimum external annular ring
    - 13.8 Thickness of metallization in the holes
    - 13.9 Thickness of metallization on pads
    - 13.10 Thickness of metallic finish on pads
    - 13.11 Thickness of inter-layer insulation
14. Test certificate including
    - 14.1 Tape test
    - 14.2 Ion contamination measurement
    - 14.3 AOI test (inner layers)
    - 14.4 Electrical test control on 100% of the circuits
15. Overall dimensional survey on 2 PCBs + overall on 1 panel
16. Material certificates
17. Varnish certificate
18. Test coupon
19. Impedance measurement report
20. Flatness measurement or conformity report
21. Solder paste stacking file

All these documents, even if EOLANE does not require them to be delivered with the PCBs, must be kept (see paragraph on document retention period) by the Manufacturer and made available on request.

11. Additional requirements Metallurgy

11.1 Purpose
[**11.1.1**] This paragraph defines the additional requirements for SUPPLIERS of metal parts.

11.2 Degreasing
[**11.2.1**] Unless otherwise specified by EOLANE, parts for which one or more manufacturing processes require the use of lubricant must be degreased before delivery to EOLANE.

11.3 Deburring
[**11.3.1**] Unless otherwise specified by EOLANE, Serial Parts delivered by SUPPLIER must be carefully deburred before delivery to EOLANE.
The Serial Parts must be free of detachable or sharp burrs.
If, however, an agreement is reached not to deburr the products delivered by the SUPPLIER, the burrs must have a maximum size defined according to NF E81-010 Class B.
The provisions of standard NF EN 9146 relating to the prevention of damage caused by a foreign body (FOD) are applicable. The SUPPLIER is aware that EOLANE manufactures electronic products that are sensitive to short circuits caused by FODs, and must ensure that there are no detachable elements that could cause electrical/electronic failures in the products delivered by EOLANE to its CUSTOMERS.

11.4 Screwing
[**11.4.1**] Within its scope, the NF E25-030-1 standard will be used as a reference for the products delivered to EOLANE.
In the absence of indication in the definition file, there must not be any threadlocker.
If a threadlocker is recommended, there must be no contact between the threadlocker and plastic or elastomer parts.
All torque-tightened fasteners must be marked with a red torque indicator drop (bloc'ront or equivalent) except on the appearance side of the product.
Movable fasteners such as floating connectors or cage nuts must move easily.

11.5 Sheet Metal
[**11.5.1**] In the absence of any other specification, the general tolerances applicable are based on NF E 02-352.

11.6 Machining
[**11.6.1**] In the absence of any other specification, the general tolerances applicable to machining operations (milling, turning, bar turning, reworking of castings, ...) are based on ISO 2768 mK.

11.7 Welding
[**11.7.1**] The standards for welding control of metal parts are case specific. In the absence of any other specification, ISO 3834-3 - Normal Requirements must be applied.
The requirements of EN ISO13920 linear B and angular C are applicable.
In case of inconsistency between NF EN ISO 3834-3 and EN ISO13920 linear B and angular C, NF EN ISO 3834-3 has priority.
On request from EOLANE, the manufacturer must provide EOLANE with any document proving his control of welding operations (e.g.: training of operators, control of operating procedures, controls and tests carried out, material traceability).

11. Additional requirements Metallurgy

11.8 Foundry

[**11.8.1**] For metallic products obtained by molding or injection, the SUPPLIER must be authorized to use hardfacing only if EOLANE has given written authorization. This written authorization must specify a scope of application, either for the entire production of the Serial Parts, or for a more restricted quantity (the part requested, a defined quantity, a defined period), and the topographical markers concerned.
The SUPPLIER must systematically specify the following subjects in his offers:

Tensile test specimens:
- Manufacturing (yes/no, number of fabricated specimens tested/retained),
- Tests carried out (test method, target value and measured values),
- Tests performed in initial qualification and/or in series,
- Non-destructive tests (penetrant testing, spectroscopy, X-rays, ...) :
- Tests performed (yes/no, test method, results),
- Retention period of the results.

Sealing:
- Sealing requirement taken into account in the offer,
- Tests performed (yes/no, test method, results),
- Tests carried out in initial qualification and/or in series,
- Retention period of the results.
-

Foundry defects :
- Objective reference of admissible casting defects (cracks, pitting, ...).

11.9 Prints and painting

[**11.9.1**] A tape adhesion test is performed in accordance with the ISO 2409 standard on a representative quantity of the batch with tape having a tensile strength of at least 2N/cm (e.g. TESA 4120 tape or equivalent).
Also, a cleaning test with isopropyl alcohol is performed.

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12. Additional requirements Plastics processing

12.1 Purpose

[**12.1.1**] This paragraph defines the additional requirements applicable to the SUPPLIERS of molded parts (thermoplastic injection / thermosetting injection / thermoforming strong & weak thickness / composites / compression...), of machined parts (milling / turning / screw-cutting...) in polymer and composites, as well as of parts known as IHM (lexan, front face, flexible keyboard, silicone keyboard ....)

12.2 Developmental Quality Assurance Document - Tooling Parts

[**12.2.1**] If the place of manufacture of the tooling is different from the place of manufacture of the parts in series life, any presentation of the tooling IS file must be accompanied by the PSW document and must include at least the following points :

Input Data:

- Digitized signed parts drawing file (product) with references, digital file references (3D, .stp etc.) with respective indices in force.
- Digitized signed drawings of tooling with references and current indices,
- Designation of materials (plastic raw materials, compounds, colorants, etc.) with their technical data sheets (MSDS, MSDS, etc.) used to produce the product (final material, including any additives),
- Specific qualification tests (light aging, waterproofing, impact, etc., if applicable),
- Product specifications (signed acceptance criteria),
- Contact details of the Supplier(s) and subcontractor(s) involved in the production of the tooling and manufacture of the EI Tooling.

Output data:

- Any simulation studies (e.g. rheological) carried out by the supplier or subcontractor.
- Record of all critical dimensions defined on the drawing (+ capability on special characteristics if requested) + reference of metrology equipment used for measurements,
- Tooling (list of tools, general and detailed drawings on paper and in electronic format / function / identification & ownership of tooling),
- Machine parameters, any capability studies, balancing, mold regulation, carried out by the Supplier,
- A statement of colorimetric values, gloss, roughness (if requested in acceptance criteria),
- Test plan and test reports for specific qualification tests, including packaging tests
- Raw materials and surface treatments used (material certificates and safety data (if applicable), ...,
- Consumables used (glue, inserts, etc.),
- Identified sample parts (4 copies).

Supplement Automotive / Rolling Stock Markets

[**12.2.2**] FOT are delivered to EOLANE including a dimensional report of all dimensions on a minimum of 3 pieces per cavity. The costs associated with this request are included in the SUPPLIER's quotation and cannot be added subsequently.

[**12.2.3**] The FOT are delivered to EOLANE including a dimensional report on a minimum of 3 pieces per cavity for the dimensions requested for improvement and framed.

[**12.2.4**] For all tooling modification requests, the SUPPLIER will provide a price quotation, including the reworking of the tooling and including a dimensional report on 3 parts per cavity.

[**12.2.5**] If a pre-production run is requested by EOLANE, SUPPLIER will provide a quotation, including a dimensional report on 3 parts per cavity,

[**12.2.6**] If the tooling is produced outside SUPPLIER's premises (e.g. Asian toolmaker), EOLANE must be notified in writing of the transfer of the tooling.

12. Additional requirements Plastics processing

12.3 Identification - tooling parts

[**12.3.1**] Parts must be marked with their cavity number
[**12.3.2**] If space permits, the parts must be marked with a material marking. example >ABS/PC<

12.4 Special Requirements - Tooling Parts

[**12.4.1**] When requested by CUSTOMER, UL certification may be required. The SUPPLIER must transmit the yellow card number to EOLANE.

[**12.4.2**] In the case of compound materials, the SUPPLIER must send the compounder's report with Lab or Lch report and the DeltaE limit value for future production.
EOLANE may request the colorimetry certificate from the SUPPLIER.

[**12.4.3**] SUPPLIER must sign the Tooling Purchase and Loan Agreement (L19).

[**12.4.4**] The SUPPLIER must provide EOLANE, at the time of submission of the PPV-PSW, with the plans of the tooling

12.4 Quality assurance document in development phase - NON-tooled parts

[**12.5.1**] At the time of bid submission, the SUPPLIER must disclose any infeasibility of the plan.

[**12.5.2**] When submitting its offer, the SUPPLIER must take note of EOLANE's PPAP/PSW request and of all the requirements of the market addressed. Its offer must remain competitive by including all these requests/requirements.
Under no circumstances may SUPPLIER claim additional costs after the fact. This applies both to IS's first bid and to any new bid required as a result of the rejection of the first bid.

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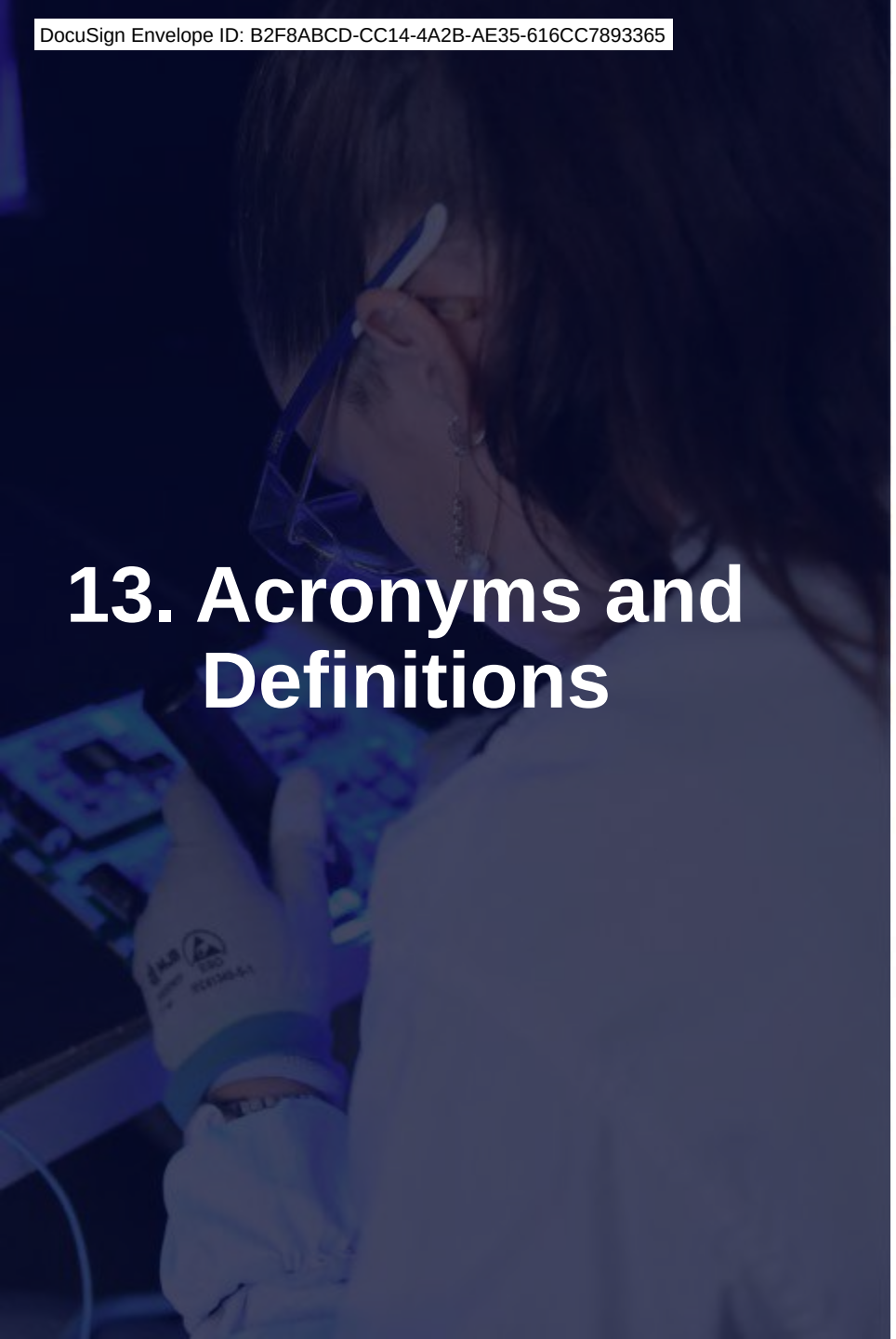

13. Acronyms and Definitions

12MR	12 Months Rolling
8D	Problem Solving Methodology 8 Disciplines
ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
AMDEC	Failure Mode, Effect and Criticality Analysis
AR	Acknowledgement of receipt
NSA	Nuclear Safety Authority
EC	Export Control
CFSI	Counterfeit, Fraudulent or Suspicious Items
CI	Integrated Circuit
CII	International Import Certificate
CLIENT	EOLANE's customer
Cp	Potential Capability Index of the Manufacturing Process
Cpk	Real Manufacturing process Capability Index
EAR	Export Administration Regulations
EMAS	Environmental Management and Audit System
IS	Initial Samples
ERP	Enterprise Ressource Planning
FIFO	First In First Out
FOD	Foreign Object Debris
SUPPLIER	Eolane's suppliers
FPY	First Pass Yield
ICPE	Classified Installations for the Protection of the Environment
IHM	Human Machine Interface
IMDS	International Material Data System,
IOD	First Off Tool (FOT)
IQAM	Control Identification, Quality, Appearance, Marking
ITAR	International Traffic in Arms Regulation
KPI	Key Performance Indicator
MSL	Moisture Sensitivity Level
NDA	Non-disclosure agreement
ILO	International Labour Organization
OTD	On Time Delivery
PCB	Printed Circuit Board,
PPM	Part Per Million
PPV	Product Process Validation,
PSW	Part Submission Warrant
R&D	Research & Developpement
R&R	Reproductibilité & Répétabilité
RCC-E	Design and Construction Rules for Nuclear Island Electrical Equipment
REACH	Registration, Evaluation, Authorisation and restriction of CHemicals
RMA	Return Material Authorization,
RoHS	Restriction of Hazardous Substances
SCIP	Database for information on Substances of Concern in articles as such or in complex objects (Products)
SVHC	Substance of Very High Concern
UL	Underwriters Laboratories

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14. Reference documents

Regulatory Requirements

REACH	Registration, Evaluation and Authorisation of Chemicals (1907/2006/EC and 2019/1148/EC)
RoHS	Restriction of hazardous substances in electrical and electronic equipment (2002/95/EC)
CMR	Conflict Minerals Regulation (2017/821/CE)
Global ILO Pact	Global Jobs Pact
ILO Declaration	ILO Declaration on Fundamental Principles and Rights at Work and its follow-up
	8 fundamental ILO conventions :
Convention (n ° 29)	Convention (n ° 29) Forced Labor
Convention (n° 87)	Convention (n° 87) Freedom of Association and Right to Organize
Convention (n ° 98)	Convention (n ° 98) Right to Organize and Collective Bargaining
Convention (n ° 100)	Convention (n ° 100) Equal Remuneration
Convention (n ° 105)	Convention (n ° 105) Abolition of Forced Labour
Convention (n ° 111)	Convention (n ° 111) Discrimination (Employment and Occupation)
Convention (n ° 138)	Convention (n ° 138) Minimum Age
Convention (n ° 182)	Convention (n ° 182) Worst Forms of Child Labor

Normative requirements

ISO 9001	Quality management systems
ISO 14001	Environmental management systems
ISO45001	Occupational health and safety management systems
J-STD-033	Handling, Packing, Shipping and Use of Moisture/Reflow Sensitive Surface Mount Devices
IPC A600	Acceptability of Printed Boards
IPC A610	Acceptability of Electronic Assemblies
IPC A620	Design and Critical Process Requirements for Cable and Wiring Harnesses
IPC TM 650	Test Methods Manual
IPC-1601	Printed Board Handling and Storage Guidelines
IPC-4101	Specification for Base Materials for Rigid and Multilayer Printed Boards
IPC-4552	Specification for Electroless Nickel/Immersion Gold (ENIG) Plating for Printed Boards
IPC-4553	Specification for Immersion Silver Plating for Printed Boards
IPC-4554	Specification for Immersion Tin Plating for Printed Boards
IPC-6011	Generic Performance Specification for Printed Boards
IPC-6012	Qualification and Performance Specification for Rigid Printed Boards
IPC-6013	Qualification and Performance Specification for Flexible Printed Boards
IPC-6016	Qualification and Performance Specification for High Density Interconnect (HDI) Layers or Boards
IPC 7711/21	Rework, Modification and Repair of Electronic Assemblies
NF E 02-352	Geometrical Product Specification (GPS) - General tolerances (dimensional and geometrical) for bent blanks
NF E25-030-1	Fasteners - ISO metric threaded fasteners - Part 1: Design rules for preloaded fasteners - Simplified approach
NF E81-010	Cutting and stamping - Burrs on stamped or punched metal parts - Maximum allowable burr height and method of measurement
NF EN 9146	Aerospace Series - Foreign Object Damage (FOD) Program - Requirements for Aeronautics, Aerospace and Defense Organizations
NF EN ISO/CEI 17050	Conformity Assessment - SUPPLIER's Declaration of Conformity - Part 1: General Requirements
ISO 2409	Paints and varnishes - Grid test
ISO 2768	General Geometrical Tolerances and Technical plans
ISO 3834-3	Quality requirements for fusion welding of metallic materials - Part 3: Normal quality requirements
NF E 02-352	Geometric Product Specification (GPS) - General tolerances (dimensional and geometric) for bent die-cut parts

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I4. Reference materials

Automotive Market Supplement

IATF 16949	Quality Management System for the Automotive Industry
AEC-Q100	Failure Mechanism Based Stress Test Qualification for Integrated Circuits
AEC-Q200	Stress test qualification for passive components

Aeronautics, Aerospace and Defense Market Supplement

EN9100	Quality Management Systems - Requirements for Aeronautics, Aerospace and Defense Organizations
NF L00-015	Aeronautics and Aerospace - Quality Management and Assurance - Declaration of Conformity
NF EN 9102	Aerospace Series - Quality Systems - Requirements for First Article Review

Medical Devices Market Supplement

ISO 13485	Medical devices - Quality management systems - Requirements for regulatory purposes

Railway Market Supplement

ISO/TS22163	Railway applications - Quality management systems - Requirements for the management system of the railway organization

Nuclear Market Supplement

ISO 19443	Quality management systems - Specific requirements for the application of ISO 9001:2015 by nuclear energy supply chain organizations providing products or services important to nuclear safety
QN100	Nuclear safety and quality management system, Requirements
QN200	External requirement - Surveillance by Areva
QN300	External requirements - Documentation SUPPLIERS
QN600	EHS external requirements
RCC-E	Design and construction rules for electrical equipment for nuclear islands

EOLANE documents

GRP-ACH-FOR-0290	SUPPLIER Audit Standard
GRP-ACH-FOR-0282	Suppliers qualification file
A4 or GRP-ACH-FOR-0275	Check list PCB
A18 or GRP-ACH-INS-0286	EOLANE General conditions of purchase
A49 or GRP-ACH-FOR-0287	Broker qualification file
A104 or GRP-ACH-FOR-0288	Responsibility matrix for imposed SUPPLIERS CUSTOMER
GRP-ACH-INS-0310	Manage components from non-franchised suppliers (brokers)
GRP-ACH-FOR-0293	Scorecard FOURNISSEUR
A113	SUPPLIER Framework Agreement
J1S	Supplier NDA Confidentiality and Intellectual Property Agreement
L5	Logistics contract / Consignment stock
L8	Logistics Annex
L15	Logistic Requirements file
L19	Tooling purchase and loan agreement
Q50	8D
GRP-PRJ-FOR-0004	PPAP (Production Part Qualification Process)
Form 060003	Quality acceptance criteria for appearance parts

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Diffusion List

Function	For application	For information
SUPPLIERS	X	
Projects, Buyers, Supply Chain, SQA, Finance		X

Modification History

Version	Date	Writer	Change Topic
v0	01/10/2021	Nassima BENSALAH, Xavier BERGEY, Olivier BRUMENT, Laurent GARREAU, Philippe LANDREAU, Mickael MANCEAU, Brice MATHERON, Hugo VITTECOQ	Initialisation (stop and replace A59, A60, A61, A95, A107, HA001, HA002, IG101)
v1	18/12/2023	Constantin MANOUSSO Damien LISTRAT	2023 Update
v2	15/07/2024	Constantin MANOUSSO Damien LISTRAT	Update and validation with all Purchasing and Quality players

Qualification Workflow

	Name	Function	Date	Signature
Written and Approved by	Constantin MANOUSSO	Directeur Achat Groupe	16/7/2024	DocuSigned by: E426C888FEB4437...
Verified by	Olivier DUCEPT	Directeur QHSE Groupe	16/7/2024	DocuSigned by: olivier Ducept B6A0BF8DE897421...