Quality Assurance Agreement (QAA)

for suppliers of

External Services
- Components for the Aerospace-, Rail- and Defence Industry -

- hereinafter referred to as Supplier -

OTTO FUCHS KG

Derschlager Straße 26
58540 Meinerzhagen

- hereinafter referred to as Buyer -

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1. Preamble

This Quality Assurance Agreement (QAA) contains the basic conditions between the Buyer and the Supplier which are necessary to achieve the desired zero-defect target. The QAA relates to the commissioning and execution of external services (including machining, surface treatment, NDT-inspection) on parts provided by the Buyer for the Buyer's aerospace, rail and defence industry customers.
The QAA describes the minimum requirements for the Supplier's management system and is an important part of the Buyer's purchasing conditions. The acceptance of this QAA by the Supplier is the prerequisite for the order of the external service by the Buyer.

2. Responsibility of the Supplier

The Supplier is obliged to comply with the legal and official requirements concerning his business processes. The continuous improvement of his processes, as well as the adherence to delivery and the quantity reliability are part of the Supplier's quality policy.
By its management approaches, the Supplier promotes defect prevention throughout the whole manufacturing chain to achieve zero defects at the end user.

It is not permitted to place the complete order of the Buyer to third parties without the written consent of the Buyer.
In the case of a subcontracting permitted by the Buyer, the Supplier shall oblige his subcontractors to comply with the contents of this Quality Assurance Agreement.

3. Management System of the Supplier

3.1 Quality Management

The Supplier undertakes to permanently apply an effective quality management system, which is based on the current revision of the management standard EN/AS 9100, AS13100 resp. ISO/TS 22163 according to its structure, company size and industry and which has been certified at least according to ISO 9001 in the valid edition. The requirements of the certification standard, extended by the requirements of this QAA, must be implemented in the Supplier's quality management system (QMS). The contents of this QAA include the requirements of the Buyer, the appropriate requirements of EN/AS 9100, ISO/TS 22163 and the customer-specific additional requirements of the Buyer's major customers for the Supplier's quality management system (see Appendix 1 for information). The supplier who processes components for the railway industry is recommended to be certified according to ISO/TS 22163.

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Suppliers that are part of a vertically integrated production chain of the customer of the Buyer must present a customer approval (OEM) for services rendered to the Buyer. In the case of final machining of ready-to-install parts for an OEM, the Supplier must have an approval from the relevant aviation authority (e.g. LBA, JAA, FAA) for the issue of an airworthiness certificate.
The Supplier is obliged to promote the awareness of his employees with regard to product conformity, product safety and ethical behaviour. The necessary qualification of the technical and inspection personnel (including NDT- personnel) must be maintained by regular training measures. The inspection personnel shall have regular eyesight assessments at minimum in acc. with the relevant national standard. The necessary personal vision correcting eyewear (e.g. glasses, contact lenses) used to pass the vision examination shall be worn when performing the inspection activities.

3.2 Management of the Subcontractor

The Supplier is obliged to maintain a documented list of the subcontractors qualified by him.
The Supplier is responsible for ensuring that all required information and contents of this QAA are passed on in the supply chain from the Buyer to the subcontractor.
The Buyer can demand documented proof of the effectiveness test of the quality management system from the Supplier to his subcontractors.
The Supplier is obliged to enable the Buyer and his customer, or the third party named by the customer to carry out an audit at the subcontractor concerned and to agree this contractually with his subcontractor.

3.3 Sustainability, environmental protection, energy usage and occupational safety

The Supplier is obliged to comply with his national and regional legal provisions regarding environmental protection, energy usage and occupational safety. Workplaces and processes must be designed in such a way that unacceptable effects on employees and products are excluded. The supplier must adhere to the "Supplier Code of Conduct of OTTO FUCHS", which can be found in the supplier portal of the Buyer at www.otto-fuchs.com.
The respective applicable legal and official requirements of the country of export, the country of import and the country of destination specified by the Buyer, if communicated to the Supplier, must be fulfilled.

The legally compliant handling of all production waste (scrap, chips, chemicals) is the responsibility of the Supplier.
The provision of external services for the Buyer must meet the specified quality, environmental and safety criteria. The plant and machinery required for this must be used safely for their intended purpose.

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The necessary precautions to prevent, find and remove foreign objects (FOd: Foreign Object debris) from the equipment or packaging must be implemented and only materials conforming to specifications must be used to exclude damage (FOD) during further processing of the components ("Foreign Object Damage" according to AS/EN 9146). Supplier shall document and investigate each FOD incident and ensure elimination of the root cause of each such incident.

The implementation and certification of management systems for environmental protection, occupational health and safety, energy and information security must be considered in the Supplier's corporate planning.

4. Supplier Management of the Buyer

4.1 Supplier Qualification / Supplier Approval

The Buyer shall maintain a database of the approved suppliers who are qualified in accordance with the Buyer's approval procedure for external services on components for the aerospace, rail and defence industry.

4.2 Supplier Audits

The Supplier shall allow the Buyer, the Buyer's customers or third parties named by customers and the competent authorities to carry out an audit of its quality management system, the processes and products (system, process, product audits) in the Supplier's production facilities by agreement and during normal working hours at the Supplier.
For this purpose, the auditors shall be granted free access to the areas of the Supplier that are involved in the execution of the order for the Buyer. Reasonable restrictions of the Supplier to protect its trade secrets are accepted. During these quality audits, the Supplier shall make available all necessary documents and information from all relevant levels of the Supplier's supply chain and provide the information requested by the Buyer.
Process audits will be carried out in accordance with VDA 6.3 guidelines, if necessary extended by the industry- or customer-specific requirements. The results as well as the agreed improvement measures to the performed audit are documented by the Buyer.
The Supplier is responsible for the implementation of the audit measures and the regular information on the processing status to the Buyer.

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Reasons for a supplier audit can be the following:

- Supplier approval procedure
- new contract award
- Start of production (acceptance of series production)
- Changes in the manufacturing process or in the test procedure
- Changes in facilities or production locations/ relocation
- scheduled supplier monitoring
- Repeat audit with negative audit result (C rating)
- Ongoing escalation procedure by the Buyer (see chapter 13)

4.3 Supplier Evaluation and Classification

The classification of the supplier (A, B or C) by the Buyer is regularly carried out on the basis of defined evaluation criteria: quality, logistics (adherence to delivery dates and quantities), purchasing (including compliance with contracts, cooperation, service) and sustainability (environmental behaviour and legal conformity). The Supplier is regularly informed in writing about the result of his classification by the Buyer.
The quality of the external service is continuously evaluated by the Buyer within the scope of the incoming goods inspection and forms a quality indicator.
The quality indicator is only one part of the overall quality performance of the supplier, which is influenced by the result of the supplier audit carried out, its certification status or, if applicable, by an escalation procedure initiated by the Buyer.

4.4 Supplier Development

If the Buyer detects performance problems of the Supplier based on the supplier monitoring, he shall initiate improvement measures at the Supplier.
The Buyer shall monitor the possibilities of continuous improvement of the Supplier and declares his support for the continuous development of the QMS of his suppliers in accordance with this QAA.
The information required for this purpose is passed on to the Supplier.
The supplier audit is a form of supplier development by the Buyer and also serves the exchange of information and experience between the Buyer and the Supplier.

5. Risk Management / Emergency Plan

The Supplier must ensure that all potential incidents (incl. pandemic outbreak), which could negatively affect his ability to supply within the supply and process chain, are identified, evaluated, and controlled by risk management on his own responsibility.

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Possible events leading to emergencies can include among others machine defects, cyber-attacks, personnel failure, loss of subcontractors or power failures.
Suitable remedial measures must be included in an emergency action plan. The defined emergency actions must be checked annually by the Supplier for effectiveness and must be presented to the Buyer on request.
The Supplier must take out adequate insurance for the damage caused by his inability to deliver to the Buyer and his customers and for product liability cases.

6. Document Management and Data Protection

The Supplier's quality management system must contain a procedure for the control of quality specification documents and for the archiving (see chapter 6.2) of evaluable quality records. It must be possible to assign the records to the Supplier's production orders on the base of the order number of the Buyer or the component identification.
Handwritten documents in any form are not preferred and should be avoided. Amendments by hand to any component or inspection specification documentation or data is not permitted.
The Supplier shall establish a procedure for task and shift handovers that ensures that all necessary information is communicated between the out-going and in-coming personnel.
Access to quality records at the Supplier must also be guaranteed for the Buyer in the event of a company takeover or if insolvency proceedings are initiated (see General Terms and Conditions of Purchase on the Buyer's supplier portal, at www.otto-fuchs.com).

6.1 Contract Documents

The Supplier is responsible for the execution of the order in accordance with the specifications and the order documents (including order and technical documents) of the Buyer.
The Supplier is obliged to check the completeness and consistency of the documents with regard to his manufacturing process and, if necessary, to request further information from the Buyer necessary for the correct execution of the order.

The Buyer's requirements for the external services with regard to the parts provided shall be listed in his purchase order - see order text under "Production according to our technical requirement" and specified in the technical documents (e.g. OF- raw part or machining drawing, machining sketch, NDT- instructions, customer standard/technical specification) and, if applicable, in the data sets (3D) provided.

Further requirements for the performance of services from current orders can, if necessary, be communicated to the suppliers by means of an S-INFO (“Supplier- information”). The requirements defined in the S-INFO have priority and supplement all other order documents.

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Should the application of an S-INFO result in contradictions to the current processes, the supplier is obliged to clarify these with the Buyer before carrying out further services.

If one of the requirement documents listed in the order or the customer specific QMS requirements relevant to the order (see Appendix 1) are not available to the Supplier in a valid version, these must be requested from the Buyer. The revision levels of the documents (e.g. technical drawing, specification) listed in the order shall apply to the respective order of the Buyer.

6.2 Data and Document Archiving

The requirements for the archiving periods of the specification documents and the Supplier's quality records are to be taken from the legal and the customer or industry-specific regulations and implemented (see EN 9130, AS13100 + Annex 1). The order-related test records must be forwarded to the Buyer, where they are archived for an unlimited period. Any critical features of the component (key characteristics) must be marked in the Supplier's documentation as specified in the Buyer's drawing.
The handling of digital product data (DPD) including data archiving must be specified and implemented in writing in accordance with the Buyer's work instructions.
At the request of the Buyer, the Supplier must grant him access to the control and archiving of the documents.

6.3 Data Protection

The Supplier confirms the confidentiality of the information from the Buyer or the customer of the Buyer in writing in the non-disclosure agreement as a prerequisite for the business relationship between the Buyer and the Supplier.
Information, documents, and other knowledge may only be passed on to third parties with the written consent of the Buyer.

7. Quality and Inspection Planning

7.1 Feasibilty Study / Risik Analysis / P- FMEA

Within the scope of the enquiry or the first order of the Buyer regarding the processing of a new part number of the Buyer and with every specification change (e.g. new drawing index) an analysis of the technical feasibility including the evaluation of the capacity planning must be carried out by the Supplier. The result of the feasibility study shall be communicated to the Buyer in writing as part of the offer documents.

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The Supplier must use suitable preventive methods of advance quality planning (Control plan or equivalent, s. AS 9145) and failure avoidance (process FMEA or other equivalent Failure Mode, Effects and Criticality Analysis).
These also include the consideration of preventive measures to prevent the use of counterfeit or presumably counterfeit parts that could be delivered to the Buyer.
The handling of the key characteristics of the components determined by the Buyer or the Buyer's customer must be specified in writing by the Supplier and complied with. If relevant, the key characteristics are defined in the Buyer's drawing and can be supplemented by critical parameters from the Supplier's manufacturing process.
The archiving periods of the documents associated with the key characteristics must be observed in accordance with chapter 6.2.

7.2 Inspection Planning / Documentation of inspection results/ Critical parts

In accordance with the defined inspection plan for the respective external service, the Supplier must keep systematically evaluable records of the results of process monitoring, quality inspection and of the measures carried out to eliminate faults. The relevant documents must be presented to the Buyer on request. The inspection activities are conducted in an acceptable environment; this shall include lightening conditions that provide at least 700 LUX; where accurate visual inspections are required to be performed, white light intensity of at least 1000 LUX resp. the specified customer requirement shall be fulfilled. The required lighting conditions are mandatory for a specific NDT- inspection.

If a reference to critical parts is documented in the purchase order or in the Buyer's drawing, these are parts that require special attention during processing to avoid possible errors. The marking "critical part" must be listed in the supplier's internal documentation as well as in the delivery documentation supplied to the Buyer with the machined or tested components (e.g. delivery note, dimensional report, inspection certificate, certificate of conformity).

7.2.1 Machining / Metal Cutting

Components with individual marking (serial no. parts)

If necessary, the individual S/N parts must be measured in accordance with the Buyer's specifications for the selected component features as shown in the drawing and the measured values must be documented in a dimensional record (e.g. engine disks/ rings).

In case of local damage to the component during machining (e.g., material defects - scratches/ quirks due to plate/ tool breakage), this must be reported to the buyer in writing including photo documentation (e-mail to B5-Quality@Otto-Fuchs.com).

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The buyer determines the possibility of rework. All rework by the Supplier must be carried out in accordance with a procedure agreed with the Buyer. The documentation of the performed rework must be archived at the Supplier.
The records concerning rework must contain at least the following information:
Serial number, reason for damage (type, location, depth, and size of defect/damage) and rework procedure used. The cause of the defect that led to the damage of the component shall be eliminated by introducing appropriate measures to avoid potential repeat defects.

Components with batch identification (W-no. parts)

Unless otherwise specified by the Buyer, the W-no. parts must be measured according to the Buyer's specifications for the selected component features as shown in the drawing with the following test frequency and the measured values must be documented in a dimensional report:

- First and last workpiece of a delivery lot
- Lot size 1- 30 pieces = every 5th component
- Lot size 31- 200 pieces = every 10th component
- Lot size > 200 pieces = every 15th component

The scope of testing of the S/N and W-no. parts in the series must be agreed with the Buyer (the dimensions to be documented are specified in the dimensional report).
The Supplier is responsible for the inspection of parts in accordance with the specifications supplied by the Buyer.

The dimensional report is to be sent to the Buyer (preferably electronically as a pdf file) and additionally archived by the Supplier.

7.2.2 Surface Treatment

Suppliers for the surface treatment of parts are responsible for the regular monitoring of their production facilities. The Supplier shall define an inspection concept for process monitoring and for surface inspection of the parts, unless otherwise specified in the order or by the Buyer.
A confirmation of conformity or an acceptance test certificate Type 3.1 according to EN 10204 must be sent to the Buyer and additionally archived at the Supplier.

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7.2.3 Non- Destructive Testing (NDT)

At least NDT- Level II qualified personnel shall be used for NDT testing of the Buyer's components (s. qualification standards EN 4179, ISO 9712, NAS410 or equivalent). NDT- Level I inspectors are only permitted with the written consent of the buyer.
The scope of testing must correspond 100% to the approved FAI report for each component and the NDT- inspection must be carried out in accordance with the valid NDT- inspection instructions. If “critical parts” are inspected, see requirements for marking of documents under Chap. 7.2.
An inspection certificate/ certificate of conformity must be sent to the Buyer and archived at the Supplier. NDT - service providers complete the NDT- report to the order, which is stamped and sent to the customer's electronic mailbox (see purchase order).
For the verification of the NDT test procedure, at least two job- audits are to be carried out annually by the Supplier in accordance with the defined checklist. The documentation on job audits shall be submitted to the Buyer upon request.

7.3 Production Record Sheet

The Supplier must define a production accompanying sheet with the list of the individual work steps that are necessary to fulfil the order of the customer. This production record sheet shall run through the production process with the part to be processed and each work step or test carried out must be countersigned by the responsible employee.

7.4 Testing and Measuring Equipment

The Supplier must manage and continuously monitor all testing and measuring equipment.
This includes regular calibration.
When calibrating the test and measuring equipment, the metrological traceability to the calibration standards used must be documented and retained.
The calibration providers commissioned externally by the Supplier must provide a relevant scope of accreditation in accordance with ISO/IEC 17025 (or comparable national accreditation standard).

If test and measuring equipment is made available to the Supplier by the Buyer, it must also be included in the Supplier's test equipment management system and returned to the Buyer before the expiry of the valid calibration status.
A risk analysis for the use of suitable test and measuring equipment must be carried out by the Supplier and the measuring equipment capability (MSA) must be determined to the extent specified.

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7.4.1 Machining / Metal Cutting

The machining dimensions must be measured with suitable measuring equipment. Bores can be recorded as an attribute feature and can be checked with a valid limit plug gauge.
A 3D- measuring machine must be used to measure the near-net-shape parts.
The requirements for the dimensional inspection protocol for the FAI- report must be agreed with the Buyer (see chapter 9).

7.4.2 Surface Treatment

After surface treatment of the components, the coating thickness must be measured and documented using a suitable method.

7.4.3 Non-destructive Testing

Suppliers for non-destructive testing (NDT) are responsible for the regular monitoring, inspection, and calibration of the test- related equipment.
NDT- equipment (incl. probes and tanks if applicable) must be checked at regular intervals in accordance with customer specifications. The documentation of the inspections carried out must be presented to the Buyer on request.

7.5 Knowledge Management / CIP

The Supplier defines continuous improvement as a holistic approach to his quality management system. The experience gained from previous projects and the analysis of deviations are to be used for the development of a knowledge management system (e.g. lessons learned). Within the scope of continuous quality improvement, the Supplier must monitor and analyse the reject rate, the rework portions or the number of faulty documents for the NDT- inspection order and reduce them by means of suitable measures.

8. Service and Maintenance

To minimize the downtimes of machines, equipment and tools, the supplier must implement preventive and predictive maintenance methods and tool management when defining the maintenance plans. The tool and machine maintenance performed as well as malfunctions and downtimes must be documented. Any clamping devices provided by the Buyer must be regularly checked by the Supplier and protected against damage. If necessary, the Buyer must be involved (e.g. in the event of damage or loss of the clamping device).

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Maintenance and Repair work should include the necessary precautions to prevent the processed components from being damaged by foreign objects or impermissible substances ("Foreign Object Damage"; FOD according to EN/AS 9146).

9. Initial Sampling (FAI)

Prior to the start of series production, the Supplier shall carry out and document the initial sample inspection in accordance with AS/EN 9102 or the underlying customer specification (i.e. FAI report including cover sheet and further verification documentation as specified by the Buyer).

An FAI- report is to be prepared by the Supplier and sent to the Buyer for approval in the following cases:

- First-time manufacturing of the component-no. (new die- no.)
- change of drawing index
- Machining of a components down to the delivery shape
- Change of the final cut in the machining process (different cutting tool etc.)

It must be ensured that the production facilities, testing and measuring equipment, tools and manufacturing processes are suitable for series production at the Supplier.
When machining the near-net-shape parts, a measurement report must be made using a calibrated 3D- measuring machine.

The FAI report of the Supplier shall be approved in writing by the Buyer and, if applicable, by the Buyer's customer. The relevant QA department of the Buyer sends the documented release to the FAI- report to the Supplier.

No FAI- report is required for the pre-cutting of the forging blank prior to heat treatment (e.g.punching, deburring).

10. Incoming Goods Inspection, Identification, Traceability, Packaging & Storage

During the incoming goods inspection, the Supplier shall inspect the components received from the Buyer for compliance with the quantity and identity, as well as for externally visible transport and packaging damage. The execution of the incoming goods inspection must be documented by the Supplier. The marking of the components to be processed must comply with the technical order specifications of the Buyer.
The production flow and the procedure for handling the components at the Supplier's premises must be defined in such a way as to avoid quality impairments and damage as well as the exchange of counterfeit parts. This also applies to transport, storage, packaging, preservation and dispatch of the components.

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The storage conditions of the products at the supplier's premises must exclude loss, theft, damage and changes in material properties due to environmental influences.

Special packaging instructions of the Buyer must be observed.
The transport containers/ racks of the Buyer must be kept clean by the Supplier.

Each packing unit must be provided with an externally visible production record sheet of the Buyer on delivery to the Buyer. A different marking of the load carriers is only possible after consultation with the Buyer.
Non-conforming (n.o.k.) components shall be marked with a blocking tag and, if possible, packed separately. A blocking sticker on the surface of the blocked components may only be used with the documented consent of the buyer.

11. Series Production / Complaints

The Supplier is obliged to apply suitable steering measures for series monitoring.
The dimensional records or acceptance test certificates relating to surface treatment or the NDT-inspection reports for each production order must be sent in the specified file form to the specified electronic mailbox of the Buyer.
In case of process disturbances and quality defects occurring at the Supplier's premises, the causes must be analysed, improvement measures must be initiated, and their effectiveness must be checked by the Supplier.
With the delivery of the products to the Buyer or to the Buyer's customer, the Supplier confirms the compliance with all specifications for the ordered external service.
If, in exceptional cases, products that do not meet the specification have been manufactured for the Buyer, the Supplier must submit a deviation application and obtain a special release from the Buyer before delivery (see Download – Concession Request in the Buyer's supplier portal).
Deviations which the Supplier only recognizes after delivery must be immediately communicated to the Buyer in writing.
The Buyer shall check the components received from the Supplier for compliance with the quantity and identity, as well as for externally visible transport and packaging damage. The Supplier shall be notified immediately in writing of any deviations that may occur.
In addition, the Buyer shall inspect the goods delivered by the Supplier during the production process in accordance with the conditions of a proper course of business and shall notify the Supplier in writing in the form of a complaint report (8D-Report) of any defects occurring in the course of such inspection.
The containment action for the complaint (8D-Report) must be reported by the Supplier to the Buyer within two working days after receipt of the complaint.

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An appropriate problem-solving method incl. the root cause analysis, corrective and preventive action to the complaint must be submitted to Buyer within one month and implemented within three months (unless otherwise stated).
Each complaint requires the Supplier to check the Process FMEA and the Control plan and must be confirmed in the 8D-Report.
If, as a result of defective deliveries, there is a threat of production stoppages at the Buyer's premises or at the Buyer's customer, the Supplier must immediately take remedial action, or the Buyer may take the necessary measures (e.g. sorting and reworking) himself with the written consent of the Supplier and at the expense of the Supplier.
All direct and indirect expenses incurred as a result of complaints at the Buyer's premises or at the Buyer's customer's premises and which can be proven to have been caused by the Supplier shall be borne by the Supplier. In this case, the framework agreement between the Buyer and supplier or the statutory regulations shall apply.
For each complaint accepted by the Supplier, the Buyer will charge a processing fee of 250.00 €. This is a minimum handling fee, which serves to cover the administrative expenses of the Buyer in connection with the complaint.
The Buyer reserves the right to charge the Supplier also for the actual expenses incurred while processing the complaint and which exceed this minimum processing fee.

12. Obligation to inform

All certificates and customer approvals of the Supplier must be made available to the Buyer in an up-to-date version. Changes in the certification and customer approval status must be notified to the Buyer immediately.
The supplier is obliged to inform the Buyer about organisational changes that affect his ability to deliver (e.g. sale, company takeover, change of management, change of personnel in key positions including qualified test personnel).

If it becomes apparent that agreements made (e.g. quality features, deadlines, delivery quantities) cannot be adhered to or if the Supplier notices a deterioration in quality, he is obliged to inform the customer immediately in writing about this, explain the more detailed circumstances and initiate remedial action. The obligation to inform includes the disclosure of all relevant data and facts.
The Supplier shall notify the Buyer in writing and in-time of any planned changes in production processes and test procedures that will affect product quality or the relocation of production sites. The Buyer shall decide whether the planned change is subject to sampling (new FAI).

All changes to the Supplier's product and production process must be documented in a product life cycle (change history).

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13. Escalation Procedure

In the event of serious deviations from the quality requirements, the Buyer reserves the right to initiate escalation proceedings with the Supplier.

Possible triggers for the initiation of an escalation procedure are

- repeated faulty delivery despite completed problem solution (8D)
- repeated production disturbances at the Buyer's premises due to defective deliveries
- repeated/critical complaints by customers of the Buyer, caused by errors at the Supplier
- insufficient complaint management of the Supplier
- imminent production standstill at the Buyer's or the Buyer's customers' premises caused by faults at the Supplier critical measure from a supplier audit not implemented
- deficient order processing by the Supplier
- loss of OEM approval or the Supplier's QMS certificate (ISO 9001 or EN/AS 9100 or ISO/TS 22163)

A structured escalation procedure with the Supplier is intended to ensure a smooth production and project flow and to solve or sustainably eliminate any problems that may arise as quickly as possible. The Buyer has implemented a three-level escalation procedure.

Escalation Level 1:

In the first escalation level (problem solution by Supplier not successful), the Supplier is invited to a meeting at the Buyer's premises where the problem is discussed, and remedial measures are defined and scheduled.

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Escalation Level 2:

Level 2 of escalation (external help necessary to solve the problem at the Supplier) follows escalation level 1 if the result is unsatisfactory.
In escalation level 2, a root cause analysis is carried out on site at the Supplier or the Buyer. This problem analysis can be carried out by the Buyer as a process audit. The agreed action plan is to be executed by the Supplier within the specified time frame.

Escalation Level 3:

An unsatisfactory result of escalation level 2 leads to the initiation of level 3 (Supplier is not suitable) or even to a Supplier block. The customer of the Buyer is included in escalation level 3, if Supplier was approved by the customer or if there is a risk for the customer of the Buyer.

De-escalation:

If the result of the effectiveness test in the respective escalation level is positive, the Supplier is notified of the lifting of the escalation (de-escalation). The de-escalation procedure is carried out in stages.

14. Warranty and Liability

This Quality Assurance Agreement does not limit the Supplier's obligations under warranty and liability law in accordance with the Buyer's General Terms and Conditions of Purchase or the Framework Agreement and the statutory provisions.
Disclaimer: in case of any dispute, the original German wording of this agreement is the legally binding version.

15. Supplementary Provisions

This Quality Assurance Agreement shall apply until it is replaced by a new revision confirmed in writing by the Supplier.

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The current version of the QAA External Services for Components of the Aerospace, Rail and Defence Industry document for the information of the supplier can be found in the Supplier portal of the Buyer at www.otto-fuchs.com.

If within one month after receipt of the QAA by the Supplier no feedback regarding the confirmation of the QAA contents is provided to the Buyer, the Buyer shall consider this as an acceptance on the side of the Supplier.

Meinerzhagen, _____ _____

Date Place, Date

OTTO FUCHS KG

-Buyer- - Supplier-

_____ _____

Name, Position, Stamp Name, Position, Stamp

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Annex 1: Customer specific additional requirements for the Suppliers' QMS (informative)

Buyer's Customer	Customer specific requirement (CSR)
Rolls-Royce	SABRe - Supplier Management System Requirements
Ariane Group	P-0120-G Allgemeingültige Anforderungen an Lieferanten von Direktmaterialien (Flughardware)
MTU	MTN 94111 (Beiblatt 1- Qualitätssicherungsanforderungen an Lieferanten –Prüfforderungen, Dokumentation und Direktlieferungen)
BAE Systems	BAE/AG/QC/SC1 Parts 1 to 7 BAE Systems Aircraft Business Units Quality Management Requirements for Suppliers Supplementary Quality Requirements for Suppliers to the F-35 Lightning II Program (BAES-JSF-QMS-141-03-DV)
Airbus Airbus Canada Premium Aerotec Airbus Helicopters	A1501 Plan and Manage/ A1503 Make/ A1504 Buy QMS-09-01 A220 Suppliers Quality Requirements QV-Z7.4.-03-00 Qualitätssicherungsforderungen an Luftfahrtlieferanten der PAG (QARAS) ER070 06-01 GRFS: General Requierements for Suppliers ER070 04-06 Quality Control of helicopter parts by suppliers and licence holders according to their safety class
Avio Aero	9070Q Requirements for Suppliers of Critical Parts 0070Q Handbook for Suppliers of Direct Materials and Services
Kawasaki Heavy Industries	PQP 101- JAEC Quality Management Systems Requirements KQ- 7201- Quality Control Requirements for Supplier
United Technologies (Pratt & Whitney	ASQR-01 Supplier Quality System Requirements
GE	S-1000 GE AVIATION QUALITY SYSTEM REQUIREMENTS FOR SUPPLIERS
ITP Aero	SupPORT Manual
SAFRAN Group	GRP-0087 SAFRAN requirements for external providers
Short Brothers/ Bombardier	QRS4.6-40 Quality Requirements for Supplier
Kongsberg	Supplier Quality Assurance Requirements (SQAR)

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Buyer's Customer	Customer specific requirement (CSR)
Embraer	EQRS- EMBRAER Quality Requirements for Suppliers
Stadler Rail AG	Qualitäts-, Umwelt- und Sicherheitsvereinbarung 4.3.2.1-04

Revision History:

Rev.5 (May 2023): Chap. 2: Zero defect target reinforced; Chap. 3.1: AS13100 added; Chap. 7.1: AS 9145 added; Chap. 7.2.1- Component damage notification obligation added; Chap. 7.2.3: EN 4179, ISO 9712, NAS410 added; Consent with NDT Level I inspectors required; marking to documentation for critical components added; Chap. 7.4: Risk analysis for the use of suitable testing and measuring equipment added; Chap. 7.4.1 + Chap.9: Measurement of near-net-shape components with 3D- measuring machine required; Chap. 10: Blocking sticker replaced by blocking tag; Annex 1 updated.

Rev.4 (July 2022): Chap. 5: last paragraph on emergency plan reworded**;** Chap. 6.1: Requirements on the external services edited; Chap. 7.2: "Critical part" marking to documentation added; Chap. 7.4: Guidelines for calibration reworded; Chap. 7.4.1: Requirements for the measurement protocol reg. the FAI- report added; Chap. 9: Necessity for FAI-report added; Chap. 11: Paragraph on complaint costs reworded; Chap.:15: Validity and acceptance of QAA defined; Appendix 1 updated;

Rev.3 (May 2021): Chap. 3.1- regular eye sight check added; Chap. 3.3- FOD topic completed; Chap. 4.2- kinds of audits added; Chap. 4.3- description of quality performance added; Chap. 6- Requirement to shift handovers and avoid of Handwritten documents added; Chap. 6.1- S-INFO added; Chap. 6.3- Declaration of commitment replaced by Non-disclosure agreement; Chap. 7.2- Lightening conditions for inspection activities added; Chap. 7.2.3- Demands on personnel qualification, job audits and electronic mailbox added; Chap. 7.4- comparable accreditation for calibration added; diverse Chap. - Ultrasonic testing replaced by NDT; Chap. 11- Text reworded and Problem-solving method added; Chap. 12- new FAI added; Chap. 14- Disclaimer added; Chap.15- QAA- template added; Annex 1- Customer GKN Aerospace and specification SQAR added

Rev.2.1 (June 2020): Heading expanded to include the railway industry; Chapters 3.1 and 13- ISO/TS 22163 added; Chap. 3.3 and Chap. 8- FOD added; Chap. 3.3- Management system for information security added; Chap. 3.2 and 4.2- Third parties named by customers added; Chap. 5- Pandemic outbreak and cyber-attack added; Chap.11- Deadlines for the definition and implementation of the corrective action for complaint added; Annex 1 updated

Rev.1 (March 2019): Appendix 1- Issue status of CSRs removed

Rev.0 (Jan. 2018): First edition of the QAA

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