AUTOMOTIVE

CLIPPED SOLUTIONS

THREADED FASTENERS

SAFETY MECHANICAL COMPONENTS

LISI AUTOMOTIVE
SUPPLIER QUALITY MANUAL

Supplier panel management
Project management
Mass production performance

Translation of the original version in French – March 2018

Introduction:

At a time when the demands of the automotive industry are ever increasing, the company needs to be financially sound for it to continue operating and provide growth and profitability.

Our aim is to be recognised by automotive customers as the best supplier of safety-critical components and high added value fastening solutions.

In order to retain our competitive edge and thus keep our company going, we have initiated a continuous improvement process based on lean manufacturing. We also aspire to achieving operational excellence in all areas, particularly HSE, R&D, innovation, production, logistics and quality. Thus, we will be in a position to offer a very competitive package of solutions to our customers.

Our suppliers play an essential role in our success. We are always looking to set up lasting, demanding and fair relations with them, as stated in our Suppliers' Rules.

This manual aims to help implement a shared quality strategy so as to ensure that the processes of LISI Automotive and its suppliers are reliable, and to reduce costs as far as possible.

The subjects addressed in this manual do not in any way restrict the specifications and standards mentioned, or any legal requirements.

The aim is to work together to achieve zero defect quality over the entire procurement chain on the basis of a partnership between our companies.

Pascal RONOT
Purchasing Director

Vincent QUINAUX
VP Quality, HSE and
Industrial Performance

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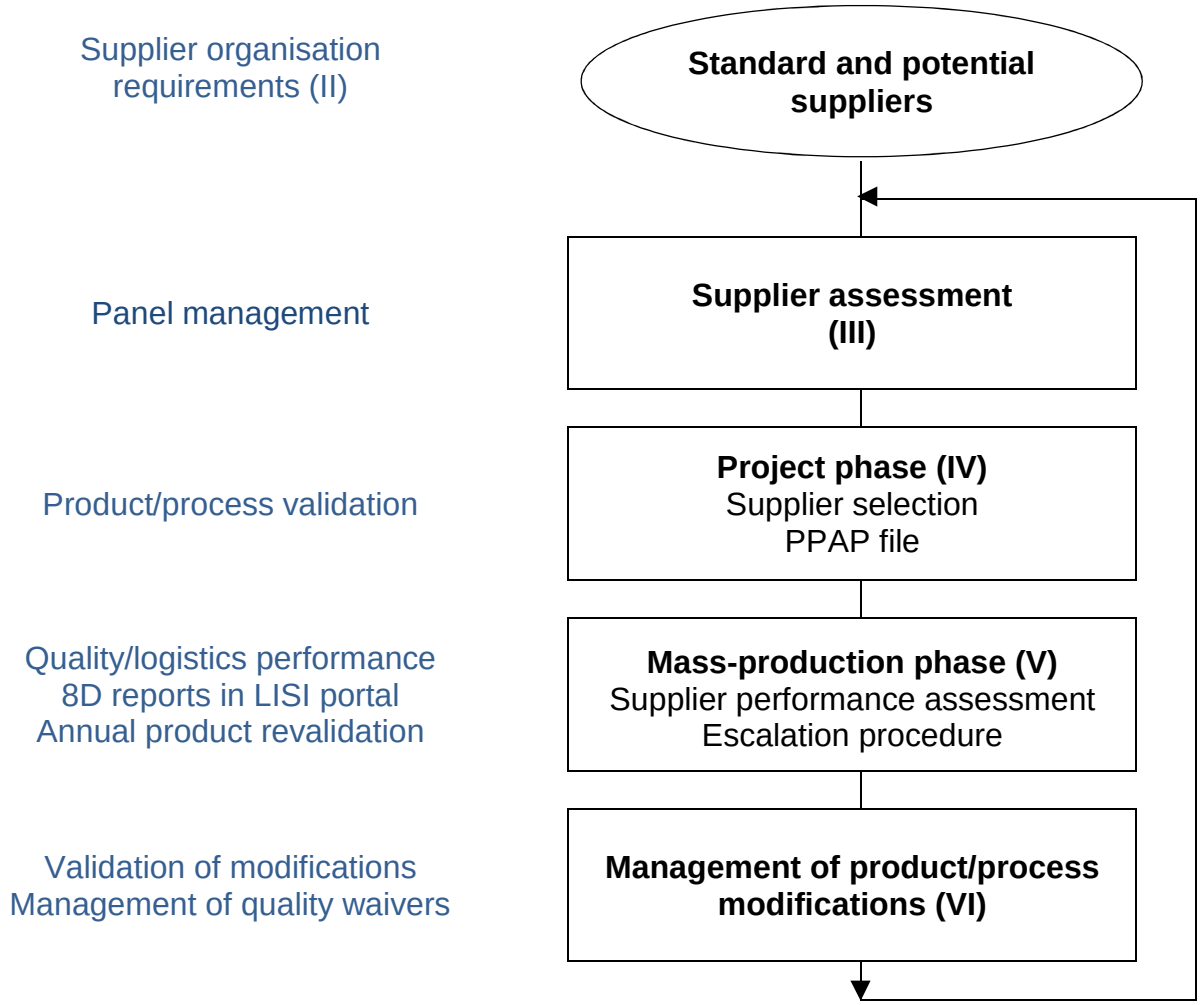
Note: An updated version of this manual is available on the LISI Automotive portal

Translation of the original version in French – March 2018

I. Contents of the manual

The supplier requirements of LISI Automotive contained in this manual apply to suppliers of purchased products and services that affect customer requirements: raw materials, subcontracting (surface treatment, heat treatment, sorting/assembly, components, forming and finishing tools, packaging in direct contact with the customer's product, test and calibration laboratories, transport and any other product/service that could have an impact on product characteristics). The term "supplier" as used in this manual refers to suppliers and subcontractors providing products and services alike.

This manual supplements the standard terms and conditions and the Suppliers Rules of LISI Automotive. It describes the management of the LISI Automotive suppliers panel, development quality and supplier performance during mass production.



II. Supplier system requirements

2.1. Regulatory requirements

Each supplier is required to comply with the labour, safety and environment regulations applicable in its country.

To that end, it must have all the permissions required for its industrial and commercial activities. If any permission is withdrawn, the supplier has the obligation to inform LISI Automotive.

Products manufactured and marketed by our suppliers are also required to comply with the regulatory requirements applicable in the countries of receipt, shipment and destination of customers.

More precisely, suppliers also commit to compliance with the following requirements:

International regulations

- **IMDS** (International Materials Data System): provision of material data for entry in the IMDS platform.
- **CAMDS** (China Automotive Material Data System Compliance): for all products manufactured and imported in China, provision of material data for entry in the platform
- **GADSL** (Global Automotive Declarable Substance List)
- **Conflict minerals:** CMRT questionnaire to be completed by the supplier

European regulations

- **European regulation 1907/2006, known as REACH** (Registration, Evaluation, Authorisation and Restriction of Chemicals): in particular, all suppliers, including their procurement chains, are required to inform LISI Automotive of the presence in their products of substances referenced in the SVHC list and to supply permissions for their use and marketing in the European market. For products purchased outside the EU, the supplier takes on its role of importer. If a product is modified (substitution of an SVHC product), the supplier has the obligation of immediately informing LISI Automotive.
- **European Directive 2000/53/EC** relating to end-of-life vehicles (**ELV**) to ensure that no critical/hazardous material or substances such as heavy metals are contained in its materials and products.

For information, all European directives and regulations are available on the website www.europa.eu.

2.2 International commitments

LISI Automotive prefers suppliers who implement policies in the area of **Corporate Social Responsibility or CSR**, which include among others an anti-corruption policy, a code of conduct for personnel management, as described in our supplier's rules.

To that end, LISI Automotive supports the **Global Compact** initiatives of the United Nations and follows the principles of AIAG, **Automotive Industry Guiding Principles**, to bring about a lasting improvement in the performance of the supply chain.

2.3. Quality system and certification

2.3.1. Quality certification

The supplier is required to develop, apply and improve a quality management system or QMS with **ISO 9001** certification, with the ultimate goal of certification to standard **IATF 16949**.

In order to fulfil that requirement, suppliers are asked to follow the sequence below:

1. Compliance with ISO 9001 through second-party audits
2. Certification with ISO 9001 through third-party audits carried out by a certifying body accredited by a recognised member of IAF MLA (International Accreditation Forum Multilateral Recognition Arrangement).
3. ISO 9001 certification supplemented by compliance with other QMS requirements of LISI Automotive or our end customers, secured via second-party audits.
4. ISO 9001 certification with IATF 16949 compliance through second-party audits
5. IATF 16949 certification with third-party audits by a body recognised by IATF.

Besides, it must require that its own suppliers implement the same quality approach.

The supplier must guarantee that calibration and testing activities are carried out or subcontracted to bodies certified to **ISO/IEC 17025**. Otherwise, a conformity improvement plan must be presented to LISI Automotive.

2.3.2. Quality System

The supplier guarantees the reliability of its processes and retains its production records, implements a continuous improvement process and a capitalisation process, based on a clearly defined quality policy and an organisation capable of assuring quality at every stage of the life of the product, in order to comply with the requirements of standard IATF 16949 (latest approved issue).

- The supplier agrees to follow the quality procedures of LISI Automotive during its developments, particularly core tools:
    - Development of products and services according to APQP (Advanced Product Quality Planning)
    - Preparation of the PPAP (Production Part Approval Process) file
    - Use of standard tools of the automotive industry such as: FMEA (Failure modes, effects and criticality analysis), MSA (Measurement System Analysis) and SPC (Statistical Process Control) as defined in AIAG (Automotive Industry Action Group) procedures or other methods accepted in the industry.
- Use of the quality and delivery performance required by LISI Automotive as performance indicators.
- Deployment and maintenance of a system for managing its rank-n suppliers in accordance with the requirements described in this section, including:
    - Recording of quality system control of its rang-n suppliers
    - Monitoring of the quality performance of purchased materials or products using the indicators required (including quality performance indicators, critical characteristics control, validation plans, control plans, process audits & capacity validation, PPAP validations etc.).
    - LISI Automotive reserves the right to carry out a process audit or a quality system audit in the premises of its suppliers and their rank-n suppliers on its own initiative if there is a major problem or risk.
- Depending on project risks, putting in place at the request of LISI Automotive of a reinforced validation effort, and an emergency plan for the start of new products/processes or product/process changes.
- Demonstration of its willingness to work with LISI Automotive in a spirit of partnership, problem solving and continuous improvement.

Like all others in its industry, the supplier must be fully aware of the demands and requirements of the automotive industry, particularly in terms of quality.
The supplier is responsible for defining and implementing a quality policy in accordance with the standards of that industry and usual practices, and also in accordance with

existing laws, regulations and standards. This manual will supplement the quality policy of the supplier.

It agrees to comply with parts specifications and the requirements of our end customers, through their **Customer Specific Requirements** or CSRs, submitted along with our user requirements.

Nothing in this manual may be construed to release the supplier from any of its obligations towards LISI Automotive, particularly its responsibility to deliver goods in accordance with all the documents that define the relationship between LISI Automotive and the supplier.

The activities of each party as provided in this manual, and particularly the inspections, audits, validations, tests and/or qualifications granted by LISI Automotive according to this manual and the decision by LISI Automotive to not apply any part of this manual do not call into question the supplier's responsibility for the quality and reliability of the goods delivered and the Supplier shall comply with its contractual obligations.

- **Archival**: unless otherwise required by our customers, the documents relating to manufacturing process inputs and product and process inspection records shall be archived and stored for at least 20 years in respect of all parts and shall be made available by the supplier upon the first request from LISI Automotive.

2.3.3. Appointment of a product safety representative (PSR and PSB)

In order to address the requests of our different customers and standard IATF 16949, a representative must be appointed for the site or group in order to ensure compliance with requirements in respect of products and process safety.

In order to identify the legal and regulatory requirements relating to the products made and their safety characteristics, suppliers are required to define a formalised approach throughout the project stages and the mass-production of the product, after taking into account the supply chain.

The following are specified in that regard:

- Process FMEA validation method, in order to ensure compliance with rating rules and use of feedback
- Compliance with CSRs, particularly as regards special safety characteristics
- The alert and reaction mode in the event of the risk of failure of parts with special characteristics and S/R
- Management of documentation, CSRs and standards to ensure that they are updated and that the information relating to those characteristics is consistent, from drawings and specifications up to inspection cards,
- Definition of responsibilities in the escalation process,

- Search for information about the performance of parts under guarantee or similar parts to assess possible production risks.

If required by Purchasing, the name of the representative is given to LISI Automotive. The name of the PSR is specified in the organisation chart and the job description of the person certified after training by an accredited body.

2.4. Environment and safety management system

As each supplier is a partner of LISI Automotive, it must be aware that it is part of an effort to protect the environment and improve the health and safety of workers, as specified in our HSE policy.

LISI Automotive encourages and prefers suppliers with certified environment and safety management systems such as:

- **ISO 14001** or **MASE** for environment management. Suppliers who do not have a certificate will be asked to complete an HSE questionnaire relating to the basics of HSE regulations.

- **OHSAS 18001** or **ISO 45001** for occupational health and safety

- **ISO 50001** for energy management

- Or any other equivalent international or national certificates

III. Supplier status and assessment

3.1. Potential supplier assessment

A supplier site that is not a supplier of LISI Automotive is considered to be outside the panel of LISI Automotive. For inclusion in the LISI Automotive panel, a supplier site must meet the following criteria:

- As a minimum, ISO 9001 certification, and demonstration of its willingness to meet the requirements of standard IATF 16949 (latest approved version).

- Compliance with the operational criteria of LISI Automotive (company organisation, processes for purchases, logistics organisation, quality control, technical competencies, safety etc.). The new potential supplier is assessed on the basis of a LISI Automotive questionnaire. Following the assessment, the Supplier is classified into one of the four categories below:

A	**80 % to 100 %**	**Satisfactory**	Approved for inclusion in the panel of LISI Automotive
B	**60 % to 80 %**	**Acceptable**	Approved for inclusion in the LISI Automotive panel with a supplier action plan
C	**40 % to 60 %**	**Low**	Supplier not selected
D	**0 % to 40 %**	**Unacceptable**	

- LISI Automotive may also decide to assess a supplier process via a process audit or an audit of its quality system by a quality auditor from LISI Automotive. The process audit must be carried out on a process similar to the potential future work for LISI Automotive. The aim of the process audit is to identify the industrial risks of the potential supplier, via an assessment of a day's production by the supplier.

3.2 Classification in the panel

For information, as soon as a supplier is included in the LISI Automotive panel, it is classified into one of the categories below:

❶	**Development supplier**	Supplier capable of providing LISI Automotive with actual support in terms of R&D and/or with specific decisive technology, and is also a supplier of mass-produced goods
❷	**Mass-production supplier**	Supplier producing with its own process, and approved for production. All criteria are in accordance with the policy of LISI Automotive.
❸	**New Business on Hold (NBoH)**	No enquiries for new projects till further notice. Mass production may be maintained.
❹	**Do not use**	Unacceptable supplier, who is to be dropped from the panel. No new development with such a supplier.
❺	**Potential supplier**	Supplier identified as one who can provide an actual competitive advantage to LISI Automotive. Listed in the panel, but not assessed or assessment pending. No possible attribution of development without a full assessment of the supplier.

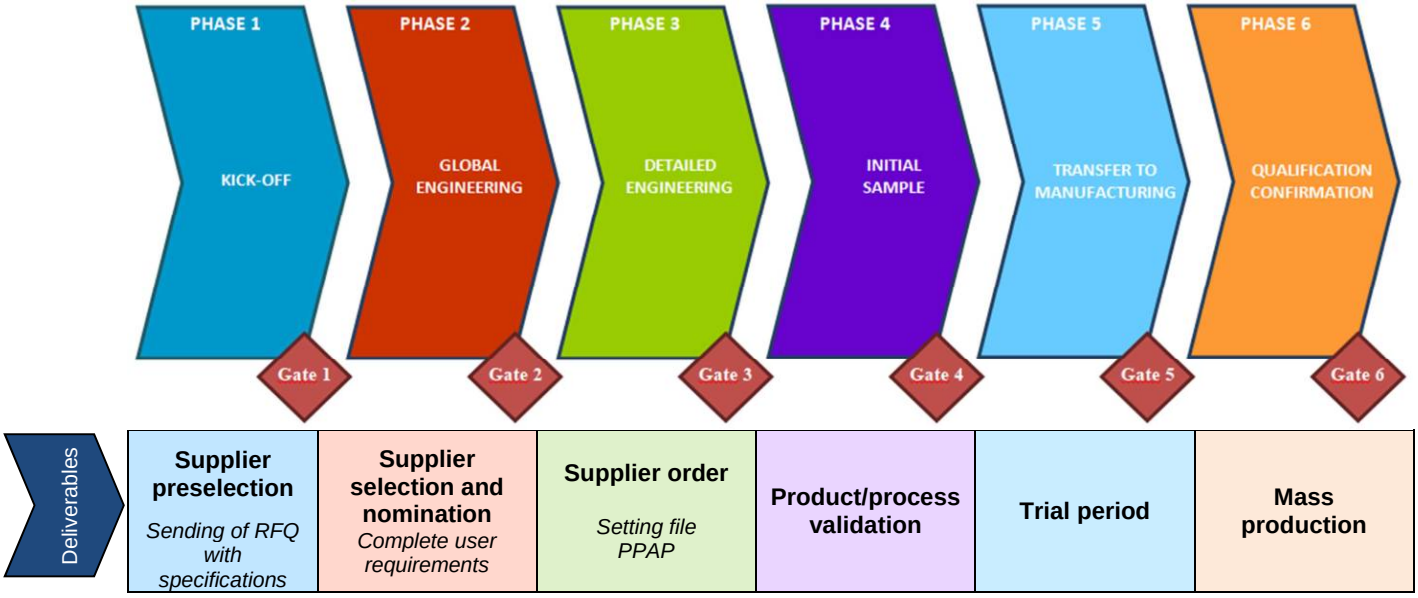
The panel is continually revised on the basis of the overall performance of suppliers.

This status is managed internally by LISI Automotive and is not notified to suppliers with the exception of NBoH (new business on hold).

IV. Project phase: APQP (Advanced Product Quality Planning)

APQP (Advanced Product Quality Planning) is a complete process that supplements the supplier's quality policy and procedures and makes it possible to conduct a full product/process validation, and the supplier will be capable of complying with the quality standard required by LISI Automotive as soon as mass production is started up.

The APQP (Advanced Product Quality Planning) process is made up of six stages. These stages apply to products under development and to products that are already being mass produced in the event of a product/process modification. These stages are integrated into the milestones of the development and qualification process of LISI Automotive and are planned as follows:



4.1. Supplier preselection

Purchasing selects potential suppliers on the basis of the assessments of LISI Automotive, their classification in the panel and the requirements stated.

INPUT			OUTPUT	
What	**Who**		**What**	**Who**
Target panel of suppliers by family	Purchasing		Preselected suppliers to whom the RFQ (request for quotation) is to be sent	Purchasing
Technical and customer requirements (including CSRs and special characteristics)	Process designing department & experts			

4.2. Supplier selection and nomination

In order to specify the requirements of LISI Automotive to the preselected suppliers, the process designing department and experts of LISI Automotive, if needed, work along with the relevant buyer to prepare the LISI Automotive requirements file. That file contains the following:

- Product and customer specifications and standards, setting out the special characteristics
- Quality & logistics targets

The supplier is selected with the development team and selection is validated by a supplier selection committee where all the parameters of the offer are evaluated by Purchasing:

- Comparison of the performance and responses of preselected suppliers in view of the technical requirements of LISI Automotive
- Analysis of the quality of suppliers' responses and reliability of the rating received
- Analysis of suppliers' strengths and weaknesses
- Selection of the chosen supplier representing the best overall choice

INPUT	
What	**Who**
Supplier responses to RFQ	Purchasing
Update of requirements file following the return of the RFQ	Process designing department & experts

OUTPUT	
What	**Who**
Selected supplier	Purchasing
Sending of updated requirements file	

As soon as the supplier is selected by LISI Automotive, the specifications and drawings must be updated if needed and circulated. The requirements file is also updated.

The requirements file must be validated and signed by the selected supplier. Only then can the order be initiated.

4.3. Supplier order

The buyer circulates the order for the required service after the requirements file is signed by the supplier. That could include orders for tools, prototypes and PPAP parts. After each delivery of prototypes or pilot runs, the supplier encloses an inspection report attesting the conformity of products. The supplier includes an action plan with a schedule if any nonconformity is identified in the product.

INPUT			OUTPUT	
What	**Who**		**What**	**Who**
Nomination letter	Purchasing		PPAP order (parts + file)	Purchasing
Request for PPAP file			PPAP delivery (parts + file)	Supplier

4.4 Project management by the supplier

LISI Automotive asks its suppliers to implement their project planning approach in accordance with the deliverables and lead times expected under LISI Automotive milestones.

Suppliers must develop a detailed APQP approach for the making of products and services supplied to LISI Automotive. The approach is applied when new products are launched, when major changes affect manufacturing process and products, and also when new manufacturing processes are developed.

Suppliers are responsible for the development of project management with their own suppliers who have an impact on the quality of their products and services supplied to LISI Automotive.

- For the identification of **special characteristics**, with the exception of the specific requirements of our end customers, LISI Automotive applies the following symbols in its drawings and specifications:

Safety or regulation characteristics (this symbol will not comprise an R for regulation or S for safety)	C,R
Other special characteristics Translation of customers' special characteristics	S
Additional special characteristics determined by LISI	Z
Customers' special cleanliness characteristics	S,Z

These symbols must be applied to all the quality documentation of the supplier: internal drawings, process FMEAs, control plan, procedures, work instructions and inspection cards.

The personnel must be trained in the meaning of the symbols and the risks inherent to these characteristics.

- While carrying out **process FMEAs**, suppliers are asked to comply with the rating rules applied by LISI Automotive:

Characteristics of	Process FMEA rating	Symbol
Safety or regulations	Severity G rated 10	C,R
Other special characteristics	Severity G rated 8	S
Additional special characteristics	Severity 5 to 8 depending on the appreciation of the risk in relation to the implicit need of the customer and good industry practices.	Z
Customers' special cleanliness characteristics	Severity rated 7	S,Z

4.5. Product/process validation

During product/process development, the supplier's PPAP file must be validated by LISI Automotive. The main items required are the following:

- Signed PSW (Part Submission Warrant)
- Manufacturing chart
- Process FMEA
- MSA studies of inspection means used (R&R)
- Pre-production and production control plan
- Dimensional, functional, metallurgical and appearance reports depending on requirements
- Capability reports for special characteristics or any other characteristic required
- Material certificates
- Mapping of installations (heat treatment)
- Validation of tier-n suppliers by the Supplier
- CQI assessment (if applicable)
- Conditioning forms
- Run&Rate if required
- And any other request relating to the CSRs of our end customers

For heat treatment, coatings made for PPAPs must be retained by the supplier for 20 years.

Then LISI Automotive must make sure that the process developed by the supplier is capable of making products and/or services defined in accordance with the requirements of LISI Automotive and thus ensure:

- that the planned volumes can be assured at each stage of the process: Capacity validation or Run@Rate
- process capability (according to customer CSRs sent by LISI)
- product conformity in accordance with the control plan and the work instructions validated by LISI Automotive

- The **emergency plan** is updated in relation to the project. It can be seen on the site. In this documented emergency plan, the supplier must:
  - Identify and evaluate the internal and external risks for all the manufacturing processes and the infrastructure equipment essential for maintaining production efficiency and ensuring compliance with our requirements.
  - Take account of the risks and impacts for the customer.
  - Ensure the continuity of procurements in the following situations: failure of key equipment, interruption due to products, processes or services supplied by outside suppliers, recurrent natural disasters, fires, interruptions in the delivery of some public utilities (water, electricity, gas etc.), labour shortage and infrastructure disruption.
  - Include the provisions for making sure that the manufactured product continues to address the specifications of LISI Automotive after mass production has restarted following an emergency situation in which production has been stopped without complying with regular stopping procedures.

The supplier must further put in place a notification process to inform the customer and other interested parties of the scale and duration of any situation with an impact on customer operations. The emergency plan must be tested periodically to ensure effectiveness. It must also be reviewed at least once a year by a multidisciplinary team, including the senior management, which must apply any updates that are necessary. Revisions are documented, with an indication of the persons who have authorised the modifications.

- **Run@Rate** (with the participation of LISI Automotive or otherwise) shall comply with the following points:
  - The duration must be sufficient to evaluate process stability (at least four hours of production). However, depending on the type of product, LISI Automotive reserves the right to ask the supplier for a longer production time.
  - The capacity validation must include one or more changes in runs (including a change in shift).
  - For unaudited teams, the supplier must provide evidence of training and approval

After the Run@Rate process, the information below must be formalised through a capacity validation report: conditions, quantities produced and scrapped, defect analysis, machine/line OEE, decision validated or rejected. If it is rejected, an action plan is submitted by the supplier on each of the open points. The action must be put in place within 10 days. When the action is put in place, LISI Automotive may decide to carry out a new capacity validation.

- **Capability studies** if required. Each critical characteristic must undergo a capability study or any other method accepted in the industry, carried out on at least 30 samples. The result are to be analysed and the control plan adapted accordingly:
    - Confirmation of normal distribution and validated Ppk or Cpk. Process steering must be validated by the two parties.
    - It normal distribution cannot be demonstrated (Khi2 or Kolmogorov test), the process is deemed not to be capable.
    - If the process is not found capable, the supplier must define a control plan including Poka-Yoke, automatic 100 % inspections etc. so as to ensure control over its process.
    - In the absence of particular customer requirements, LISI Automotive may require the following targets after a verification of normal distribution.

	Short-term capability	Long-term capability
C,R	**> 2**	**> 1.67**
S	**> 1.67**	**> 1.33**
Z	Capability level defined at the overall design validation review	

- **Process audit validation by LISI Automotive:**

For the purposes of production process qualification, LISI Automotive may carry out a process audit with its specific standards or the standards required by its customer.
Process rating and qualification rules are specified in the audit questionnaire used.

In the event of self-assessment, the supplier must carry out the audit based on the standards required by LISI Automotive. The audit is carried out in mass production conditions.
All deviations and nonconformities are to be covered by a corrective action plan and a formal problem-solving approach of the 8D type.

Comments and deviations may be lifted in view of the documents and explanations given. Nonconformities are tracked in a follow-up audit.

INPUT			OUTPUT	
What	**Who**		**What**	**Who**
PPAP preparation (parts + file)	Supplier	→	Acceptance of PPAP file	Development or site quality

4.6. Trial period

The supplier must put in place reinforced control, depending on the project criticality defined by LISI, a quality firewall or any other measures that may be necessary for assuring product quality during ramping up, depending on the schedule supplied by LISI.

The reinforced control plan is derived from unclosed action in the process FMEA, results of characterisations of pilot runs, capabilities and audit. That is to be shared between the supplier and LISI Automotive at the end of capacity validation.

When these measures are put in place, the supplier and LISI Automotive share the list of defects known in similar products, which must be taken into consideration.

If a quality firewall is needed, a structured approach aimed at delivering 100 % conforming products must be shared between the supplier and LISI Automotive.

At the end of the defined period, supplier quality of the LISI Automotive plant checks:

- The effectiveness of the action taken to remove the reinforced control
- Reinforced control or quality firewall records
- Supplier scrap rate
- Feedback from the logistics department

The results will be shared with the supplier. Supplier quality of the relevant LISI Automotive plant will then decide to terminate the reinforced control measures.

If the conditions that allowing the closing of the trial period are not met, the trial period is extended, with an action plan, to lift any unclosed points that prevent the termination of the trial period.

INPUT			OUTPUT	
What	**Who**		**What**	**Who**
Reinforced control	Supplier	→	Validation of control plan	Supplier

V. Mass-production phase

5.1. Supplier performance assessment

- **Definition of quality incidents** according to four categories:

Defect	Score	Definition
Alert	**0**	Difference detected, with no impact on product function or performance. The incident is not counted as a complaint.
Minor	**1**	Problem that does not lead to assembly problems for the end customer: appearance problems, documentation, drift etc.
Major	**2**	Function not provided (e.g. friction coefficient), financial impact, deterioration of internal or customer assembly equipment and assembly impossible.
Customer or safety	**3**	Defect found by the end customer or with an S/R characteristic or capable of leading to safety risks for personnel.

- **Definition of recurrence:**

Recurrence means a repetition, over a sliding one-year period:

- Of a defect that affects the same product family in the same production process (e.g. the same assembly line)
- Of the same reason for a defect

- **Definition of logistics performance:**

A service rate indicator, stated as a percentage of orders fulfilled (total number of delivery forms fulfilled in the month/total number of delivery forms expected in that month) is used to measure conformity with the nominal for a delivery flow [supplier/customer site].

Conformity with the nominal is evaluated according to the criteria below:

- Compliance with orders and number
- Compliance with lead time and quantities
- Customer plant procurement shortages
- Freight supplements

- **Organisation of LISI Automotive audits:**

During mass production, supplier sites are reassessed from time to time.

A new process audit may be organised by LISI Automotive at any time, based on a specific supplier problem, its performance, a change in organisation etc.
The supplier quality system must guarantee that any product/process change is notified to LISI Automotive for an analysis (see section VI).

5.2. 8D problem solving management

When a purchased product does not comply with standards (e.g. quality, product/process modification, compliance with specifications etc.) a quality incident is issued by LISI Automotive.
The Supplier must:

- Submit to LISI Automotive an 8D report and document the analysis to prevent recurrence (according to methodology 5 Why or Fishbone)
- Complete the 8D report via the LISI Automotive web portal named Links/SRM (Supplier Relationship Management) when the supplier is connected to the portal. If the supplier is not yet connected, communication is via emails.

D1 - Description of problem & photos (5W2H)

D2 - Notification of incident to supplier

D3 - Preliminary analysis of causes (Ishikawa occurrence and detection)

D4 - Containment activities - **within 24 hours**

D5 - Root causes of occurrence and non-detection (5 why)

D6 - Corrective action for occurrence & non-detection **– within 15 working day**

D7 - Effectiveness of the action plan

D8 - Capitalisation, update of standards and transverse application **- within 30 working days**

- **Action required within 24 hours (4D):**

All incidents must give rise to a short-term response defining the containment action put in place.
Containment also specifies where and when the supplier must put in place action allowing LISI Automotive to no longer receive that defect. That must include the following as a minimum:

- Inspections of all the parts produced: in the supplier's premises, in the premises of LISI Automotive, in transport and storage platforms and possibly in the premises of the end customer.
- Inspections in LISI Automotive sites must be provided by the personnel of the supplier or a contractor paid by the supplier. If necessary, LISI Automotive assists the supplier to set up the containment system with the help of an outside company.
- Update of the supplier's in-process and end-of-line inspection procedures and instructions including checklists, templates and inspection methods etc.
- Identification of parts/packaging etc. of inspected products with the object of the inspection clearly specified.

The importance of the containment action must not be neglected, as the Supplier must put the action in place as soon as it receives the incident, in order to prevent any other nonconforming product being sent to LISI Automotive.

- **Action required within 15 days (6D):**

8D must be put in place with an accurate description of root causes (5 why analysis) and the solutions that are finally put in place. That means:

- **Root causes of occurrence** (why the problem occurred) and **non-detection** (why it was not detected by the supplier)
- Description of short-term action (till final action is put in place)
- Definition of final corrective action to eradicate the problem in terms of occurrence and non-detection (human error is not an acceptable response: where human error is inevitable, specific controls must be defined and put in place by the supplier).

When final action cannot be implemented rapidly, an action plan must be defined with forecast completion dates. The action plan must be updated regularly (weekly or otherwise with the consent of LISI) and integrated in LINKS/SRM till the final solutions are put in place.

- **Action required within 30 days (8D):**

Validating the robustness of the action in place, based on measurable indicators.
Using capitalisation forms to formalise the major action defined, creating/improving the associated standards (FMEA, control plan, work instructions, maintenance plan etc.) and sharing them internally and with other sites of the supplier to make sure that the problem does not recur (where the problem occurred, in the whole site, in other sites, in new developments).

5.3. Continuous improvement

If the objective is not reached, a continuous improvement plan (CIP /QIP) is required from suppliers to achieve the quality standard applicable in the automotive industry.
In relation to that requirement, quality and logistics targets are defined every year by LISI Automotive. The supplier defines its CIP /QIP to achieve those targets.
The implementation of the CIP / QIP is regularly reviewed by LISI Automotive based on the supplier's performance throughout the year.

To build its CIP / QIP , the supplier's analysis must include:

- The performance achieved by the supplier in the previous year, against the target that had been defined
- The improvement action put in place and the efficiency of the action
- The root causes explaining the difference from the target
- The main areas of improvement in the current year for reaching new targets?

Use of analysis methods recommended by LISI Automotive: Ishikawa, 5 Why and other analyses
The analysis must show the commitment of the supplier to eradicate the root causes of problems, to capitalise and apply action transversally, improve its standards and define preventive action to avoid problems.

The supplier must define a detailed action plan to deploy in the current year and specify the milestones, lead times and names of the persons in charge of putting in place the action to achieve the targets.

5.4. Annual requalification of PPAPs

- Annual requalification of products with PSW (Parts Submission Warrant)

Depending on the requirements of our customers, in order to make sure that there is no drift over time/consistency of product performance, product making process conformity, a product audit is carried out every year, according to a schedule defined by each site. Through these formalised audits, the aim is to make sure that the characteristics for making and inspecting products throughout the manufacturing process, up to packaging, are fulfilled.

Reassessment relates to products belonging to a subassembly subject to S/R requirements and references representative of product families. The results are notified to the requesting LISI site and are recorded, at the request of some customers, on their portal.

- CQI self-assessment

Depending on the requests of our customers, CQI self-assessment is carried out every year on specific parts of our customers or on representative parts.

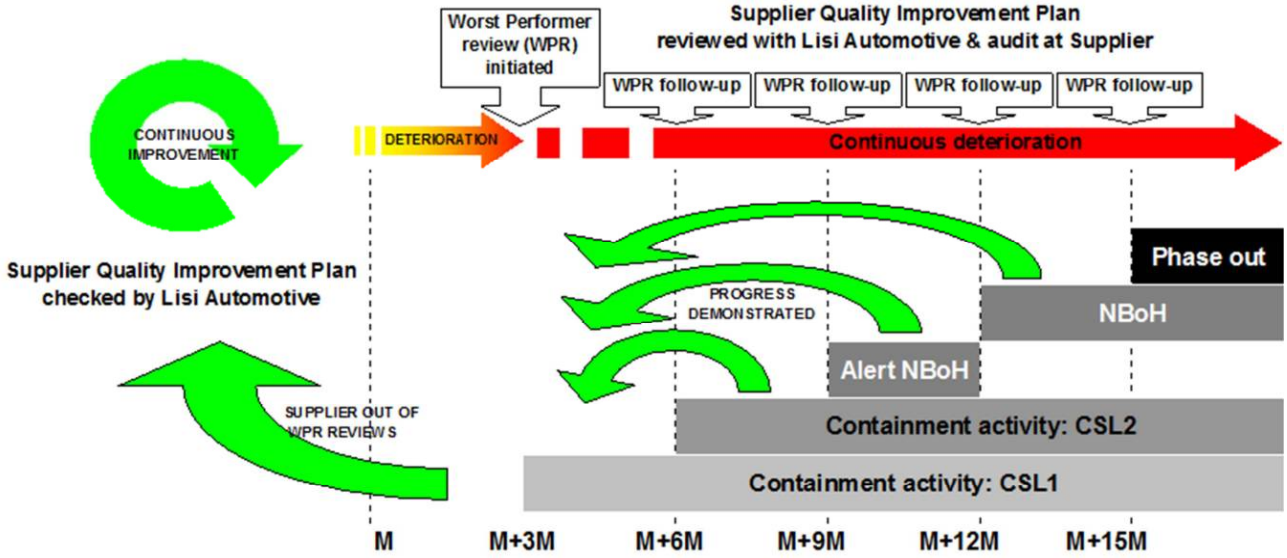
The self-assessment file is completed in full (tables, organisation, job audit) and sent to the requesting LISI site or its representative. In the event of deviations from requirements, an action plan is defined, followed up and sent to the relevant LISI site or its representative.

5.5. Escalation procedure in case of poor supplier performance

Supplier quality monitoring makes it possible to classify supplier performance and generate the list of main contributors.

For these suppliers, specific reinforced monitoring may be put in place so as to make sure that the suppliers concerned improve their performance rapidly.

The graph below specifies the different quality stages that LISI Automotive may require from/notify to suppliers:



If deteriorating quality performance is observed in the previous 3 months, LISI Automotive will identify the list of major contributors.

The Purchasing & Quality departments of LISI Automotive will organise supplier performance reviews (SPRs) focussed on two main stages:

- Supplier performance review: LISI Automotive will notify it formally to the managements of the relevant suppliers
- Field activity: LISI Automotive will verify the implementation and effectiveness of the corrective action presented at the SPR in supplier's sites.

An exit from the supplier performance review programme will be decided by the Purchasing & Quality departments of LISI Automotive based on improved performance and the achievement of the supplier's commitments, but will be put in place for at least three months in order to validate the improvement.

- **Control Shipment Level 1 and 2 (CSL1 and CSL2):**

CSL1 and CSL2 containment may be required by LISI Automotive to ensure the delivery of conforming products till the supplier puts in place a conforming product/process.

- **CSL1**: If required by LISI Automotive, the supplier shall put in place steps to secure its production in accordance with criteria defined by LISI Automotive. Such containment shall be carried out offline in a dedicated zone using specific instructions and a control plan that have been validated by LISI Automotive.
  Evidence of operator training in such specific instructions shall be provided by the Supplier. The results of containment shall be managed on a daily basis by the Supplier.

The Supplier shall formally guarantee the conformity of products delivered for each delivery throughout the CSL1 period. The costs of such containment shall be paid by the Supplier. After three months, if the supplier fails to fulfil its commitments defined during the CSL1, a CSL2 is applicable.

- **CSL2**: An outside company approved by LISI Automotive will be imposed on the supplier for the containment defined during the CSL1. The costs associated with such containment are to be paid by the supplier. The results of containment shall be sent to LISI Automotive and the supplier.

- **Exit from CSL1 or CSL2:** The containment effort may only be terminated with the formal consent of LISI Automotive based on the results achieved. To terminate the CSL1 or CSL2, a process audit may be carried out.

- **NBOH (NEW BUSINESS ON HOLD) - Alert and status:**

LISI Automotive may decide to issue an **NBOH alert** to the supplier:

- If the quality performance of the supplier continues to deteriorate three consecutive months after the CSL2 is put in place
- Or if the supplier has generated recurrent incidents for the customers of LISI Automotive
- Or in the event of a quality disaster (e.g. return of all parts)

If, for three consecutive months, there is no improvement in performance, LISI Automotive may decide to change the supplier's status to **NBOH**, with the following consequences:

- No new activities or developments for the Supplier
- Monitoring by LISI Automotive to validate the relevance of the supplier's action plan.

- When the supplier achieves the targets defined by LISI Automotive to exit CSL2, NBOH alert and NBOH, the supplier is required to maintain a CSL1 for three months to confirm the results.

- **Dropping from the panel:**
  If the supplier's performance continues to deteriorate, in spite of the implementation of different quality activities (CSL1, CSL2, SPR, NBOH alert, NBOH) or if the action plan is not conclusive, with no real commitment to improvement, LISI Automotive may decide to drop the supplier from its panel with a set date and identified resources for managing any transfers, in accordance with the procedures of LISI Automotive for managing modifications.

5.6 – Analysis of parts returned under guarantee

The supplier must implement a method to analyse parts returned under guarantee that are submitted to it by LISI Automotive. An 8D is sent to LISI Automotive identifying the possible risks for current productions and the containment action put in place. The period of production of doubtful products is demarcated and provided in the analysis.

VI. Management of product/process & organisational modifications

There are two categories of requests for modifications:

- Final modification request
- Temporary modification request (waiver)

6.1. Permanent modification

The supplier has the obligation to notify any product/process modification to LISI Automotive using the standard LISI Automotive format (PCR document) and secure the written consent of LISI Automotive before putting in place the requested modification.

If a product/process subject to modification impacts several sites of LISI Automotive, each site must be informed and each site will indicate to the Supplier the validations required for qualifying the change. All LISI Automotive sites must validate the modification in writing for it to be put in place.

The table below provides examples of product/process modifications. The list is not comprehensive:

MACHINE	Modifications made on machines, tools or control templates used for producing, testing or inspecting the products	• Change in the place where some of the operations of the supplier are carried out • Subcontracting of the supplier's process/equipment • Insourcing of subcontracted process/equipment • New machine/tooling/tool with product developments • Modification of the production process of a machine/tooling/tool • New or modified inspection means • Restarting after a long stop (more than 1 month)
METHOD	Modifications to the way in which products are produced, delivered, tested or inspected Modifications that impact the control plan	• Technical modification with a functional or product impact • Modification of production flow • Addition/deletion/modification of a process operation • Modification of process parameters • Modification of the test or inspection method and frequency • Modification of transport or storage conditions
MATERIAL	Modifications made to material or tier-n suppliers	• Modification of rank-n supplier • Addition of a second source • Modification of functional requirements or with a technical influence on product definition • Change in material • Modification of raw material characteristics • Modification of packaging or labelling

LABOUR	Modifications made in the organisation of product production	• Addition of a new team • Hoshin activity for changing the number of operators on the line/machine • Modification of the company organisation

If the supplier applies a modification without the written consent of LISI Automotive, that may lead to a notification to ISO certification staff by LISI Automotive. Further, LISI Automotive may ask the supplier to put in place a CSL2.

6.2. Temporary modification

If products have not been manufactured according to the qualified process or are off-specifications but are functional and acceptable, a temporary modification may be approved. A request for such a waiver shall include the definite period or the quantity of products concerned. It shall also indicate the reasons for conformity and the action plan and schedules for addressing the problem.

Appendix:

LISI AUTOMOTIVE FORM a.s. has with each of key suppliers on both sides confirmed "Quality Agreement", which specifies further detailed requirements.