Guideline

# Quality Management

February 2021

AEB

# Content

# 1  Intention and business requirements

## 1.1  Intention

- AEB aims to be attractive for its customers and employees in the long term. As a result, various factors and conditions need to be considered. For example: In which market environment does AEB operate offering which solutions? This results in a range of different expectations and requirements regarding quality and quality management. Read all about AEB's business environment and about what is expected from employees (also regarding quality) in the AEB Guide.
- Read in more detail about expectations and requirements resulting from the business environment under Expectations business environment.

## 1.2  Purpose and scope

- This page provides an overview of and background information on the following general topicsQuality management and quality management system at AEB
- Audits at AEB

These general rules and principles apply to all employees in the company. They are the basis for how we want to treat each other and work together. Feel free to provide this information to external parties in a PDF format as part of audits or tenders.

# 2  Conception and definition

## 2.1  Quality

Quality is the (evaluation) result of a comparison between requirements for properties and actually existing properties to see if and to which extent the requirements were fulfilled.



On this page and in the following chapters, the quality management (QM) and the quality management system (QMS) of AEB and the associated terms as well as the responsibility assigned to the employees are explained in detail. AEB's QMS follows the requirements of ISO 9001, which results in the following chapter structure. The document may be given to external parties in PDF format.

# 3  Intention and business requirements

## 3.1  Intention

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# 4  Conception and definition

## 4.1  Quality

Quality is the (evaluation) result of a comparison between requirements for properties and actually existing properties to see if and to which extent the requirements were fulfilled.

Good quality means the requested or necessary result has been achieved. Quality objectives can also have a low level. Quality exists as far as this level has been achieved.

At AEB, this ultimately translates into: Quality signifies an (evaluation) result – whether and to what extent we have fulfilled the desired requirements. Customers evaluate the quality by reflecting their satisfaction or dissatisfaction with the result delivered.

## 4.2  Quality standard

The desired quality level for AEB and our own quality standard resulting from general customer requirements and expectations is specified by the Executive Board as follows:

AEB's quality standard aims at...

- Introducing solutions that satisfy our customers' requirements and delight them.
- Development of integrated software products with a high usability which fulfill the needs of the market at reasonable prices, are easy to install, roll out, and operate.

- Integrated, reliable services (service products), accessibility, and quick response in emergency situations, and a reliable Facility Management (e.g. smooth operation of the data center). While doing so, we handle customer data and wishes securely and confidentially.

- Successful and satisfactory projects (customer projects and internal projects) are completed in a professional and economical way. Always aware that something unexpected may arise, necessitating a flexible response. We also ensure that roles and tasks are clearly distributed both at AEB and on the side of the customer to allow both sides to engage in a sincere and professional cooperation.

- Pursuing successful, sustainable marketing of our products and the company. This includes reliable, competent, and transparent communication with the market and our partners. Reliability and requirements traceability from quotation to order.

- Efficient & transparent administration An efficient and transparent administration which ensures compliance with official regulations and agreements. Streamlined processes in commercial transactions closely interconnected with other areas.

- Transparent and reliable Employee Services which promote every individual's wellbeing and work in joint efforts with the team leaders at the company.

- Ensuring high quality levels of training and continuing education to keep internal knowledge and competences at a high level.


These are the detailed quality objectives:
- Successful and sustainable marketing of the products and the company.
  This is made transparent by:
  - Reliable, competent, and transparent communication with the market and our partners.
  - Reliability and requirements traceability from proposal to order
  - Distribution processes guided by high service quality
  - Secure and confidential handling of customer data
- Development of integrated software products with a high usability which fulfill the needs of the market at reasonable prices, are easy to install, roll out, and operate.
  This is made transparent by:
  - Fulfillment of technical requirements (competitive software solutions) and being up to date (regular updates)
  - Self-explanatory and fit for use software (friendly, ergonomic, intuitive, tangible, and easy to use)
  - Striving for accuracy (every line of code is approved and tested)
  - Securing compatibility in the system landscape
  - Ensuring an easy installation
  - Securing maintainability and smooth operation
- Introduction of solutions that meet our customers' requirements.
  This is made transparent by:
  - Integrated solutions (mix of software and services)
  - Adaptations tailored to the specific needs of customers and the industry that can be maintained efficiently and transparently.
- Integrated, comprehensive services (service products) and reliable Facility and Application Management
  This is made transparent by:
  - Facility Management (e.g. smooth data center operation)
  - Availability and quick response in case of emergency

- Data security and data protection
- Reliable system technology
- Quick and competent customer support
- Professional training for customers
- Implementation of successful and satisfying professional projects (customer projects and internal projects)
  This is made transparent by:
  - Professional project management
  - Realizing economically viable projects
  - Clear distribution of roles and tasks on either side
  - Being aware of unforeseen events and able to respond flexibly to these events
  - Open and competent cooperation
- Efficient and transparent administration that ensures compliance with legal regulations and contracts.
  This is made transparent by:
  - Compliance with the law, with regulations and with contracts
  - Streamlined processes in commercial transactions closely interwoven with other areas
  - Comprehensibility and efficiency in communication and contracts
  - Fast response time regarding inquiries and complaints
  - Ensuring high quality levels of training and continuing education to keep internal knowledge and competence at a high level.

## 4.3 Quality management (QM)

The quality management establishes the procedures necessary to achieve required or specified quality objectives. Quality management is the generic term for all activities, managerial responsibilities, and methods that contribute to achieving the quality standard in the form of the following:

- Planning (strategy, objectives…)
- Security (processes, guidelines, QA measures…)
- Validation of the system itself (Internal audits (in German) and external Audits (in German), quality KPIs…)
- And its continuous improvement (PDCA (in German))

That means that within AEB we refer to this as the definition of the rules and appropriate procedures required for achieving the requested quality and associated implementation, introduction, and continuous maintenance and quality management.

All AEB employees are responsible for achieving the quality and quality standard (requested by the customer and the Executive Board) and for conducting quality management. QM is further based on an integrated roles concept which promotes and strengthens the personal responsibility of every employee to create value within a corporate context. Within their sphere of responsibility (role and topic), each employee is responsible for achieving the requested quality of the result. The responsibility also entails assessing and deciding whether procedures and quality assurance measures are required for a specific work topic/area as part of the added value. Also, depending on the quality standards' significance for the creation of value (degree of impact and influence), it is required to define the specific type of standards (e.g. whether versioning or a release process is required, whether a new/separate role is needed or whether templates are useful etc.) and to continuously maintain the standards.

## 4.4  Quality assurance (QA)

Quality control is a part of quality assurance and describes only the assessment – not the decision – in suitable/defined places whether the required result has been achieved. At AEB, aside from quality assessment or control, quality assurance also involves making a deliberate decision about the next appropriate course of action (it therefore comprises more than the mere control).

Quality assurance measures are integrated in the core processes and can be conducted by each employee within the framework of their assigned role(s).

## 4.5  Quality management system (QMS)

A management system assumes no responsibility for the quality. However, the system provides the necessary framework along with tools and templates to create synergies and to describe the defined procedures required for attaining quality in a consistent, transparent, and interconnected manner. (e.g. by providing Confluence templates to consistently map and structure the QMS and core processes.) The system offers support, however, it cannot compensate for each employee's responsibility within their role(s).

QM employees accompany/coach and support other employees who want to define procedures and measures, tools, trainings, etc. to assure quality as part of their role(s). This allows them to automatically provide a transparent overview and to deliver consistent documentation of value-adding core processes and schools. The "system" can therefore be imparted centrally to the inside and to the outside (e.g. in the context of the internal onboarding or in external customer audits). QM employees regularly check whether the system is adequate relative to the requested quality standard, e.g. through internal audits or by deliberately pointing out existing contradictions. They support with their moderating influence, but do not take any decisions – but they request them continuously from the responsible parties.

# 5  Execution and implementation of QM and QMS

## 5.1  Significance in the company – claim and goal

It is always our goal to ensure our value-adding business operations or process. Our value creation from service and software products must run smoothly. Otherwise, our company's success would be at risk. QM and QMS of AEB are tailored to the employees and their capabilities and roles in everyday working life. As a result, they are permanently embraced and implemented. Both is based on an integrated roles concept which promotes and strengthens the personal responsibility of every employee to create value within the corporate context.

QM is practiced as part of each employee's role(s) – within the framework provided by the QMS.

AEB's underlying principles are the following:

- Professional assume responsibility for (the quality of) their work on a daily basis in a conscientious manner.
- As part of their work or role(s) at AEB, all employees are responsible to achieve the desired quality and practice quality management.
- The corresponding roles define processes, requirements, and tools and are responsible that they always remain up to date and meaningful.

- A centralized, synchronized, and managed QMS created the necessary framework for this, provides the corresponding tools to create synergies and integration – but does not take any content-related decisions and avoids compensating the responsibility of the employees.
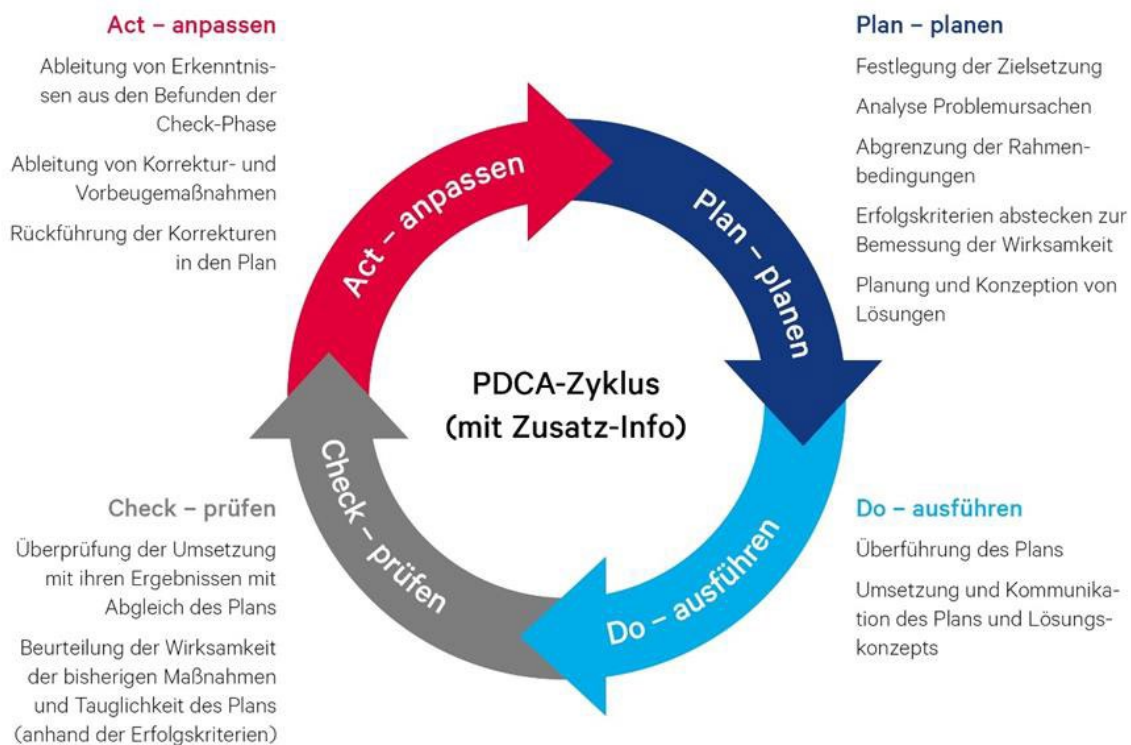
<u>Expectations business environment</u>

The goal is **to map as much as necessary but as little as possible** in the form of transparent and fit for purpose standards (rules & principles). The result should be a healthy balance between regulations and responsibility to preserve the flexibility necessary to be able to react appropriately and competently to special requirements. We therefore distinguish between **generally valid rules (topics)**, specific **(primary and secondary)** core processes without which our value creation cannot be effective and **accompanying processes** that contribute to efficient workflows (e.g. within teams, in cooperation with other teams).

## 5.2 Organization

QM is mainly the responsibility of the employees as part of their role(s). For each role, the responsibility for the quality of results is defined in accordance with the quality standards specified by the Executive Board. Details can be found in the respective role descriptions and in the role concept of AEB. QM is performed by the respective roles according to the PDCA cycle:

- plan QM (do we even need a regulated process, rules and/or tools?)
- set up QM (is it a core process or accompanying process?)
- introduce QM (communicate, train, document, test)
- implement and embrace QM
- maintain and continuously improve QM (e.g. by regularly requesting internal audits and with the PDCA cycle)

QMS creates the necessary framework conditions for the QM core processes. Employees with the QMS Officer role manage it centrally and make it available to all employees. They accompany/coach and support employees who want to define measures, tools, trainings, etc. to assure quality as part of their role(s). By regularly exchanging information with each other, they automatically create a transparent overview and a consistent documentation of the value-creating core processes. They provide trainings and communicate the "system" both internally and externally (e.g. as part of tenders or external customer audits). They regularly check whether the system is adequate relative to the requested quality standard e.g. through internal audits or by deliberately pointing out existing contradictions. They support with their moderating influence, but do not take any decisions – but they request them continuously from the responsible parties.

**Act – anpassen**

Ableitung von Erkenntnis-
sen aus den Befunden der
Check-Phase

Ableitung von Korrektur- und
Vorbeugemaßnahmen

Rückführung der Korrekturen
in den Plan

**Plan – planen**

Festlegung der Zielsetzung

Analyse Problemursachen

Abgrenzung der Rahmen-
bedingungen

Erfolgskriterien abstecken zur
Bemessung der Wirksamkeit

Planung und Konzeption von
Lösungen

**Check – prüfen**

Überprüfung der Umsetzung
mit ihren Ergebnissen mit
Abgleich des Plans

Beurteilung der Wirksamkeit
der bisherigen Maßnahmen
und Tauglichkeit des Plans
(anhand der Erfolgskriterien)

**Do – ausführen**

Überführung des Plans

Umsetzung und Kommunika-
tion des Plans und Lösungs-
konzepts

PDCA-Zyklus
(mit Zusatz-Info)

# 6  Scope and characteristics

## 6.1  Scope

The following factors should be seen as a summary. They map the implementation and experience of the QMS in the company as a whole:

- Transparent communication channels, a continuous value chain, and role definitions (tasks, responsibilities and competences)
- Consistent principles and rules in the form of defined guidelines and processes. They are linked with responsible roles that are assigned to competent employees.
- Complementary and practical tools which make it easy to comply with and implement the standards in a fit for purpose way (e.g. supporting how-tos, tools such as ASSIST4 CRM, sample projects, templates, and check lists).
- Transparent documentation of standards, core processes, and roles.
- Initial training and continuous further training as well as coaching of the employees through the Jump-in onboarding week and the tutor.
- Regular review of whether guidelines are still up to date, compliant and usable (e.g. by external audits and internal audits as well as by continuous evaluation of the quality of results and company success depending on customer satisfaction by the Executive Board).
- Prevention and regular integration of best practices (defining and implementing preventive measures)
- Continuous improvement of standards and the associated tools (PDCA)

## 6.2 Specific characteristics

The goal is to always ensure our value-adding business operations or process. Our value creation from service and software products must run smoothly. Otherwise, our company's success would be at risk in the long term. We therefore distinguish between:

**Generally applicable rules (topics)** such as project and partner management, security, knowledge management, etc. that summarize best practices and thus make proven standards (which are regularly maintained) available to everyone.

- **Core processes (secondary and primary)**, without which our value creation cannot take place effectively and which can be grouped according to context (e.g. primary processes such as strategy, development, solution provision, operation/maintenance and secondary processes such as sales and marketing, accounting/controlling, administration, and infrastructure (IT and facilities)).
- **Accompanying processes** that contribute to the efficiency of the individual workflows (e.g. within a team or in cooperation with other individual teams).
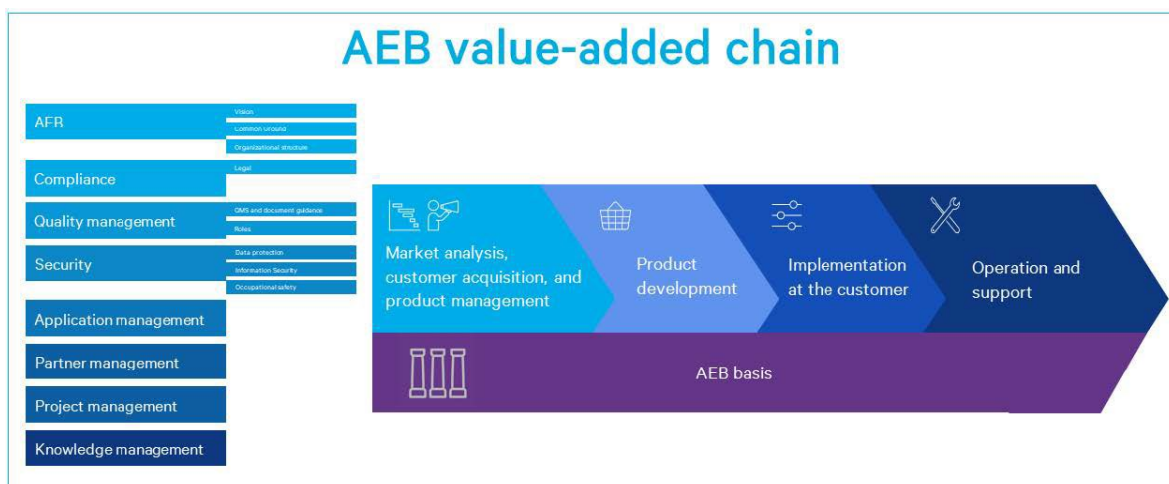


The **generally applicable rules (topics) and core processes** are correspondingly those that are of particular interest to new colleagues, colleagues who are changing work contexts, and to prospects and customers. They describe how our work is carried out on a general level and in which contexts it can be summarized. Therefore these rules and processes are embedded in the "framework" of QMS. It is important to make these transparent throughout the company (e.g. through training and documentation here in Confluence) and to version them accordingly so that they are always up to date and available in a uniform format to colleagues as well as to prospects or customers.

All colleagues are invited to create Yammer news or Confluence pages with recommendations, how-tos, or even rules for themselves or their team, for example. However, they are only integrated in the QM namespace in Confluence and thus in the QMS system if value creation from service and software products is seriously at risk if they are disregarded. In this way, the amount of "real" rules and principles that have to be adhered to and continuously developed remains manageable for those responsible and we remain true to our philosophy: as little as possible – as much as necessary!

The general rules, as well as the core process within AEB's value-added chain (VAC) are transparently visualized here in Confluence. Using the search functionality, they can be found quickly and are thus integrated into day-to-day business (and always present).

Due to the uniform illustration and structure, the contents can be quickly understood. The linking options illustrate the consistency of the processes and at the same time guarantee it. Every employee is able to make changes to the content if it becomes outdated or needs to be adapted which helps keep the content up to

date. Due to an integrated versioning functionality, the changes are only displayed in a "not yet released" version of the page. They can then be adopted through an "acceptance" or release mechanism which will be documented in the system and published as a new version. For external use, the contents can be exported as a PDF if required. Details on the documentation of the general rules as well as the core processes in Confluence can be found in the rules for document guidance (QMS) (in German). These were developed and are regularly maintained by the QMS Officers to ensure uniform documentation and its constant availability for employees and external parties. A "Releasing pages" in Confluence process (in German) was developed for the responsible employees who maintain both the general rules and the core processes. It documents and explains the release mechanisms stored in Confluence as well as the automatic versioning, which are activated by using the QM namespace.

# 7  Evaluation of the QM and QMS

## 7.1  Measuring effectiveness

- QM is measured by its effectiveness and performance, based on the efficient achievement of operational goals and quality requirements, which ultimately manifests itself in customer satisfaction and the success of the company. These two factors are measured, for example, by regular customer surveys (with differing objectives) and, for example, by regular controlling of the corresponding company figures.
- The respective roles are responsible for ensuring that the operational objectives, which are to be achieved effectively and efficiently based on the processes, are assessed and measured accordingly where appropriate. Generally, the right testing methods and measuring methods must be specified individually – according to what is necessary/useful for the current time and context. They do not follow a fixed cycle or predefined criteria bus are individually defined according to what is adequate. This is done, for example, by commissioning an internal audit or by taking random samples and conducting surveys among colleagues concerned.
- In addition, the effectiveness, timeliness, and appropriateness are evaluated through regular external audits conducted by renowned customers (e.g. from the pharmaceutical and aerospace industries).
- Findings of external and internal audits (which will be explained in more detail in the following) are prepared in the format of audit reports and measures which we create, control, and manage as support cases in ASSIST4 CRM.

As part of the IMS, further example are described and explained in Chapter 4.6 Ensuring control and effectiveness.

## 7.2  Internal and external audits

"'Audit' means a systematic, independent, and documented process for obtaining audit evidence and evaluating it objectively to determine the extent to which audit criteria are fulfilled."
[DIN EN ISO 9000:2005]
The objective of an audit is to find out whether everything is going as planned and whether these procedures are still sensible, efficient, and economical in their originally planned form.
Audits offer many benefits. They provide answers to the following questions, among others:

- Are the guidelines implemented in everyday business?
- Are there any problems with the implementation?

- Where is there room for improvement?
- If we follow a standard: Are the guidelines compliant with the standard?

This makes audits an essential contribution to continuous improvement (PDCA cycle) and also provides an opportunity to involve employees in the further development of the processes.

The audit objectives must be documented in both the audit plan and the audit report.

Contents of an audit

- Permanent improvement
- Weakness analysis
- Requirements for standards
- Customer requirements
- Legal requirements

First and foremost, a distinction is made between two types:

- External audit The company is evaluated by another company (e.g. customer or lead) and usually assessed for compliance with certain standards or customer requirements.
- Internal audit A company evaluates itself, respectively its compliance with its rules and guidelines. As a rule, employees are trained as "internal auditors" and commissioned by QM to evaluate the company or parts of it for compliance with certain guidelines and/or customer requirements.

Further information on internal audits can be found here in Confluence.

## 7.3  Rules and further information

All details on the relevant auditing types can be found on the following Confluence pages:
- Audit Guide (DE)
- Internal audits (in German)

All regulations for performing internal audits are defined here:
- Performing internal audits

## 7.4  At AEB, the following audits are carried out regularly

- External audits by DEKRA to evaluate whether we comply with the following standards:
  - ISO 27001
- External audits by TÜV to certify us for data protection (AEB as a certified processor).
  - Data protection certificate
- External audits by customers to audit us for individual standards (such as GxP).
- External audits by PwC to certify individual products for specific functional requirements.
- Internal audits commissioned by an internal customer, e.g. QM, to check whether our own regulations are up to date, adequate, and we comply with them.

## 7.5 Certificates

The Certificates Confluence page lists all of AEB's certificates. On the Services page of the AEB website, all certificates as we provide them externally can be found.

# 8 Continuous improvement of QM and QMS

Within the scope of its work, Quality Management is guided by the so-called Deming Circle, better known as PDCA cycle. This cycle describes an iterative, four-step problem-solving process as a classification for a continuous improvement. As described in theory, PDCA stands for Plan-Do-Check-Act and is based on the Gemba principle. The Gemba principle means Go to the real place where value-added processes in the company take place and where problems occur. Doing this puts the employees with their specific knowledge of the situation at the center of the planning.

In sum, PDCA, the PDCA cycle, or PDCA management cycle

- is a basic principle of a management system (for cross-divisional functions such as quality or security)
- and stands for: "Plan, do, check, act cycle"

We therefore use this principle in the following areas:

- our quality management (QMS) and
- our information security management system (ISMS)

# 9 Further and combined management systems

Apart from the QMS and ISMS, AEB uses further methods and standards, such as ITIL, CMMI, SAS 70. Some of them have also been certified. You can find them in the Guides and Guidelines section.

AEB's company management attaches particular importance to high quality standards with a focus on the customer. It therefore also sees itself as responsible for quality management and security. Company management wishes for all employees to be aware of this special responsibility and duty of care and for them to act accordingly. Therefore, management systems for quality and security have been set up, which fulfill the following criteria:

- compliant with the relevant ISO standards
- strategically integrated into the organization
- process-oriented alignment for continuous improvement to achieve the quality and security objectives

The necessary effort and additional resources are provided and integrated as part of the role concept. The following management systems are integrated at AEB:

- AEB's QMS follows the requirements of ISO 9001 which is explained on this page.
- Information security management system (ISMS) based on ISO 27001

For detailed information on the combination of the two systems and our official guideline, refer to the Guideline Integrated Management System (IMS) page.

# 10 Responsibility for the topic

Purpose and scope

This page provides an overview of and background information on the following **general topics**:

- Quality management and quality management system at AEB
- Regulatory areas at AEB
- Integrated management systems
- Audits at AEB

These **general rules and principles** apply to **all employees** in the company. They are the basis for how we want to treat each other and work together. Feel free to provide this information to external parties in a PDF format as part of audits or tenders.