Moving energy forward

Supplier Quality Management

Supplier Quality Requirements SQR-0001-D

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1 Scope & purpose

INNIO strives for the highest product and service quality. In this context, supplier quality plays a fundamental role towards INNIO's goal to achieve zero defects.

This document describes the general quality requirements for all direct material and service suppliers.

This includes, among others, requirements for suppliers related to preventive quality measures such as supplier audits and onboarding, qualification of new parts, change management, quality assurance, and corrective measures such as quality case management and supplier improvement plans.

By accepting this document, the supplier acknowledges and agrees to comply with all the requirements stated herein.

Revisions to this document shall be communicated to the supplier by INNIO and shall be deemed accepted by the supplier unless rejected or commented on in writing within 14 days of the date of notification.

2 Applicable standards and documents

Unless otherwise indicated, the latest revision of the standards and documents listed below applies and must be met by the supplier. The Supplier Quality Engineer will inform the supplier if a standard or parts thereof are not applicable for specific items.

2.1. Acronyms and definitions

AAR – Appearance Approval Report

ANSI – American National Standards Institute

ASME – American Society of Mechanical Engineers

BOM – Bill of Material

Cg Value – Potential Capability Index. The spread of a gauge's measurements

Cgk Value – Performance Capability Index. The difference between a gauge's average measurement and the reference value.

CofC – Certificate of Conformance

Cp Value – measures the potential capability of a process if it were perfectly centered between specification limits.

Cpk Value – measures the actual capability, factoring in both process variation and how well the process is centered.

CTP – Critical To Process

CTQ – Critical To Quality

DoC – Declaration of Conformity

ECO – Engineering Change Order

EHS – Environment, Health & Safety

FMEA – Failure Mode and Effect Analysis. A structured approach to discover potential failures that may exist within the design of a product or process

FPQ – First Piece Qualification

Gage R&R – Gage Repeatability and Reproducibility

GD&T – Geometric Dimensioning and Tolerancing

GPS – Geometrical Product Specifications

GSL – Global Supplier List

IATF – International Automotive Task Force

INNIO Buyer – Main operational commercial counterpart to suppliers, placing FPQ POs

INNIO Category Leader – Main strategic commercial counterpart to suppliers

INNIO Planner – Main logistics counterpart to suppliers, placing serial POs

ISIR – Initial Sample Inspection Report

ISO – International Organization for Standardization

JWN – Jenbacher Werksnorm (Jenbacher internal standard)

KDF – Key Design Feature (used by Waukesha business)

MNDA – Mutual Non-Disclosure Agreement

MPP – Manufacturing Process Plan

MSA – Measurement System Analysis

NDC – Number of Distinct Categories

NC – Non-Conformance

NDT – Non-Destructive Testing

PDS – Packaging Data Sheet

PO – Purchase Order

PQP – Product Quality Plan

PPAP – Production Part Approval Process

PLQ – Pilot Lot Qualification

PSW – Part Submission Warrant

QMS – Quality Management System

RCA – Root Cause Analysis

RMI – Responsible Minerals Initiative

SCR – Supplier Change Request

SDR – Supplier Deviation Request

SDP – Supplier Development Project

SIP – Supplier Improvement Plan

SQE – Supplier Quality Engineer: Main supplier contact for quality and technical topics

TRS – Technical Regulations and/or Standards

VDA – Verband der Automobilindustrie

WPQR – Welding Procedure Qualification Record

WPS – Welding Procedure Specification

8D Report – A structured eight step approach to problem solving

"bubble drawing" – a technical drawing annotated with numbered circles ("bubbles") identifying specific dimensions, BOM, notes, and GD&T requirements for inspection.

2.2. INNIO standards

The following INNIO standards (to be provided by the SQE), together with this document, shall apply where relevant, including but not limited to:

JWN 489 489 - Technical Delivery Conditions for Component Marking – for Jenbacher

JWN 890 110 - General packing guidelines for bought-in parts – for Jenbacher

JWN 890 115 - INNIO Cleanliness Standard for Engine Components – for Jenbacher

STD-02-0860 - Part Cleanliness Standard - for Waukesha

STD-02-0107- Key Design Feature Identification - for Waukesha

S-07382-205- Part Identification Standard - for Waukesha

WGSCM-392 - General packing guidelines for bought-in parts – for Waukesha

2.3. International Standards

ISO 9001 Quality Management Systems - Requirements

or industry-specific standards (e.g. IATF 16949, AS9100)

3 Requirements

3.1. Introduction

INNIO is a leading energy solutions and service provider that empowers the energy transition with solutions and services that are reliable, efficient and sustainable.

One of the main factors in reaching this goal is the quality INNIO customers demand of INNIO and that INNIO demands of itself, its products, services, and business processes. To meet this quality standard, all INNIO products must undergo a clearly defined qualification process before they are launched or when they are changed. The same applies to supplier products.

INNIO aims to establish and maintain a close partnership with its suppliers. This cooperation is centered on the following objectives:

- Continuous improvement of customer satisfaction
- Reduction of market launch periods
- Targeted improvement of the product and process quality
- Reduction of development and manufacturing costs

The requirements set forth herein ensure a consistent, quality-based relationship between INNIO and all its direct material suppliers.

3.1.1 General guideline

Notwithstanding the inspections, tests and audits carried out by INNIO and the advice given by INNIO experts, **suppliers are fully responsible for their qualification process and the compliance with the applicable specifications and requirements from this document** for the products they supply.

It is the supplier's responsibility to establish a quality management system that ensures the above.

All requirements from applicable industry standards (such as ISO, ASME, ANSI, etc.) must also be integrated into this system. These system elements must be made available to INNIO for review upon request.

3.1.2 Communication

The INNIO purchase order designates the sourcing representatives (Buyer and Category Leader) who are the main contacts for commercial topics with the supplier.

The SQE is the main contact for quality and technical topics.

INNIO uses SupplyOn as its platform for supplier collaboration. Suppliers designated to use SupplyOn are required to use this platform for interaction with INNIO.

3.2. Supplier Quality system

3.2.1 Minimum quality system requirements

The supplier must maintain a documented quality system to ensure conformance with the requirements of the INNIO specifications in accordance with the Zero-Defect strategy and must take all quality assurance measures required for this purpose.

INNIO requires that this quality management system meets the requirements of the latest ISO 9001 (Quality Management Systems - Requirements) standard or industry-specific QMS standard (e.g. IATF 16949, AS9100).

Compliance with this requirement must be demonstrated by one of the following upon INNIO's request:

- Provision of a copy of a valid certificate or
- Successful completion of an audit of the quality management system in accordance with the latest requirements of ISO 9001. INNIO reserves the right to have this audit performed by a third party designated by INNIO.

3.2.2 Special processes

A process where the results cannot be fully verified by subsequent non-destructive inspection and testing of the product, and in which processing defects may not become apparent until after the product has been used, is by definition referred to as a "special process."

Suppliers must have specific, documented, and controlled procedures for each special process that takes place. They must establish process CTPs/CTQs and monitor and document them.

Only qualified/certified personnel may be assigned to perform a special process.

The supplier must develop a specific training plan and regularly review the performance of personnel.

The supplier must provide documentation for all special processes applied, including but not limited to:

- Welding: WPSs, WPQRs and valid welder certifications based on ISO standards or ASME Section IX (USA/Canada). Welder certifications may not be applicable for automated welding processes. The supplier is obliged to provide proof of welding quality by NDT as required by INNIO.
- NDT: NDT instructions and valid NDT personnel certificates.
- Heat Treatment: procedures and heat curves
- Surface preparation and painting: All metal and paint preparation procedures, the painting procedure and confirmation of compliance with requirements.
- Castings and forgings: Procedures, data and charts, and 3D casting solidification simulation

The supplier is responsible for ensuring that these documents are also submitted by subcontractors and/or sub suppliers performing special processes.

3.2.3 Record retention

The supplier must have a written procedure for the documentation and retention of quality and product records for products supplied to INNIO. **The record retention period must be a minimum of ten (10) years** unless otherwise specified by INNIO.

Records must include but are not limited to product quality inspection and test plans including results, material specifications, qualification documentation and certificates of conformance.

Specific component record requirements may be specified in INNIO purchase orders, contracts, or specifications. It is the responsibility of the supplier to determine the appropriate storage means to meet the retention requirement and allow for timely retrieval of records.

3.3. Supplier approval

To receive an INNIO purchase order, a supplier must be approved per INNIO Sourcing Quality Management System procedures.

Criteria for approval could include, but are not limited to, the following:

- Properly executed MNDA
- Acknowledgement of compliance with INNIO integrity guidelines
- Completion and passing of required business and technical surveys
- A documented quality system
- Technical capability
- EHS compliance/employment/security practices
- Financial viability
- Customer service aptitude
- Strategic value

The supplier approval process is performed prior to a first purchase order being issued to the supplier. When the approval process has been successfully completed, a unique supplier code (GSL code) is assigned to the supplier.

3.4. Supplier Audits

INNIO reserves the right to audit its suppliers on a regular basis, as well as in response to emergent quality issues or other situations requiring immediate attention. The audit date will be agreed upon with the supplier, and the audit agenda will be shared in advance. The scope may include system, process, product, or special audits. INNIO audits are specifically designed to address INNIO's own requirements and expectations. Suppliers must provide evidence and documentation to the SQE as requested. INNIO reserves the right to accept or reject submitted evidence.

Audit results may include minor findings, major findings, and areas for improvement. It is the supplier's responsibility to develop an action plan addressing these findings, provide corrective actions, and commit to closure dates to meet INNIO requested timelines. Expected closure of major findings is 30 days maximum and for minor findings 90 days maximum. INNIO may repeat the audit to verify the implementation and closure of findings.

3.5. Sub-Tier suppliers

When a supplier outsources a process, the supplier is fully responsible for qualifying and monitoring all sub-tier suppliers in accordance with INNIO requirements outlined in this document and for notifying INNIO of such qualification.

INNIO reserves the right to:

- Review the supplier's process for selecting, qualifying, and monitoring sub-tier suppliers
- Approve or disapprove sub-tier supplier qualifications
- Audit and monitor the sub-tier supplier processes and facilities as deemed necessary

This requirement also applies to suppliers acting as sales representatives or distributors who purchase manufactured parts or assemblies from sub-tier suppliers.

3.6. Supplier and part qualification

3.6.1 General requirements

A supplier must become qualified for each specific production process to produce a part or category family. Parts are classified by INNIO engineering based on complexity and risk as class-A, class-B, class-C, and class-S parts.

Through the qualification process, the supplier must demonstrate the ability to provide parts in accordance with the specified requirements of INNIO.

The production of parts under qualification must be done under serial conditions. The INNIO qualification team defines the scope and possible ramp-up measures (e.g. PLQ, audit) for serialization of the part.

All parts that are shipped before the qualification is approved (e.g. prototype parts, etc.) must be 100% inspected by the supplier and a full measurement report (dimensions + other characteristics) must be provided by the supplier for every part unless otherwise agreed with the SQE.

A **qualification is required** in, but not limited to the following cases:

A new or existing supplier is producing and shipping material for the first time to INNIO
A design or process change has occurred at the supplier or at INNIO, changing the processing, form, fit or function of the product
An existing supplier or critical sub-tier supplier changes its manufacturing location, unless a formal exception is granted by the SQE
Quality issues arise at the supplier, putting current qualifications into question
After more than 3 years without producing the specific part. The PPAP level is defined based on an INNIO risk assessment.

3.6.2 Drawing-, manufacturing- and producibility review (Kick-off meeting)

Prior to manufacturing the parts, the supplier may be required to participate in a detailed drawing and design review with the INNIO qualification team to ensure that the supplier accurately understands the drawing requirements and specifications, including the specified TRS requirements as well as the qualification requirements (PPAP).

3.6.3 Supplier deviation matrix

In principle, all requirements of the specification must be met by the supplier. If this is not the case, the supplier must create a specification deviation matrix listing all areas where INNIO specifications cannot be met or are not applicable. This matrix will be reviewed, and any next steps will be decided by INNIO.

3.6.4 INNIO Production Part Approval Process (PPAP)

The INNIO qualification team, specifically the SQE, defines the PPAP level requirements necessary for the approval of the supplier's manufacturing process. The supplier's submission of the INNIO PPAP documentation assures that INNIO's requirements and expectations are clearly understood and met. The purpose of the INNIO PPAP is to prove production capability and stability and to reduce risk for non-conformances after serial release of the part.

INNIO PPAP parts must be produced using production-intent equipment, processes, and testing equipment. Any deviations from serial production in equipment or processes during the qualification process must be documented in writing and approved by the INNIO SQE.

The SQE shall request the PPAP Level 1-5 package. The PPAP level chosen will be based on the following criteria:

- product complexity,
- INNIO's part criticality,
- INNIO-specific requirements,
- the reason for the qualification, and
- the supplier's performance history

The supplier shall deliver initial parts for First Piece Qualification (FPQ) and, in cases where ramp-up measures are required, additional pre-serial parts for Pilot Lot Qualification (PLQ) deliveries.

Upon satisfactory completion of all measurements and tests, the supplier must complete and submit all deliverables required for the PPAP specified by the SQE, either via SupplyOn or via email. A separate warrant/qualification package must be completed for each individual part number unless otherwise agreed upon. An authorized supplier representative must sign the warrant after verifying that all the measurements and test results show conformance, and all the required documentation is available. All manufacturing and control plans are to be considered frozen at this point in time.

The INNIO SQE will provide disposition of the parts submitted under the INNIO PPAP via the Part Submission Warrant and notify the supplier via SupplyOn or via email. After PPAP approval, suppliers are responsible for assuring that future production continues to meet all INNIO requirements. The quality checks and records shall be made available upon request from INNIO SQE for dimensional/test results as agreed upon in the Control Plan.

The completeness and correctness of the documentation is a prerequisite for release of shipment of a part to be qualified and thus a mandatory requirement for the completion of the PPAP qualification. The supplier must proactively inform the SQE if any delay is expected.
The Tier 1 supplier is responsible for controlling its sub-tier suppliers (Tier 2 and below) and must flow down INNIO PPAP requirements to them. All documentation related to this qualification must be included in the original qualification package submitted to INNIO, if requested.

3.6.4.1 INNIO PPAP Status

"Proto-Field approval": indicates the part/material, including all sub-components, ordered as FPQ (First Piece Qualification) meets all INNIO requirements and the in-house validation was successfully passed. The Parts/material from consequential orders will be used for field validation.

"Pre-Series approval": indicates the part/material, including all sub-components, ordered as FPQ (First Piece Qualification) meets all INNIO requirements and the INNIO qualification team will request further pre-serial (Pilot Lot Qualification - PLQ) where ramp-up measures are required. With the PLQ, the supplier is mainly requested to show stable and capable production and measurement processes.

"Series Approval" indicates the part/material, including all sub-components, meets all INNIO requirements and the part is released for serial purchasing.

Upon receipt of the signed and approved Part Submission Warrant, the supplier is authorized to fulfill subsequent purchase orders received from INNIO. This qualification form indicates that, at the time of qualification and based on data provided by the supplier, the manufacturing process used to produce the component(s) or perform a process complies with INNIO specification requirements. Qualification approval does not relieve the supplier of full responsibility to ensure that, for all subsequent orders, the manufacturing processes remain in control, and the product or process continues to meet all drawing and specification requirements, unless formal, written approval for a deviation is obtained from INNIO through the Supplier Deviation Request (SDR) process.

The supplier is not allowed to ship parts without PSW / SQE approval. INNIO may return all non-authorized parts.

"**Rejected**" indicates the INNIO PPAP submission does not meet INNIO requirements, based on the production lot from which it was taken and/or accompanying documentation. In such cases, the submission and/or process, as appropriate, shall be corrected to meet customer requirements and the supplier is required to resubmit the PPAP deliverables.

3.6.4.2 INNIO PPAP Levels of Submission

Level 1: Lower complexity/risk and minimal document submission. Can be requested for any class of parts based upon complexity. Typically used for class S and C level parts.

Level 2: Standard risk level, generally involving product and material test reports with limited supporting data. Generally required where there is confidence in the supplier's quality and manufacturing processes. Minimum requirements for all new class B parts.

Level 3: Submission requires a complete level of supporting data. Minimum requirements for all new Class A parts.

Level 4: Customized PPAP level, including special testing or custom information submissions (custom level, deliverables upon request of the INNIO qualification team). Used when specific tests or demonstrations are required and may be applied to any class of part.

Level 5: Highest level of risk mitigation and effort. Includes full review of standard and custom documentation completed during a supplier site visit (Audit). Minimum requirements for a Class A part being sourced at a new supplier.

#	Deliverable	Level 1	Level 2	Level 3	Level 4	Level 5
1	Part Submission Warrant (PSW)	**S**	**S**	**S**	**S**	**A**
2	Appearance Approval Report (AAR)	**S**	**S**	**S**	**S**	**A**
3a	Design Record (Proprietary components)		**R**	**S**	*	**A**
3b	Design Record (All other components)		**S**	**S**	*	**A**
4	Engineering Change Documents		**S**	**S**	*	**A**
5	Design Failure Mode & Effects Analysis (D-FMEA)		**R**[1]	**S**[1]	*	**A**
6	Process Flow Diagrams (Manufacturing Process Plan - MPP)		**R**	**S**	*	**A**
7	Process Failure Mode & Effects Analysis (P-FMEA)		**R**	**S**	*	**A**
8	Control Plan (Product Quality Plan - PQP)		**R**	**S**	*	**A**
9	Measurement System Analysis Studies (MSA)		**R**	**S**	*	**A**
10	Initial Sample Inspection Report (ISIR)	*	**S**	**S**	*	**A**
11	Material, Performance Test Results	*	**S**	**S**	*	**A**
12	Process Capability Studies	*	**R**[2]	**S**[2]	*	**A**
13	Qualified Laboratory Documentation		**R**	**S**	*	**A**
14	Checking Aids		**R**	**R**	*	**A**
15	Documents of Compliance (DoC) & Records of Compliance with INNIO specific Requirements (CofC)	*	*	**S**	*	**A**
16	Product Packaging and Preservation (PDS)	**S**	**S**	**S**	*	**A**

1 – applicable only for supplier designed products

2 – applicable when defined in the kick-off meeting

Legend

S = Supplier shall submit documentation, and retain a copy at appropriate location(s)

R = Supplier shall retain documentation, and make it available upon request

A = Supplier shall submit documentation, and demonstrate it during an INNIO Audit

* = To be completed by supplier upon request

3.6.4.3 Definitions of INNIO PPAP Deliverables

1. Part Submission Warrant

The Part Submission Warrant (PSW) provides a summary of the entire INNIO PPAP submission. A PSW is required for each qualification.

The PSW includes:

- The reason for submission (e.g., design change, annual re-validation)
- Declaration of part conformity to customer requirements
- A section provided for any required explanations or comments
- Signature of an authorized supplier representative along with contact information
- An area to indicate disposition of the INNIO PPAP

2. Product Photo/Appearance Approval Report (AAR)

Documents the physical appearance of the final product and confirms that it meets all required appearance specifications for the design. This includes information on color, texture, and part identification markings.

3. Design Record

3.a Design Record (proprietary components) Build to spec: This is a supplier drawing or other document used to track the design, development, and specifications of unique or proprietary components that are owned or developed by the supplier. A released design record by INNIO is required.

3.b Design Record (all other components) Build to print: A copy of the drawing. If INNIO is responsible for designing, the supplier's design record is a copy of the INNIO drawing.

4. Engineering Change Documents

If an INNIO PPAP is required due to a requested change to a part or product, the documentation requesting and approving the change must be included in the INNIO PPAP package. This typically includes a copy of the Engineering Change Order (ECO) - Waukesha specific - or the newly revised drawing, approved by the INNIO Engineering Department.

5. Design Failure Mode and Effects Analysis (D-FMEA)

A cross-functional activity that assesses design risks by identifying possible failure modes and their effects on supplier designed products. These failure modes may include:

- Product malfunctions
- Reduced performance or product life
- Safety and regulatory issues

The D-FMEA is a living document that shall be reviewed and updated throughout the product life cycle.

6. Process Flow Diagram / Manufacturing Process Plan - MPP

The Process Flow Diagram provides a graphical overview of the entire process for production and/or assembly of the component. It covers incoming material, assembly, testing, rework, and shipping.

Where applicable, the Process Flow Diagram must include:

- A list of all applicable INNIO drawings / specifications, ordering sheets, outline drawings, and special process specifications/instructions including the latest revision.
- A list of Weld Procedure Specifications (WPS) and Weld Procedure Qualification Records (WPQR) used in the manufacture of the part.
  NOTE: Welders and procedures must be qualified in accordance with ISO standards or ASME Section IX (US/Canada)
- Identification of all critical sub-tier suppliers and their manufacturing locations. Critical sub-tier suppliers include, but are not limited to, raw material and any special process suppliers.
- A sequence of plans for all major and critical manufacturing and inspection steps, with appropriate sign-off documentation. The Supplier's proprietary processes/documentation may be available for inspection or review by INNIO SQE and Engineering.
- The manufacturing location.
- The Process Flow Diagram shall include a revision history.

This document should be treated as a quality document and revision-controlled by the supplier.

7. Process Failure Mode and Effects Analysis (P-FMEA)

P-FMEA reviews all steps in the production process to identify any potential process quality risk and then documents the corresponding controls. The P-FMEA is also a living document and should be updated even after the product is in normal production.

8. Control Plan (Product Quality Plan – PQP)

Derived from the P-FMEA, the control plan is used by the supplier to communicate requirements to the shop floor. It lists all CTQs, KDFs and CTPs and inspection methods necessary to consistently meet INNIO quality requirements.

At a minimum, the Control Plan must include:

- Clear identification of the item, component, or system to which the control plan is applicable.
- A list of all technical documents governing the inspection or test activities (e.g., supplier documents, INNIO specifications, industry codes/standards).
- An itemized listing of test or inspection criteria. Each line item must specify what is to be inspected (at the characteristic level), how it is to be inspected, inspection frequency, when in the manufacturing process the inspection or test is to be performed, who will perform the inspection (e.g., Operator, Inspector), and the acceptance criteria.
- Completion of each inspection and test will be accompanied by appropriate sign-off documentation. Each inspection and test must be signed off during the execution of the Control Plan.
- Identification and verification of Key Design Features (KDFs) and CTQs along with inspection methods. KDFs and CTQs can be identified by specifications, drawings, or by the appropriate INNIO qualification team during kick-off meeting.

The Control Plan must be approved by the INNIO SQE. This document shall be treated as a quality document and revision controlled by the supplier.

9. Measurement System Analysis Studies (MSA)

All measuring instruments must be calibrated, supported by a valid calibration certificate, and tested in accordance with applicable standards. The supplier shall maintain written records in tabular form and submit them to INNIO upon request. Traceable certificates for all measuring equipment used, must be available.
The reproducible accuracy as per the test certificate must have a Cg/CgK value > 1.33. The nominal calibration must be measured 25 times without user influence.

In accordance with VDA 5, the accuracy/resolution of the measuring instrument must be less than 10% of the tolerance range of the characteristic being measured.
MSA studies shall include Gage Repeatability & Reproducibility. The Number of Distinct Categories (NDC) should be ≥ 5 to ensure that the measurement system can adequately distinguish between parts.
Measuring inaccuracy after the Gage R&R of the characteristic's tolerance shall be evaluated as per the below table:

Results	Interpretation
10%<	Acceptable
10%-30%	to be assessed case by case by the SQE
>30%	Unacceptable

If agreed with the SQE, a go/no-go gauge can be used. For attribute MSA studies, the minimum acceptable result is Kappa > 0.75.
Threads can be checked with monitored thread gauges unless explicitly requested otherwise.

If required, all the documentation related to the above checks and tests shall be provided to INNIO.

The supplier must develop a measurement strategy, agree on it with the INNIO SQE, and provide a written copy. Changes may only be made with the consent of INNIO.

10. Initial Sample Inspection Report (ISIR) - Dimensional Results

Dimensional layout of PPAP parts to validate that the product meets the drawing specifications. The parts should be randomly selected from a significant production run. Each dimension on the drawing must be measured on the final assembly to ensure it falls within specification. The results are recorded in a spreadsheet and included within the INNIO PPAP submission. A "bubble drawing" based on the INNIO part print and BOM, with corresponding layout data, callouts, and notes, must also be included.

11. Material, Performance Tests Results

This element shall include a copy of every validation test performed on the part and/or material. It must list each test conducted, a description of the test method, and the results obtained.
Additionally, this element includes copies of all certification documents for materials (e.g., steel, plastics) listed in the product specifications. The material certification shall show compliance with the specific drawing requirements.

12. (Initial) Process Capability Studies

Initial Process Capability Studies must be performed on specific KDFs and CTQs defined during kick-off meeting for the qualifying product. These studies demonstrate that the critical processes are stable, exhibit normal variation, and operate near the intended nominal value.
KDFs and CTQs require a measurement of the capability index (Cpk).

Results	Interpretation
Index Value >1.67	The process currently meets all INNIO requirements. After PPAP approval, begin production and follow the control plan.
1.33 < Index Value < 1.67	The process is currently acceptable but may require some improvement. Changes to the control plan may be required if improvements are not made before serial production.
Index Value < 1.33	The process currently does not meet the acceptance criteria.

If the qualification part order quantity is insufficient for a process capability study, 100% inspection must be performed on all parts in the order.

13. Qualified Laboratory Documentation

Qualified laboratory documentation must include industry certifications for any laboratory involved in validation testing. This applies to both in-house test labs and any external contracted test facilities used for validation or material certification testing.

14. Checking Aids

Checking aids are custom or dedicated tools, fixtures, or gauges specifically designed for inspecting particular features or parts.
The supplier must maintain a detailed list of all checking aids used in production. This list should include all checking aids used to inspect, test, or measure qualification parts during the assembly or manufacturing process, along with a description of each tool and its calibration schedule.

15. Documents of Conformity (DoC) & Records of Compliance with INNIO Specific Requirements (CofC)

This element of the qualification package includes but is not limited to:

- all documents such as declarations of conformity, confirming compliance with applicable regulations or specifications. (e.g. CE, CA-UK, CSA, UL, GOST, REACH, Mill Certificates),
- Risk assessment in accordance with e.g., ISO 12100-2010, when the European Machinery Directive or any other applicable product safety laws and regulations apply
- Certificates of Conformity from sub-tier suppliers
- BOM verification as per drawing or other requirements as defined by the INNIO SQE

16. Product Packaging and Preservation Compliance

Compliance with the guidelines and requirements of JWN 890 110 for Jenbacher and WGSCM-392 for Waukesha must be demonstrated.
A completed Packaging Data Sheet (PDS) specifying all packaging materials, quantities, and processes for the part must be provided.

The supplier must comply with all requirements defined in the above packaging guidelines for bought-in parts. Any deviations from these standards require approval from the INNIO SQE.

Packaging must ensure that delivered parts can be used in subsequent processing or assembly at INNIO without additional treatment (cleaning, etc.). Parts shall be supplied in a clean condition, free from oil and grease contamination requiring additional washing, and free from machining residues, dirt, and corrosion. If special cleanliness requirements are defined as per INNIO specification, the supplier is responsible for ensuring that the packaging maintains cleanliness until unpacking at INNIO or at the end customer.

The supplier must inform INNIO about the minimum storage period guaranteed by the packaging.

3.6.5 Double Check

To ensure that the geometrical measurement results of the supplier and INNIO are comparable, the supplier must provide a measurement procedure including a drawing with the measurement reference points (bubble drawing), the measurement device used, basic dimensions, and tolerances as part of the qualification upon INNIO's request. This procedure must be agreed upon with the INNIO SQE.

INNIO may measure a sample of parts itself and compare them with the documentation provided by the supplier.

If necessary or in case of deviations, INNIO reserves the right to obtain all measurement programs, calibration data, qualification certificates, etc. from the supplier free of charge.

3.6.6 Frozen processes

Once a qualification is approved, the **manufacturing documentation (e.g. process flow, control plan) and all associated documents** are given a frozen process status and **must not be changed until approved by the INNIO SQE.** For changes in these documents that do not pose an additional potential risk, for example the introduction of additional checks, an approval request is not required. In all other cases, e.g. the change of material, process, manufacturing equipment, manufacturing location, test procedure or the change of a major sub-tier supplier, approval is required and may trigger a new PPAP.

Suppliers integrated into SupplyOn can initiate such a change via Technical Review – Supplier Change Request (SCR). All other suppliers must communicate such changes to the SQE directly.

3.7. INNIO supplier policies & requirements

3.7.1 Purchase order review

The supplier is responsible for aligning with the INNIO Category Leader and/or SQE on the appropriate methods for locating documents that may be specific to their organization. It is also the supplier's responsibility to verify the revision level of all referenced drawings and standards on the purchase order (PO), and to ensure that they are working with the latest revision. Failure to use

the most current revision may result in nonconformances (NC) and potential rejection of supplied materials. Suppliers must implement processes to regularly check for updates and confirm that all documentation and production align with the latest requirements.

Exceptions to this policy must be agreed upon between the supplier and INNIO (Category Leader, SQE, Planner) for the parts which have already entered the manufacturing process or are in stock.

3.7.2 INNIO Incoming Inspection

The supplier is responsible for establishing an appropriate final inspection to ensure that only parts that comply with the specification are delivered to INNIO.

The supplier acknowledges that INNIO will not perform a technical incoming goods inspection for all deliveries but only a commercial check of quantity and part number. INNIO may, in exceptional cases and when deemed necessary based on the supplier's performance, implement skip-lot inspections for a limited period of time.

3.7.3 Source inspection and test witness requirements

INNIO and/or its customer may elect to inspect parts, and/or witness subassembly manufacturing at the supplier's facility during processing, testing, or at final inspection. All source and test witness inspection requirements are to be identified by the supplier's quality representative or other designated representatives and coordinated with the INNIO SQE.

It is the responsibility of the supplier to notify INNIO in advance when the material is ready for inspection. The timing of this advance notice must be at least 20 days (unless otherwise approved by INNIO) prior to a scheduled test/inspection/witness point.

Acceptance of a product by INNIO and/or the customer does not release the supplier of its obligations to supply components that meet the requirements of the purchase order.

3.7.4 Supplier Deviation Request (SDR)

If a deviation from any requirement—such as the drawing, other specifications, agreed process documentation (process flow, control plan, etc.), or packaging—is identified for a single part or lot, the supplier must submit a Supplier Deviation Request (SDR) to the INNIO SQE as early as possible in the process. The supplier must use SupplyOn – Technical Review – SDR form to request acceptance. If a supplier is not integrated in SupplyOn, it must use the INNIO SDR form, which will be provided by the SQE as needed.

The supplier must not ship any deviating part before the SDR has been approved by the INNIO SQE. It is in INNIO's sole discretion to grant such approval. Once approved, the supplier must include a copy of the SDR with the shipping documents.

The SDR must contain a detailed description of the deviation (if necessary, together with photos, reports, sketches, etc.), containment actions, probable source / root cause and proposed remedial / corrective action (e.g. 8D Report) as part of the initial submittal, as well as the INNIO part number, PO number, number of defective parts, serial number (if available) or batch number of the affected component(s).

3.7.5 Supplier Change Request (SCR)

The Supplier Change Request (SCR) is the formal, mandatory process suppliers must use to request approval for a permanent proposed change — e.g., to products, materials, manufacturing

processes, sub-tier suppliers, or logistics — prior to implementation. The supplier must use SupplyOn – Technical Review – SCR form to request a review from INNIO.

This process ensures quality control by requiring INNIO approval for any modifications affecting form, fit, function, or location. Each request must include a detailed description of the change, the reason, impact assessment, timeline, and validation data.

Upon submission in SupplyOn, the review and approval may take longer due to a thorough evaluation required. The decision is solely at INNIO's discretion. If approved, the INNIO SQE may require the supplier to requalify the part through the PPAP process.

3.7.6 Supplier Self Disclosure

The supplier is obligated to immediately inform INNIO if any nonconforming material, defect, or suspected defect has escaped, or may have escaped, from the supplier's facility to INNIO. This includes any situation where there is a risk that defective or suspect parts have been shipped, delivered, or otherwise introduced into the INNIO supply chain. The supplier shall provide all relevant details, including the affected part numbers, quantities, shipment dates, nature of the defect, containment actions taken, and the proposed corrective actions.

3.7.7 Non-Conformance (NC)

A defect is defined as the non-conformance of a delivered part with the characteristics required by the purchased part specification and/or an applicable legal regulation, or the deviation from a condition that can be reasonably expected.

3.7.7.1 Notification and documentation

INNIO documents all issues in an incident management system for internal defects and another for external defects. INNIO issues a claim to the supplier by sending a 'Non-Conformance Notification' for internal defects or a ´Non-Conformance for INNIO warranty case´ for external defects/field issues. In such a case, the supplier must immediately take the necessary measures to ensure that no further parts with the identified failure are sent to INNIO. If the supplier must stop deliveries to take these measures, this must be aligned with the INNIO Planner and SQE to ensure that material shortages in production at INNIO are avoided.

3.7.7.2 Non conformance management

SupplyOn will be used as the official tool to notify the supplier in case of any non-conformance. When INNIO requests a short confirmation/8D in SupplyOn, the supplier must adhere to the following timeline:

1. Supplier defines and implements containment and informs the INNIO SQE about it within 48 hours. It must include an entire affected parts list and a plan to contain all material from supplier to INNIO.
2. Complete an 8D Report including root cause definition, corrective and preventive actions and submit it to the INNIO SQE within 21 days.

Suppliers not integrated into SupplyOn will receive notification via email. The supplier shall adhere to the timeline above. The SQE can provide an 8D template as needed.

3.7.7.3 Containment of defective parts

If INNIO has identified a non-conformance, the INNIO SQE aligns with the INNIO operations quality team, the material planner, and the supplier to decide on one of the following options depending on the availability of material and urgency, in the following order:

- Return of the defective products to the supplier and, if it is a possible serial problem that requires a check of all items, also a return of the items in stock, or
- On-Site Sorting/rework of the faulty products at INNIO by the supplier, or
- Sorting and/or rework of the faulty products by INNIO or a third party commissioned by the supplier, in the event that the prompt availability of the supplier is not given under reasonable circumstances.

If an 8D report is requested or upon request of the SQE, the supplier shall certify material shipping for a time period of not less than 30 days or 3 shipments, whichever is longer, with validation by the supplier quality manager and each shipped parts container marked with a signed certification placard (a template can be provided by the SQE). Certification serves as a visual identifier confirming that the parts are clean and meet containment requirements. Additional containment measures may be conducted by INNIO as required.

The supplier shall always follow the handling and disposition of non-conforming parts as described within the Non-Conformance Notification. In case of ambiguity regarding replacement deliveries, the supplier should contact the planner and, in case of technical need for clarification, the SQE.

The supplier must notify the INNIO SQE within 48 hours if it does not agree with the NC disposition and the part status indicated on the non-conformity is not given.

For any repairs or replacements, the supplier shall, at its expense, perform all tests requested by the INNIO SQE to verify conformance with this purchase order.

Relevant costs associated with containment and correction of supplier nonconformances will be reviewed with the supplier for cost recovery per the INNIO terms and conditions.

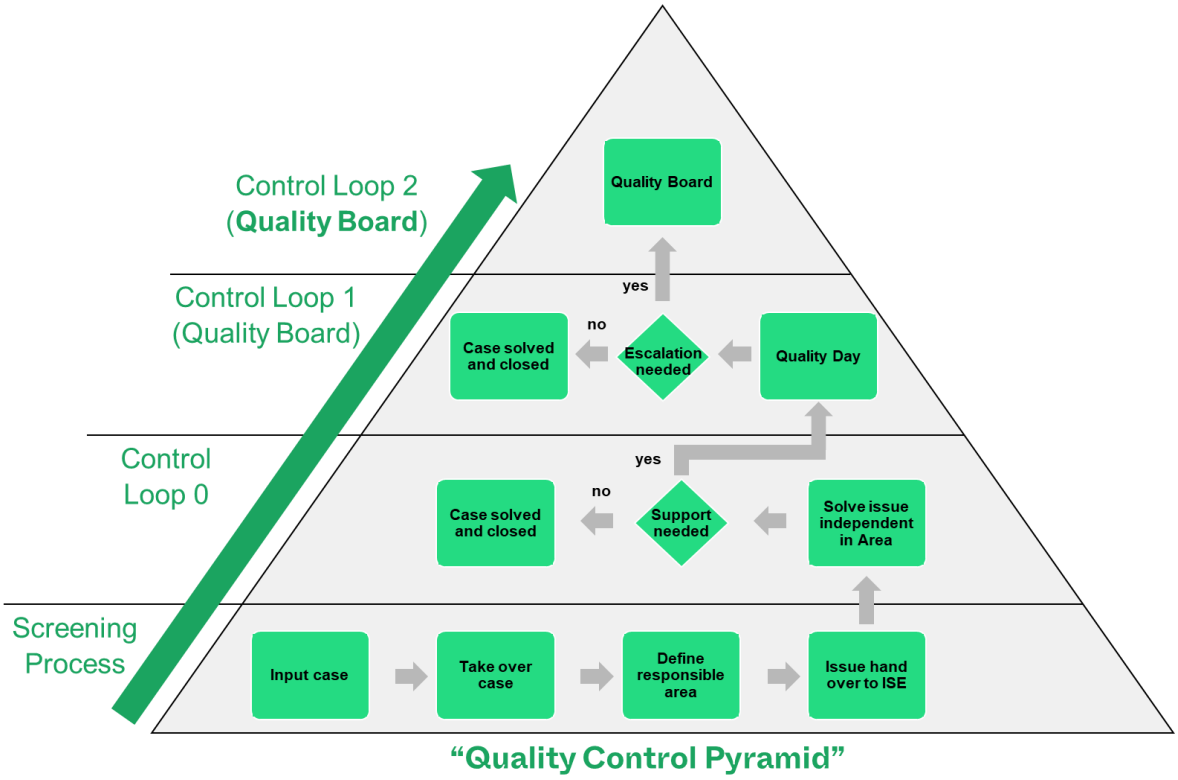
3.7.8 Quality case management

3.7.8.1 Quality issue process

With regard to all quality issues, **INNIO requires a defined holistic problem-solving process from its suppliers.** This includes the following requirements:

1. Steering/ monitoring and solving of all quality issues, regardless of level, priority, or impact
2. Definition of owners for each quality issue.
3. A defined system for follow-up and tracking, (see INNIO reference below).
4. Regular progress updates to INNIO and communication of implemented measures.

As a reference, below is the "Quality Control Pyramid" of INNIO.



"Quality Control Pyramid"

1. Each NC detected, in-house at INNIO or at an INNIO customer, shall be processed
2. Depending on the severity of the defect (process or component), different actions are to be taken.
3. At the lowest level (Quality Control Loop 0), the department causing the defect works through the problem independently.
4. In Control Loop 1, the problem is solved with the help of a quality employee and, if required, regularly reported to management during the processing phase.
5. At the highest level (Control Loop 2), the management is involved from the beginning.
6. Management holds regular Quality Board meetings with focus on:

- Steering TOP Quality Issues, CL 1 and 2
- Audit results/customer feedback
- Top customer issues

3.7.8.2 Root Cause Analysis/Quality Case Process

In the case of quality cases of greater magnitude and when requested by the INNIO SQE, the supplier must perform a formal root cause analysis (RCA). The supplier must use an appropriate methodology to identify the root cause, as well as containment, corrective and preventive actions, and summarise the findings in an 8D report. The supplier must also nominate a dedicated RCA leader as a contact person for the INNIO SQE and RCA team.

1. Containment shall define all necessary (temporary) measures to minimize the risk for customers and INNIO.
2. The correction shall describe the necessary action to repair, rework, or replace the affected item(s) in the field.
3. Root cause(s) shall describe the factor(s) that caused an NC and must be permanently eliminated.
4. The corrective action(s) shall define all actions taken to eliminate the cause(s) of an existing non-conformance to prevent recurrence.
5. The preventive action(s) shall define all actions taken to eliminate the cause(s) of a potential non-conformance or undesirable potential situation to prevent occurrence.

3.7.9 Supply chain resilience

To address dynamic supply chain conditions, INNIO has implemented a comprehensive supply chain risk management process. The primary objective is to evaluate and mitigate risks associated with INNIO's supply chain network promptly and effectively, in collaboration with its suppliers. These risks include operational factors (such as production capacity and quality control), logistical challenges (such as transportation disruptions), geopolitical uncertainties (such as political instability), natural disasters, and planned or forced production transfers. Upon identifying such risks, either the INNIO Category Leader or the SQE will engage with the supplier to develop a strategy for risk mitigation.

INNIO expects full cooperation from its suppliers in these instances and anticipates proactive identification and communication of risks to facilitate joint action with INNIO in mitigating them.

By embracing robust supply chain risk management practices with its suppliers, INNIO aims to enhance overall resilience, minimize potential disruptions, optimize operational efficiency, and sustain a competitive advantage in an increasingly difficult and uncertain business landscape.

3.7.10 Process capability

The supplier must regularly analyze the required process capability data and provide reports to the INNIO SQE as required. As a minimum, the supplier shall measure and record the data for all CTQs/CTPs indicated on drawings and specifications, respectively, unless requested by the SQE otherwise.

In cases where the SQE considers it appropriate to request data to statistically analyze the supplier's production process performance/capability, the supplier shall provide such data to INNIO in a format defined by the SQE.

If the submitted process capability result does not meet the requirements, the supplier will have to implement an improvement plan. The supplier is also responsible for ensuring that these requirements are met by their sub-suppliers, if applicable.

3.7.11 Supplier Preventive Maintenance

The supplier must establish and implement a preventive maintenance program for all product-specific tooling and equipment. This includes cleaning, inspection, repair, and minor refurbishments (stain removal, cleaning of parting lines, replacement of damaged tool parts, etc.).

Major repairs and tool replacement (for tools funded by INNIO) are to be handled on a case-by-case basis by the INNIO Global Category Leader. The supplier shall inform the Global Category Leader in advance when a tool requires a major repair or replacement, to ensure no disruptions to INNIO production.

3.7.12 Supplier score card

The Supplier Scorecard is a tool that is used to get visibility on the supplier's performance. The rating is done separately for four key areas: Commercial, Logistics, Quality and Sustainability.

Each supplier considered for this rating is evaluated in the individual categories according to hard and soft facts, which add up to an overall score.

The goal is to show each supplier's performance according to INNIO requirements and criteria to drive supplier improvement plans (SIP) where it is needed.

The supplier scorecard is generated and sent out to suppliers on a quarterly basis.

Below is an example of a scorecard. If a supplier has specific questions about the scorecard, the INNIO Global Category Leader is available to answer them.

Conflict Minerals: Virtually all INNIO's products contain one or more of the minerals tin, tantalum, tungsten, and gold (3TG). The mining and trade of these materials from the Democratic Republic of Congo and surrounding countries have gained international attention for the role that they can play as "conflict minerals," financing deadly armed groups in the region.

INNIO supports industry-wide due diligence mechanisms that enable conflict-free sourcing, such as the Responsible Minerals Initiative (RMI) and conducts an annual survey to determine the origin of 3TG in INNIO's supply chains. The supplier shall perform appropriate due diligence on its supply chain in order to fulfill its reporting obligations.

In addition to this survey, INNIO requires all suppliers of products that contain 3TG to adopt policies and establish systems to ensure the procurement of 3TG from sources that have been verified as conflict-free. INNIO reserves the right to disengage with suppliers which are not responding to INNIO's survey or do not take sufficient action to reduce risks within their supply chain.

Because of this potential for association with conflict and human rights abuses, INNIO strives to ensure that INNIO's supply chains are ethical and sustainable, and therefore the Conflict Minerals are part of the Supplier Scorecard.

3.7.13 Supplier improvement and development

3.7.13.1 Supplier Development Project (SDP)

Supplier development refers to a proactive approach that INNIO may take to improve the capabilities and performance of its suppliers. It involves identifying potential areas for improvement and implementing strategies to support and develop suppliers to meet INNIO's evolving needs and standards.

Such supplier development may be triggered by a supplier assessment. This is carried out by INNIO with the focus on identifying opportunities for growth, collaboration, and optimization. Here are the key aspects:

Early assessment: INNIO conducts an initial assessment of potential suppliers to evaluate their capabilities, resources, processes, and overall fit with the company's requirements. This assessment can include factors such as technical expertise, production capacity, innovation potential, and alignment with the company's values and goals.

Capability enhancement: Supplier development aims to enhance the supplier's capabilities to meet INNIO's present and future requirements. This may involve providing technical support, training programs, knowledge sharing, and access to resources or expertise. INNIO may also collaborate closely with the supplier to develop new products, improve existing processes, or explore innovative solutions together.

Continuous improvement: Supplier development emphasizes a continuous improvement mindset. INNIO and the supplier work together to identify areas for improvement, streamline processes, optimize supply chain operations, and enhance quality control measures. Regular performance reviews and feedback sessions are conducted to monitor progress and provide guidance.

Long-term partnerships: Supplier development initiatives aim to build long-term partnerships based on shared goals, mutual benefits, and trust.

Supplier development enhances collaboration, increases supplier performance, reduces risks, and ultimately contributes to the overall success of the company's supply chain and business operations.

3.7.13.2 Supplier Improvement Plan (SIP)

If, based on the scorecard results, areas are identified where suppliers are not meeting expectations, INNIO may initiate a SIP to enhance the performance and capabilities of its suppliers. By implementing a SIP, INNIO aims to foster long-term partnerships with its suppliers, enhance product or service quality, streamline supply chain operations, reduce costs, and ultimately improve customer satisfaction.

The SIP consists of the following elements:

1. Assessment using the scorecard and decision to start a SIP
2. INNIO sends a SIP letter to the supplier
3. Kick-off meeting to set expectations as well as clear and measurable goals.
4. Root cause analysis. In order to address underlying issues and challenges, a thorough analysis of the root causes by the supplier is expected.
5. Action plan development. The plan outlines specific steps, timelines, and responsibilities to be undertaken by the supplier to address the identified areas of improvement. It may include

process enhancements, training programs, quality control measures, or supply chain optimization strategies.

6. Action plan meetings: The progress of the supplier improvement plan is continuously monitored and evaluated against the established goals and expectations.
7. Recognition and rewards. Incentives such as increased business opportunities, or preferential treatment may be offered to suppliers who consistently meet or exceed expectations. Business may ultimately be redirected from suppliers who consistently fail to meet expectations.

3.7.14 Supplier phase-out

If a supplier plans to phase out a product, INNIO must be notified no later than one year prior to the phase-out date and no later than six months prior to the last buy option date.

3.8. Supplier confirmation

The undersigned hereby expressly confirms that they have the appropriate power of attorney to legally sign this document on behalf of the supplier.

Supplier Name:

Date/Signature Supplier:

Name (Block Letters)/Title:

Agreed Deviations from this document:

Chapter	Deviation

Date/Signature INNIO:

Name:

Title:

4 Revision Table

The following chart lists the revisions made to this document tracked by version.

Rev	Section Modified & Revision Description	Date	Author
C	Latest Issue	June 2023	R. Steinberger
D	• Rev D introduces a full PPAP process, with detailed submission levels and deliverables, replacing and expanding on the previous qualification documentation approach. • Use of SupplyOn for supplier interaction, change requests, and non-conformance management is now mandatory. • CAV is removed; MSA and control plan requirements are expanded. • Wording and structure have been updated throughout for clarity and alignment with current INNIO practices.	August 2026	R. Steinberger, S. Henshaw, S. Albal, M. Dejaco