Supplier Manual

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Summary of Changes

Version	Date	Changes Between Releases	Status
1.0.0	2019.10.24		Approved
2.0.0	2020.03.12	Links updated, figures 1-3 updated.	Approved
3.0.0	2021.04.23	Duplicate removed from chapter 1 and updates in chapter 10.	Approved
4.0.0	2024.04.11	Document structure and requirements updated	Approved
5.0.0	2024.08.21	Security and Risk management updates	Approved

Table of Contents

1 INTRODUCTION

Suppliers are an essential part of our successful business. We aim for transparent and productive collaboration with our suppliers to enable competitive products and services for our customers. Our target is to enable strong business performance, sustainable purchasing processes and to secure the availability of right materials and services considering the needs and requirements of our businesses. Bittium Supplier Manual is a publicly available summary of the core requirements Bittium has for its suppliers, that has been established to enable the basis for transparent and productive collaboration with our suppliers. These requirements are applied to existing and new suppliers alike.

The term Supplier is used in this document as a general term meaning all types of external organizations that provide products or services to Bittium.

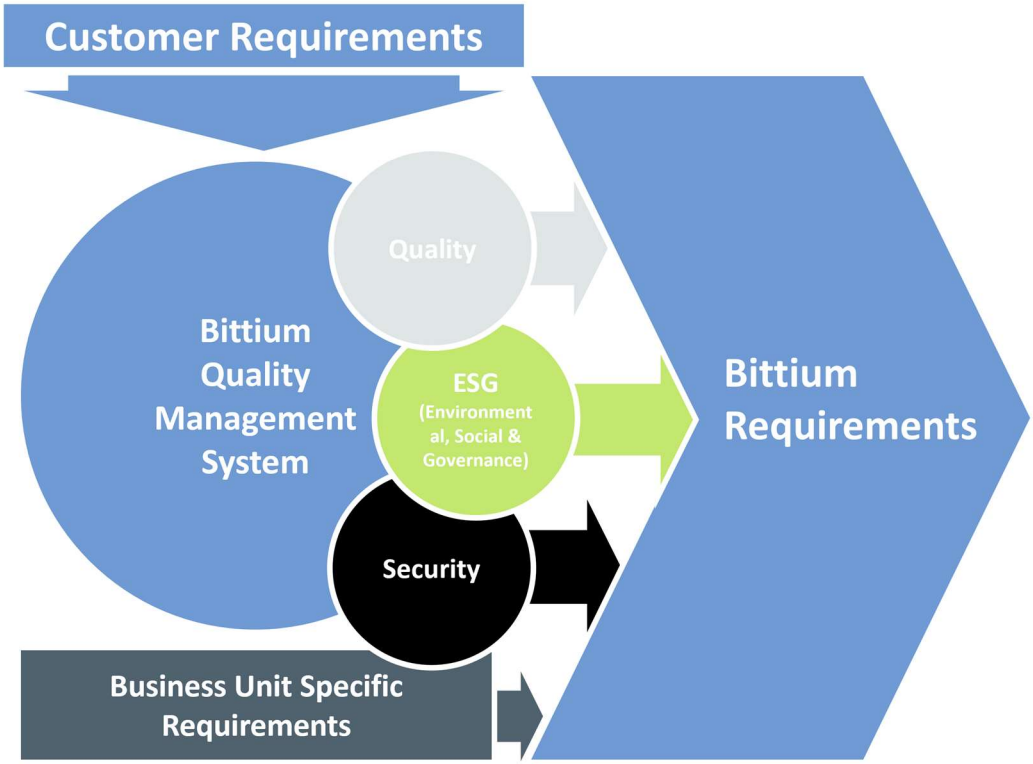

Figure 1 The origin of Bittium requirements is in customer requirements.

1.1 Bittium Policies

Bittium is committed to act according to values described in Bittium policies and expects its partners to follow suit. Bittium has policies in place as a part of its Quality Management System [1], Environmental Management System [2] and Security Management System [3]. Bittium also expects its suppliers to act according to values described in policies specific to Defense & Security and Medical business units depending on the business units the supplier operates with. Bittium policies are described further on Bittium company website, links to the policies are available in the reference section of this document.

1.2 Compliance with General Terms and Conditions

Supplier shall comply with Bittium General Terms and Conditions. General Terms and Conditions are effective unless separately otherwise agreed. Bittium General Terms and Conditions [3] apply to every Purchase order issued by Bittium. The General Terms and Conditions are available on Bittium company website, link is available in the reference section of this document. General Terms and Conditions include, among the conditions, terms regarding counterfeit material avoidance, conflict minerals, certificate of conformity as well as anti-corruption and trade compliance.

1.3 Bittium anti-corruption statement

Bittium is committed to meeting its statutory obligations and preventing, identifying, and removing corrupted practices and cooperating with others to prevent bribery and corruption. Bittium also expects its suppliers and other external partners to take the necessary anti-bribery and anti-corruption measures. Bittium has issued an anti-corruption statement [5] which is available on Bittium company website, and the link is available on the reference section of this document. As a part of Bittium General Terms and Conditions [3] Supplier agrees to comply with applicable anti-corruption laws and regulations. If terms and conditions other than Bittium general Terms and Conditions are applied, there must be no compromises in anti-corruption practices.

2 BITTIUM SUPPLIER SELECTION AND APPROVAL

Bittium conducts supplier selection and approval according to predefined process that evaluates potential candidates against a set of supplier requirements.

2.1 Bittium supplier selection, qualification, and approval

Bittium supplier selection aims to find the most suitable candidates for Bittium businesses in terms of technology, volumes, pricing, quality, location, support capability and fulfillment of regulatory requirements. Not forgetting the compliance to Bittium core policies and supplier quality requirements that ensure compatible ways of working through the supply chain. Bittium supplier selection, qualification and approval process is portrayed in figure 2.

Figure 2 Bittium Supplier Selection, Qualification and Approval

First phase of supplier selection process is investigation, where potential candidates are identified and contacted. One of the first actions before starting any evaluation is to agree on mutual non-disclosure of confidential information shared during the following steps. During investigation first quotations will take place and if the candidate profile matches Bittium needs, the actual qualification steps are planned.

Second phase is supplier qualification. One of the first actions here is sharing Bittium supplier requirements and conducting a supplier self-assessment against these requirements. If deemed necessary, supplier audit is planned and conducted. Additionally, during the qualification phase other necessary checks and validation steps are taken to ensure the operational, technical, and commercial suitability of the supplier for Bittium business. Risks are also assessed based on the intelligence gathered during the qualification phase. The qualification phase for approved suppliers is typically finalized with a business agreement (General Purchase Agreement), which enables us to start conducting business under mutually agreed terms.

Third step is all about running the day-to-day operations and managing the supplier base. Supplier performance in current products and suitability for additional business are continuously under evaluation. Risks are continuously monitored and managed. Bittium and suppliers will develop joint capabilities, relationship and build the basis for a successful business going forward. Bittium aims for continuous improvement in all of its activities and takes actions to enhance the performance of our suppliers in co-operation through time. Bittium conducts audits in the management phase mainly due to identified risks or gaps in performance as well as when there is a change in Bittium needs or supplier offering and capabilities. When evaluated to be necessary, Bittium defines a regular audit routine for a supplier.

The last step in Bittium supplier selection, qualification and approval process is phase out. If Bittium concludes that it is not sensible to continue business with a given supplier anymore, the supplier will be phased out. This is a planned procedure where supplier is duly notified and last time buys are executed.

2.2 About Bittium supplier requirements

Bittium supplier requirements are defined in sections each of which contain several detailed requirement elements. Applicable elements also stand to the main subcontractors of Bittium suppliers in design, manufacturing, testing, security etc. Some of the requirements may not be applicable to all suppliers. Bittium defines whether there are requirements that are not applicable during supplier assessments conducted by Bittium. The Supplier's conformance to requirements is verified through Supplier surveys, requested self-assessments, and audits conducted by Bittium or third party. Bittium may conduct a Supplier audit with a scope on management system, technology, process, or product as well as security management system. This document provides a guideline on the requirements to suppliers, and they are effective unless additional or more definite requirements, such as regulatory requirements, or omissions to requirements are specified in supplier-specific agreements.

As an essential part of its engineering processes Bittium uses Supplier Quality Assurance Planning or SQAP in short. Target of this planning is to facilitate successful supplier co-operation in design, verification, and validation. SQAP procedures will also drive Bittium part approvals. A part of Bittium supplier requirements are in place to ensure that the supplier is compatible with Bittium SQAP process.

2.3 Fulfillment of requirements in Bittium supplier assessment

For a Supplier to pass Bittium Supplier Assessment the requirements given in each applicable element shall be adequately fulfilled, and deemed "Accepted" by Bittium; otherwise, the result is "not accepted".

If Bittium deems something as "not accepted" the supplier must provide either further clarification to the information shared originally, or a plan how the identified deficiencies are to be corrected. The supplier must provide either the requested clarifications or an action plan, that includes a schedule for the corrective actions within 30 calendar days. Once the actions defined in the action plan have been implemented the supplier must submit a report that confirms their completion and effectiveness. Based on Bittium's evaluation, the report is either deemed to be sufficient evidence of the implementation and effectiveness of the corrective actions or Bittium shall conduct an on-site corrective action verification assessment to ensure the implementation and effectiveness on the actions taken.

Bittium will inform the Supplier in writing on any assessment result changes, such as a response to an action plan or an action report that results in the acceptance of something that has been deemed earlier as a non-conformance. After passing Bittium Supplier Assessment, the supplier is expected to inform Bittium of any such changes that compromise the ability of the supplier to meet Bittium requirements.

3 GENERIC REQUIREMENTS

This chapter describes generic requirements on the supplier's operations and support functions.

3.1 Business

The Supplier shall have a clear strategy in terms of the operation and further development of the company, understanding its status and vision where it aims to be in the future. Company policies e.g. quality, environmental, security, risk management as well as objectives and targets shall be established to support the implementation of the strategy.

3.1.1 Financial performance

The supplier shall have sound financials ensuring that the company will be in business for the long term. The supplier is expected to support Bittium in assessing its financial performance by providing consolidated and audited financial statements from the past two years, at a minimum upon request.

3.1.2 Customer satisfaction

The Supplier shall have an active customer satisfaction program based on delivery performance and customer ratings. Customer feedback shall be processed and analyzed in a way that they are inputs for developing the operations of the company. The Supplier shall be able to provide evidence of the implementation of a customer satisfaction program.

3.1.3 Key performance indicators

The Supplier shall apply key performance indicators, or KPI: s in short, that are derived from their strategic objectives and support their realization.

3.1.4 Continuous improvement

The Supplier shall have ongoing performance improvement programs based on the supplier's strategy that are measured through established key performance indicators. At suitable intervals, the management shall review the status of these programs and take necessary actions.

3.2 Quality and risk management system

The supplier shall have effective systems in place to manage quality and risks.

3.2.1 Quality management system and quality manual

The Supplier shall have an up to date, documented quality management system to ensure effective planning, management, and control of quality. The quality management system shall be communicated, understood, and implemented at all organization levels. This quality management system shall satisfy the requirements of ISO 9001, AQAP2110, ISO13485 or other internationally recognized standard applicable for the Bittium business case. A description of the supplier's quality management system documents and their

hierarchy as well as quality responsibilities shall be available to illustrate the structure of the system in a quality manual or in some other form of documentation.

3.2.2 Internal quality audits

The supplier shall have a documented internal audit program for its quality management system and operations. The supplier shall review audit results, plan corrective actions, and perform follow-up verification on the effectiveness of the actions taken.

3.2.3 Risk management system

The supplier shall have an up-to-date documented risk management system to ensure effective identification, analysis, control, prevention, and monitoring of associated risks. Supplier shall use as a guidance the following standards for risk management; ISO 31000 based Risk management and/or ISO14971 Application of Risk Management for Medical Devices or other internationally recognized standard relevant for the business. The approach shall include risk categories such as strategic, financial, operational, commercial, technical, and quality as well as external categories such as location, natural hazards, export control and product liability. The supplier shall also be able to provide evidence on the implementation of the risk management system.

3.2.4 Business continuity plan

The supplier shall have a documented business continuity plan. The plan shall establish the procedures and responsibilities to be used to guarantee the continuity of operations and customer service following an event that could cause interruption.

3.2.5 Confidentiality agreement

All supplier employees are subject to the provisions of a Non-Disclosure Agreement or Confidentiality Agreement, either separately or as a part of their employment contract.

3.2.6 Product liability

The supplier shall have a documented product liability procedure including a recall process. The supplier shall take necessary steps to protect itself against future product liability issues. Non-hazardous, secure, and safe materials and components shall be used in products and their approval obtained from applicable authorities. The supplier shall have worldwide liability insurance for finished components and products.

3.2.7 Third party IPR policy

The supplier shall have a 3rd Party Intellectual Property Rights (IPR) policy. The policy shall define principles and methods for ensuring that no 3rd party Intellectual Property Rights are included in any deliverables to Bittium without the right to do so.

3.2.8 Software and tools licensing

The supplier shall be able to provide evidence of having the right to use or a sublicense to all software and tools needed for delivering its products to Bittium. Inclusion of 3rd party IPR in software deliveries to Bittium must be accepted by Bittium in writing. This requirement also covers all freely available software e.g. Open source, Freeware, Public Domain etc., if it has any obligations that may prohibit its intended use.

3.3 Security

This document provides a guideline on Bittium security requirements to suppliers, and they are effective unless additional or more definite requirements or omissions to requirements are specified. Security requirements are set in detail in supplier-specific agreements.

3.3.1 Security Management System

The Supplier shall have an up to date, documented security management system to ensure effective planning, management, and control of security. The security management system shall be communicated, understood, and implemented at all organization levels. The Supplier commits to comply with up-to-date laws, regulations, and directives.

The security management system should satisfy the requirements of ISO 27001 or other internationally recognized standard relevant for the business. A description of the supplier's security management system documents and their hierarchy as well as security responsibilities shall be available to illustrate the structure of the system. The supplier shall also be able to provide evidence on the implementation of the security management system.

3.3.2 Security policies

The supplier shall have a documented and implemented security policies covering buildings, employees, operations, documents, and data systems. The supplier shall be able to provide evidence of the implementation and effectiveness of security policies. Supplier shall implement security policies to whole supplier chain.

Supplier shall have access authentication and authorization management and also maintain awareness of information security by providing security trainings for personnel. Supplier shall have and maintain effective network security procedures.

3.3.3 Information Security incident Management

The Supplier shall have proper documented information security incident management process and nominated persons to timely react and prevent any further damage caused by security or any other compliance issues or incidents. In case of any incident that may affect to Bittium's properties or assessments, supplier needs to notify Bittium immediately.

3.4 HSE – Health, safety, and environment

3.4.1 Legal compliance

The supplier shall identify national and international environmental legislation applicable to its operation and products supplied to Bittium and ensure compliance. Evidence of compliance shall be available to Bittium upon request.

3.4.2 Environmental policy

The supplier shall have an up to date, documented environmental policy including commitment to environmental protection, prevention of pollution, compliance with environmental legislation and continuous improvement. The policy shall be effectively implemented on all levels of the organization and the supplier shall be able to provide evidence of its implementation.

3.4.3 Environmental management system

The supplier shall have a documented environmental management system to identify significant environmental aspects of its activities, products and services and shall ensure that these aspects are considered in establishing, implementing, and maintaining its environmental management system. The environmental management system shall satisfy the requirements of ISO 14001. Continuous improvement efforts shall be addressed within the environmental management system.

3.4.4 Sustainability

The supplier shall consider environmental aspects in all phases of product lifecycle. All reasonable attempts should be made to operate with as small of an environmental footprint as possible e.g. using renewable resources, non-hazardous substances, minimizing manufacturing process emissions. Supplier shall also aim to maximum material efficiency, energy efficiency, extended product lifecycle, reduce impact on landscape, avoid over-design, as well as to enable recovery and recycling. Upon Bittium request the supplier shall have the capability to report data that enables the estimation of the carbon footprint of a product based on ISO 14067. Suppliers that manufacture products outside the EU for which tariff codes fall under the EU's Carbon Border Adjustment Mechanism (CBAM) regulation and are imported by Bittium shall upon request provide data that enables Bittium to report according to CBAM requirements.

3.4.5 Ethical considerations

The supplier shall be committed to ethical conduct, full compliance to applicable national and international laws and respect for human rights in the spirit of internationally recognized ethical standards, e.g. SA8000.

3.4.6 Occupational safety

The supplier shall take occupational safety precautions throughout the organization for dealing with hazardous materials, noise, etc. by means of safety instructions and appropriate safety measures including protective equipment for employees. It must be ensured that the organization complies with all relevant safety regulations and evidence of compliance shall be available upon request.

3.4.7 Emergency procedure

The supplier shall have a documented and implemented emergency procedure including an evacuation and rescue plan. Periodic evacuation and rescue drills shall be arranged, and the results of such exercises recorded. The supplier shall take necessary steps to prevent and detect emergency incidents by means of fire and smoke alarm systems, sprinklers, etc. Emergency response teams shall be trained from employees to deal with emergencies.

3.4.8 Competence management

The supplier shall ensure that employees have the required education, training and competence for their position. Management shall hold periodic appraisals of personnel competence and training requirements and prepare training plans. During these appraisals competence development needs shall be considered against the strategy of the organization.

4 REQUIREMENTS FOR PLANNING, SUPPORT AND OPERATION

This chapter describes the requirements on the supplier's operation from quote to delivery to Bittium.

4.1 RfQ and Quotation process

Requirements on the request for quotation (RfQ), quotation processes and related support processes of the supplier that ensure effective co-operation with Bittium are presented in chapter 4.1.

4.1.1 Business contacts

The supplier shall nominate contacts to handle business operations between Bittium and the supplier. When required by Bittium, a list of nominated contacts shall be provided.

4.1.2 Contract review system

The supplier shall have a formal contract review system in place to convert customer requirements into internal requirements with respect to RfQ: s, purchase agreements, purchase orders, specifications etc. The supplier shall be able to provide evidence on the use of the contract review system.

4.1.3 Project planning and management

The supplier shall have project planning practices ensuring fact-based estimation of workload, resourcing, and scheduling. The supplier shall also have monitoring and controlling practices for projects ensuring visibility to project status and progress, enabling the supplier to keep Bittium up to date.

4.1.4 Configuration management

The supplier shall have version control and configuration management systems for designs, products and product data, and version change information shall be available as a record. The Supplier shall have a document management system to file, check, approve, release, distribute and delete documents and data throughout the organization.

4.1.5 Change management and traceability

The supplier shall have appropriate practices to reliably manage and track changes in requirements and project, product, or solution data. These practices shall include documentation and versioning the changes in engineering and management plans as appropriate. A record of change history shall be available. The supplier shall notify Bittium of design changes and modifications made after the product has been approved by Bittium, all such changes must be approved by Bittium.

The supplier shall also have a procedure to manage changes caused by component End of Life. End of Life requirements are specified in more detail separately in agreements.

4.1.6 Design reviews

The supplier shall conduct formal design reviews to systematically review data at certain milestones and process phases. Review minutes and related data, such as criteria used, and action points shall be recorded.

4.1.7 Design for Excellence (DfX)

With parts and components designed by Bittium supplier shall provide design and manufacturability feedback upon request including Design for Manufacturability (DfM), Design for Assembly (DfA) and Design for Environment (DfE). The aim of the feedback is to achieve desired product requirements with optimum cost, manufacturability, and environmental impact in co-operation with Bittium R&D.

4.1.8 Raw material content

The Supplier is responsible to ensure that all Bittium-related raw materials and data are compliant to relevant environmental legislation. Supplier shall ensure the capability to provide substance content information upon request by Bittium. Bittium Quality requirements summary [5], to which the link is available on the reference section of this document, describes environmental requirements for material content of Bittium products. This set of requirements includes a standard set of Bittium requirements regarding material contents such as EU RoHS, EU REACH and EU SCIP. Further requirements on material content shall be specified separately by Bittium and agreed with the supplier.

4.2 Purchase order handling process

The supplier shall have established processes for handling forecasts and purchase orders from the customer, planning its operations as well as managing its supplier base.

4.2.1 Forecasting and operations planning process

The supplier shall have a forecasting and operations planning process that includes receiving forecasts and purchase orders from a customer, planning production, and purchasing activities based on the forecasts and orders as well as confirming the forecast and estimated delivery within the mutually agreed timeframe. The supplier shall also be able to specify associated lead-times for the critical steps of the supply chain.

4.2.2 Supply document management

The supplier shall have appropriate supply document management system ensuring that all applicable requirements and contractual obligations, such as ones arising from AQAP 2110 that are imposed on Bittium, are passed on to its suppliers. The purchasing documents shall include sufficient information to define the materials, products or service being ordered. This information includes details such as identifier, specification, revision, quantity, delivery time, price, and logistics.

4.2.3 Supplier and subcontractor selection

The supplier shall select its suppliers and subcontractors according to documented procedures for identifying and evaluating potential candidates. When appropriate, a second source policy shall be applied. The supplier’s own suppliers are subject to the provisions of a Non-Disclosure Agreement (NDA).

4.2.4 Supply chain performance control and improvement

The supplier shall have documented procedures for monitoring external supply chain and actively improve its performance. The supplier shall have a system to make complaints and claims on its suppliers in a case

of insufficient performance as well as a method for requesting corrective and preventive actions. The supplier shall also have a system for notifying Bittium of potential issues with delivery capability.

4.2.5 Bittium supplied material control

The supplier shall have a procedure to control materials purchased or provided by Bittium, which are incorporated into the final product that the supplier delivers to Bittium. In such a case the supplier is responsible to store and maintain the Bittium owned materials according to applicable requirements set by the manufacturer of the material or by Bittium and to report the balances of Bittium owned materials upon request.

4.3 Production process

Requirements on the production processes and related support processes to ensure effective operations at the supplier are presented in chapter 4.3.

4.3.1 Facilities and process flow

The facilities of the supplier shall be capable of handling production volumes forecasted and required by Bittium or Bittium EMS partners. All facilities and equipment shall be clean and orderly to ensure efficient and reliable operations. The facilities should enable efficient process flow and the supplier shall be able to provide documented descriptions of its manufacturing process flow upon request.

4.3.2 Process equipment and tool management

The supplier's process equipment shall be under regular preventive maintenance in accordance with an established procedure. The supplier shall inspect, maintain, and store tools, jigs, fixtures, etc. according to a documented procedure to detect and prevent deterioration of the equipment. The preventive maintenance program for tools, jigs, fixtures etc. that are in the supplier's facilities but are owned by Bittium shall be agreed in co-operation. Such equipment must be marked to indicate clearly that they are Bittium property.

4.3.3 Inspection and test equipment management

The supplier's inspection and test equipment used for verifying that product and process requirements are met shall be calibrated and maintained regularly in accordance with an established procedure. Where applicable, the test program versions for the test equipment shall be controlled. The calibration and maintenance program for inspection and test equipment that are in the supplier's facilities but are owned by Bittium shall be agreed in co-operation. Such equipment must be marked to indicate clearly that they are Bittium property.

4.3.4 Product identification and traceability

The supplier shall have a system for manufacturing control and tracking such as a route or run card, control software, etc., that is used for the identification of a single product or product lots and their status during all stages of the production process. The supplier shall have a system that ensures the traceability of a finished product or product lot back to factory and the materials used back to their source. Further traceability requirements are specified in agreements with the supplier.

4.3.5 Work instructions

The supplier shall have appropriate work instructions and criteria for fit and finish available for all critical process steps at the place of operation.

4.3.6 Incoming material verification

The supplier shall verify that incoming materials used for production conform to relevant specifications. Such verification should be done following established procedures and results recorded. After incoming material verification, there shall be an operation that releases conforming material to production and positively identifies it through stickers, labels, dispatch control, etc.

4.3.7 Control of non-conforming products

The supplier shall have clearly documented procedures for the control and handling of non-conforming products that have been identified in either incoming material verification or during manufacturing process. If rework is performed the product shall be re-inspected to conform to relevant specifications. The supplier shall define allowable in-process rework and appropriate procedures at all stages of the process. Actual rework performed shall be included in an appropriate quality record.

4.3.8 Material handling, storage & shelf-life control

The supplier shall have documented instructions and controlled conditions for material handling and storage to prevent material deterioration and safety hazards. The supplier's material inventories shall only contain material that has been released to be used in production and shall be clearly identifiable. First-in-first-out principle shall be followed. The supplier shall define material with a limited shelf life and/or special storage requirements and strictly follow the expiry dates and requirements.

4.3.9 Process quality assurance and control

The supplier shall have documented processes to ensure effective operation and control of manufacturing processes. Any part of the process that is subcontracted or outsourced shall be indicated.

The supplier shall also have defined process metrics at appropriate stages of the process to keep the processes under control. As a part of its operational prowess the supplier shall have a system for measuring process capability through C_{pk}, or other similar indices, and apply statistical methods to monitor and control the quality of its production processes. Process capability data shall be recorded and used for continuous process improvement. Process operators shall have access to the data and instructions for action in out-of-control situations. The supplier shall be able to provide the data to Bittium upon request by Bittium.

The supplier shall perform all inspection and testing operations according to established procedures. The supplier shall maintain inspection and test records proving that products have been inspected and tested in accordance with applicable procedures with acceptable results. Additionally, the supplier should have the capability to perform periodic environmental/off-line testing if separately agreed with Bittium. The supplier shall be able to provide the inspection and test data to Bittium upon request by Bittium.

4.3.10 Design verification and validation

Supplier shall provide required design verification and validation evidence upon request. Bittium SQAP process, that drives part approvals, specifies the required evidence in co-operation with the supplier. Typically, measurement and first article inspection (FAI) reports or other test and inspection documents, are required for selected components, such as Bittium designed parts and assemblies. During part approval Bittium will review all specifications and verify that they are mutually understood.

4.3.11 Process qualification verification and validation

The supplier shall qualify and approve processes and materials as well as their changes internally according to documented quality procedures. Changes shall be communicated to Bittium before implementation. Supplier shall provide required process verification and validation evidence upon request. Bittium Supplier Quality Assurance Planning (SQAP) process, that drives part approvals, specifies the required evidence in co-operation with the supplier. Typically, Process flow diagrams, Process Failure Mode and Effects Analysis (PFMEA), Control plans (CP), Measurement system analysis (Gage R&R), or capability studies (C_{pk}) are required for selected components, such as Bittium designed parts and assemblies. During part approval Bittium will review all specifications and verify that they are mutually understood.

4.4 Delivery process

Requirements on the delivery process of the supplier are presented in chapter 4.4.

4.4.1 Product handling, storage, packing and delivery

The supplier shall have adequate handling, storage, packing and delivery instructions to protect finished products from damage and deterioration before or during the delivery to Bittium.

4.4.2 Releases for delivery

The supplier shall control all product releases for delivery to Bittium in accordance with documented procedures and test plans.

4.4.3 Corrective and preventive actions

The supplier shall have a documented corrective and preventive action system with input coming from both internal and external sources. Output of the process should be corrective and preventive actions, whose effectiveness on the original non-conformance the supplier shall verify.

Reclamations to suppliers are handled according to Bittium supplier reclamation process. In all reclamations Bittium uses Corrective Actions Request (CAR) report template. The supplier is expected to analyze the root cause for the non-conformance and take actions following the corrective and preventive actions process of the supplier to prevent the issue from occurring again. Bittium will accept also 8D reports as a CAR response, if this is the preferred method for the supplier. Once sending the CAR report to supplier, Bittium defines a deadline for the supplier by which actions must be taken and the report provided back to Bittium. Upon receiving CAR from Bittium, supplier shall confirm that CAR has been received and investigations are started without delay.

ABBREVIATIONS

Abbreviation	Definition
8D	Eight disciplines problem solving method. Focused on product and process improvement. The purpose of 8D is to identify, correct, and eliminate recurring problems.
Assessment	A systematic evaluation process of collecting and analyzing data to determine the current, historical or projected compliance of an organization to a standard.
Audit	On-site assessment, such as inspection or examination of a process or quality management system to ensure compliance to requirements. An audit can apply to an entire organization or might be specific to a function or a process.
CAP	Corrective actions plan
CAR	Corrective actions request/report
CBAM	Carbon Border Adjustment Mechanism is EU's tool to prevent carbon intensive production from shifting to countries outside the EU where less stringent climate policies are in place.
CP	Control plan is a tool for controlling products and processes to ensure that all process outputs remain in a state of control and that all critical requirements are met. The Control Plan should follow the process flow and provide more detailed description on how in each phase the "potential issues" are controlled.
C_{pk}	The process capability index is a statistical measure for process capability: the ability of a process to produce output reliably within specification limits.
DfA	Design for assembly (DfA) is a process through which products are designed with ease of assembly in mind.
DfE	Design for Environment
DfM	Design for manufacturing or manufacturability is a process through which products are designed to be easy and economical to manufacture.
EMS	Electronics Manufacturing Services
EU REACH	REGULATION (EC) No 1907/2006 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 18 December 2006 concerning the Registration, Evaluation, Authorization and Restriction of Chemicals (REACH). REACH addresses the production and use of chemical substances, and their potential impacts on both human health and the environment.
EU RoHS	European Union's Restriction on the Use of Hazardous Substances (RoHS) Directive 2011/65/EU including amendment EU 2015/863. The restriction of the use of certain hazardous substances in electrical and electronic equipment.
FMEA & PFMEA	Failure modes and effects analysis is a process used to analyze potential failure modes in a system and their causes and effects. FMEA concerns design and product related failure modes and effects. PFMEA focuses process related failure modes and effects.
Gage R&R	Gage repeatability and reproducibility. The evaluation of an instrument or a measurement process by determining whether the measurements are repeatable and reproducible.
NC	Non-conformance. A product, service or process is unable to meet the requirements set.
OQC	Outgoing quality control.
Process flow	A description of the steps that a process consists of. The same sequence should be also used in PFMEA and Control plan.
QMS	A quality management system (QMS) is a collection of business processes focused on consistently meeting customer requirements and enhancing customer satisfaction. It is aligned with the purpose and strategy of the organization (ISO9001:2015). It is expressed as the organizational goals and aspirations, policies, processes, documented information and resources needed to implement and maintain it.

References

[1] Bittium Quality Management System,
https://www.bittium.com/about-bittium/management-systems/quality-management-system

[2] Bittium Environmental Management System,
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[3] Bittium Security Management System,
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[4] General terms and Conditions for Purchase of Goods
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[5] Anti-Corruption Statement,
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[6] Bittium quality requirements summary for suppliers
https://www.bittium.com/about-bittium/suppliers/substance-list