

Implementation of a Quality Management System for Aeronautical Information Services

CHAPTER	CONCEPTS		QUALITY MANAGEMENT SYSTEM IMPLEMENTATION FRAMEWORK	RESPONSIBLE AREA	HOW WILL I IMPLEMENT THE FRAMEWORK (Action Plan)
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<p>Chapter IV, Quality Management System (ISO 9001:2008). The organisation must establish, document, and maintain a quality management system and continuously improve its efficacy in accordance with this International Standard.</p>	<p>General requirements (4.1) a) documented quality policy and quality objective statements; b) a quality manual; c) documented procedures required by this International Standard, d) documents required by the organisation to ensure effective planning, operation, and control of its processes, and e) the records required by this International Standard (see 4.2.4)</p>	<p>In order to achieve sustainable success, top management must adopt a quality management approach. The quality management system of the organization must be based on the principles described in the framework. These principles describe the concepts that are the foundation of an effective quality management system. The organisation must develop a quality management system to ensure that: a) resources are used efficiently; b) decisions are based on objective evidence; and c) it seeks customer satisfaction, and to meet the needs and expectations of other stakeholders</p>	<p>a) Focused on the external and internal customer: understand present and future needs of external and internal customers, meet the requirements of external customers and other stakeholders</p>	<p>Responsible Area AIS</p>	<p>Determine the needs of external customer (operators, organizations using the Notam bank) internal customers (ATS, FIS/AFIS, MET control unit; internal/external providers (DGCA, Infrastructure, Standards and Procedures, aerodrome concessionaires, administrative areas, and training centres) Value criteria: Legality, efficacy, continuous improvement Objective: Have guidelines for organisational processes. Focus interest on balancing the needs of emerging stakeholders (vision) Impact assessment: Efficacy of the quality management system.</p>

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			<p>b) Leadership: leaders establish the purpose and orientation of the organisation. It is necessary to create and keep an internal environment in which people feel fully engaged with attaining the goals of the organisation.</p> <p>a) benefits: individuals will understand the goals and objectives of the organisation and will be driven towards them; activities are assessed, aligned, and implemented in a unified manner; and poor communication between the different levels of the organization will be minimized.</p>	General management	<p>Top management must provide members of the organisation with the resources (described in the operating plan), training (training programmes), and the legal framework (procedures) necessary to act responsibly in the processes of the services they provide. It must inspire, promote, and recognize the contributions of its members (establishing motivational policies)</p> <p>Value criteria: Legality, Procurement of resources for AIS processes</p> <p>Objective: Create a proactive learning-driven approach, empowering people at all levels</p>

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			<p>c) Participation of individuals: Individuals at all levels are the essence of an organisation and their full commitment makes it possible to use their skills for the benefit of the organization. Benefits: Individuals motivated, committed, and engaged with the organisation – Innovation and creativity upon promoting the objectives of the organisation – People are responsible for their own performance – Individuals who wish to participate and contribute to continuous improvement</p>	<p>General management and Head of the area</p>	<p>Create awareness among the members of the organisation so that: they understand the importance of their contribution to the processes they perform; they identify the limitations to their performance; who take ownership of problems and assume their responsibilities; who actively seek opportunities to enhance their competencies, knowledge, and experience; who debate openly about problems and issues. Objective: Integrate worker’s proactive attitudes. Value criteria: Generate skills for creativity, innovation, participation, transparency, and teamwork. Impact assessment: Level of commitment of the organisation’s personnel.</p>
			<p>d) Process-based approach: An expected result is achieved more efficiently when the activities and related</p>	<p>Head of AIS area</p>	<p>Comply with ISO 9001:2008 article 4.1, in order to: a) Define systematically the activities necessary to achieve the desired result b) Establish clear</p>

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			resources are managed as a process. Benefits: lower costs and shorter timeframes through the efficient use of resources; improved, consistent, and predictable results; focused and prioritized opportunities for improvement		responsibilities, including accountability, for the management of key activities c) Analyse and measure the capacity of key activities d) Identify key activity interfaces within and among organizational functions e) Focus on factors such as resources, methods, and materials to improve key activities of the organization f) Assess risks, consequences, and impact of activities on customers, providers, and other stakeholders Objective: Effective quality management systems with good interactions among its processes, and which support prompt improvements. Processes respond to the needs of stakeholders Value criteria: Legality, efficacy, continuous improvement
			e) Management systems approach: The identification,	Head of the AIS area	Structure a system to attain the objectives of the organisation in the most effective manner.

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			understanding, and management of interrelated processes as one system contribute to the effective and efficient achievement of objectives in a deficient organisation. Benefits: a) integration and alignment of processes to obtain the desired results in the best possible conditions b) capacity to focus efforts in key processes c) give confidence to stakeholders on consistency, efficacy, and efficiency of the organisation		Understand interdependencies of system processes. Structured approaches that harmonise and integrate processes. Improve understanding of functions and responsibilities required to achieve common objectives, and, thus, minimize barriers between crossing functions. Understand the capacities of the organisation and define resource limitations before acting. Focus and define how specific activities should operate within a system. Continuously improve the system through measurement and assessment. Objective: Design a quality management system under a systematic approach. Value criteria: Legality, efficacy, efficiency and continuous improvement

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			<p>Continuous improvement: A permanent objective of the organisation must be the continuous improvement of its overall performance.</p> <p>Benefits:</p> <ul style="list-style-type: none"> a) Better performance due to improved capacities of the organisation. b) Alignment of improvement activities at all levels with the strategic goals of the organisation. c) Flexibility to react quickly to opportunities. 	Head of the AIS area	<p>Apply a consistent approach in the entire organisation based on continuous improvement of the organisation's performance.</p> <p>Train staff on continuous improvement methods and tools—which could be the result-based management method. Make sure continuous improvement of products, processes, and systems is the objective of each individual working in the organisation.</p> <p>Establish goals and measurements for continuous improvement (objectives to ensure the quality of AIS information). Accept and recognize improvements.</p> <p>Objective: Set improvement priorities based on the needs and expectations of stakeholders, and of the organisation's providers and personnel.</p> <p>Value criteria: Efficacy and continuous improvement</p>

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			<p>Fact-based approach for decision making; Efficient decisions are based on data and information analysis. Benefits: a) make informed decisions b) improve capacity to demonstrate the efficacy of previous decisions using factual records c) improve capacity to review, challenge, and change opinions and decisions</p>	Head of the AIS area	<p>Make sure data and information about internal and external AIS providers are sufficiently exact and reliable; make sure that the service manages the information available to those who need it. Analyse data and information using valid methods, such as those required to prepare an AIP. Make decisions and take action based on fact analysis, balanced out by experience and intuition. Objective: Ensure that decisions are effective. Value criteria: Efficacy and continuous improvement</p>

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			<p>Mutually beneficial relationship with the provider: For the organization and particularly for the AIS service, providers are independent parties and a mutually beneficial relationship is the key for increasing either party's capacity to create value. Benefits:</p> <ul style="list-style-type: none"> a) increase capacity to create value for both parties. b) flexibility and promptness in responding to the changing market or customer needs and expectations. c) cost and resource optimization. 	Head of the AIS area	<p>This is one of the most important principles for the AIS service since it must ensure the quality of the information it receives. To that end, it must pool experience and resources with internal and external providers, identifying and selecting key providers, keeping clear and open communications. It shall share information and future plans with providers, establishing joint activities for development and improvement. It is also important to inspire, encourage, and recognize the improvements and achievements of providers.</p> <p>Objective: Ensure that AIS information system is interoperable</p> <p>Value criteria: Efficacy and compliance with requirements</p>
			<p>b) Document control: Documents required for the quality management system must be controlled. Records are a special type of document and</p>	Head of the AIS area	<p>In this regard, we should ask: What documents must I have to support the efficacy and efficiency of the organisation's processes? In other words, do current documents allow for</p>

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			<p>must be controlled in accordance with the requirements listed in 4.2.4. Reference: 4.2.3 of ISO 9001:2008</p> <p>Note: A DOCUMENTED PROCEDURE IS REQUIRED</p>		<p>controlling the entire supply chain of aeronautical information from the time documents are generated to their distribution to the next scheduled user? Reference 3.2.2 Annex 15. Having defined the aforementioned assumption, we must generate a documented procedure that meets all the requirements of article 4.2.3 of ISO 9001:2008.</p> <p>Objective: Generate the necessary documents to support the effective and efficient operation of the organisation's processes as well as those required by ISO 9001:2008 and keep them under control.</p> <p>Value criteria: Efficacy and compliance with the requirements of ISO 9001:2008 and Annex 1</p>
			<p>b) Record control: Records must be established and kept as evidence that requirements are being met, and of the effective operation of the quality</p>	Head of the AIS area	<p>In this regard, we should also ask: What records show compliance with the requirement? In other words, Do current records prove compliance with all of the requirements set out in Annex 15 or Doc 4444? Another</p>

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			management system. Records must remain legible, easily identifiable, and retrievable. A documented procedure must be established to define the controls required for the identification, storage, protection, retrieval, retention time, and disposal of records. Note: A DOCUMENTED PROCEDURE IS REQUIRED		question: What records show the efficacy of AIS processes? (reduction of FPLs, Notam with errors), What records show continuous improvement? Status of implementation of the corrective and preventive action specified in internal audits and/or management reviews. Objective: Generate the necessary records that show compliance with requirements, efficacy, and continuous improvement. Value criteria: efficacy and continuous improvement

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<p>Chapter V Management Responsibility. Leadership, commitment and active participation of top management are essential to develop and maintain an effective and efficient quality management system to attain benefits for all stakeholders. To obtain these benefits, it is necessary to establish, maintain and increase customer satisfaction. Top management should consider actions such as:</p> <p>a) establish a vision, policies and strategic objectives consistent with the purpose of the organisation,</p> <p>b) lead by example, in order to gain the trust of the personnel,</p> <p>c) communicate the vision of the organisation as well as the values concerning quality and the quality management system,</p> <p>d) participate in improvement projects in the search for new methods,</p>	<p>Management Responsibility. Top management must provide evidence of its commitment with the development and implementation of the quality management system, as well as with the continuous improvement of its efficacy by:</p> <p>a) communicating to the organisation the importance of meeting customer as well as legal and regulatory requirements,</p> <p>b) establishing the quality policy,</p> <p>c) ensuring that quality objectives are set,</p> <p>d) conducting management reviews, and</p> <p>e) making sure resources are available (5.1)</p>	<p>As a supplement to phased or gradual continuous improvement, top management must also consider radical changes to process as a way to upgrade the organisation's performance. During such changes, management should take appropriate measures to ensure that resources and communications are in place to maintain the quality management system functions. Top management should identify the organisation's production processes, since these are directly related to the organisation's success. Top management should also identify those supporting processes that affect the efficacy and efficiency of</p>	<p>a) Management commitment: Top management defines and establishes the organisation's quality and safety policies and objectives, making sure it has the necessary elements to improve efficacy, efficiency and reduce the risks of processes, and it undertakes to:</p> <p>(1) Enforce, maintain and improve the quality and safety policy to meet the expectations of customers and stakeholders, leading and obtaining the commitment of its employees.</p> <p>(2) Ensure that procedures and work instructions are carried out consistently and in compliance with customer requirements and the established legal and regulatory requirements; that problems are identified</p>	<p>General manager</p>	<p>a) Ensure that the sequence and interaction of AIS processes are designed to effectively and efficiently achieve the desired results. What are the desired results?</p> <p>b) Ensure that inputs, activities, and outputs of AIS processes are be clearly defined and controlled.</p> <p>c) Follow up inputs and outputs to ensure individual processes are interrelated and operate effectively and efficiently,</p> <p>d) Identify and manage risks, and take advantage of opportunities for improving performance,</p> <p>e) Conduct the data analysis to facilitate continuous improvement of processes,</p> <p>f) Identify the owners of each process and give them full responsibility and authority,</p> <p>g) Manage each process to reach its objectives,</p> <p>h) Needs and expectations of stakeholders.</p> <p>Objective: Make sure that all processes operate as an effective and efficient network.</p>

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<p>solutions and products, e) obtain direct feedback on the efficacy and efficiency of the quality management system, identify production processes that contribute value to the organisation, f) identify supporting processes that affect the efficacy and efficiency of production processes, g) create an environment that promotes active participation and personal development, and h) provide the structure and resources needed to support the strategic plans of the organisation.</p>		<p>production processes of the needs and expectations of stakeholders. Management should ensure that all processes operate as an effective and efficient network. Management should analyse and optimise process interaction, including both production and supporting processes.</p>	<p>and resolved; and that the organisation reviews and continuously improves its procedures and work instructions. (3) Ensure that problems and hazards are identified and resolved by reviewing and continuously improving the documents of the documentary structure. (4) Provide the necessary resources for an effective and efficient compliance with the processes that contribute and maintain value.</p> <p>Note: MUST BE CONSIDERED IN THE QUALITY MANUAL</p>		<p>Value criteria: efficacy and continuous improvement</p>

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			<p>b) Focus on the customer and the needs of other stakeholders. The success of the organisation depends on understanding and meeting current and future needs and expectations of current and future customers and potential end users, and understanding and considering those of other stakeholders. Note: MUST BE CONSIDERED IN THE QUALITY MANUAL</p>	General manager	<p>In order to meet the needs and expectations of all stakeholders, the organisation shall:</p> <p>a) Identify its stakeholders and give a consistent response to their needs and expectations, and translate the identified needs and expectations into requirements,</p> <p>b) Communicate the requirements to all the service, focusing on process improvement to make sure value is created for the identified stakeholders.</p> <p>In order to meet customer and end user needs and expectations, management must:</p> <p>a) Understand the needs and expectations of its customers, including potential customers,</p> <p>b) Comply with product characteristics established in Annex 15 for customers and end users,</p>

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			<p>c) Quality policy: Top management shall use the quality policy as a means to lead the organisation towards performance improvement.</p> <p>The organisation's quality policy shall be assigned equal importance as, and be consistent with, other overall policies and strategies of the organisation</p> <p>Note: MUST BE CONSIDERED IN THE QUALITY MANUAL AND BE PUBLISHED IN THE ORGANISATION</p>	General manager	<p>The quality policy must:</p> <p>a) Be consistent with top management's vision and strategy for the organisation's future.</p> <p>b) Permit the understanding and pursuit of quality objectives through the organisation, demonstrate top management's commitment to quality, and provide sufficient resources to achieve the objectives.</p> <p>c) Help promote a commitment to quality at all levels of the organisation, with a clear leadership from top management.</p> <p>d) Apply continuous improvement to the satisfaction of needs and expectations of customers and other stakeholders, and allow for an effective formulation and efficient communicate.</p> <p>Objective: Establish guidelines for designing a good quality policy.</p>

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			<p>D) Planning quality objectives: The strategic planning and quality policy of the organisation provides a frame of reference for the establishment of quality objectives. Top management shall establish these objectives to improve the performance of the organisation. Objectives shall be measurable to facilitate an effective and efficient management review.</p>	General manager	<p>In setting the objectives, the organisation must consider:</p> <ul style="list-style-type: none"> a) Current and future needs of the organisation and those considered in the ATM operational concept, b) Significant findings of management reviews, c) Current performance of products and processes, levels of satisfaction of stakeholders, the results of self-assessments, comparative studies (benchmarking) d) Opportunities for improvement and resources needed to meet the objectives.
			<p>E) Planning of the quality management system: The head of the AIS area shall assume the responsibility for planning the quality of its service. This planning shall focus on the definition of the processes needed to effectively and efficiently meet the quality objectives and</p>	Head of the AIS area	<p>The results of AIS service quality planning shall define:</p> <ul style="list-style-type: none"> a) The processes for generating the product and support needed in terms of the skills and knowledge required for the service, b) The responsibility and authority for the implementation of process improvement plans, c) The resources needed, such as financial resources and infrastructure,

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			requirements established in accordance with the organisation's strategy. Input data for effective and efficient planning include the organisations' strategies, defined objectives, defined needs and expectations of customers and other stakeholders, the assessment of legal and regulatory requirements, the assessment of legal and regulatory requirements, the assessment of product performance data, assessment of process performance data, lessons learned from previous experiences, opportunities for improvement, and data related to risk assessment and mitigation.		d) Indicators to assess service performance improvement, e) Improvement requirements, including methods and tools. f) Documentation requirements, including records.

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			<p>F) Responsibility, authority and communication: The head of the AIS area shall define and then communicate the responsibility and authority in order to implement and maintain an effective and efficient quality management system. The personnel of the organisation must be assigned the responsibility and authority that will enable them to contribute to the achievement of quality objectives, and their participation, motivation and commitment must be established.</p>	<p>Head of the AIS area</p>	<p>Many public organizations have a Functions Manual and internal work regulations, which, in addition to the responsibilities established in the procedures, permit full compliance with ISO 90001:2008</p>
			<p>G) Management representative: Top management shall appoint and confer authority upon a management representative to manage, follow up,</p>	<p>General manager</p>	

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			assess, and coordinate the quality management system. The purpose of this appointment is to increase the efficacy and efficiency of the operation and of the improvement of the quality management system. The representative shall respond to top management and shall communicate with customers and other stakeholders on matters related to the quality management system. Note: DESIRABLE, IN THE QUALITY MANUAL		
			H) Internal communication: The organisation's top management shall define and implement an effective and efficient process to communicate the quality policy, the	General manager	a) Communication conducted by management in the working areas, team informative meetings and other meetings, <i>e.g.</i> , those to acknowledge achievements, b) Newsletters, newspapers, and internal journals, c) Audio-visual and electronic

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			<p>quality requirements, the quality objectives, and the achievements. The provision of this information can help improve AIS service performance, and directly commits people to the achievement of quality objectives. Management should actively promote feedback and communication of AIS personnel to engage their participation.</p> <p>Note: “WHAT” AND “HOW” IN THE QUALITY MANUAL</p>		<p>means, such as email or websites, and surveys to the members of the AIS service and suggestion schemes.</p> <p>Objective: Ensure communication between top management and the members of the AIS service</p> <p>Value criteria: Proactive communication</p>
			<p>I) Management review: Top management shall develop the management review activity beyond the verification of efficacy and efficiency of the quality management system, turning it into a process that covers the entire organisation and that also assesses</p>	General manager	<p>In order to bring value to the organisation from the management review, top management shall control the performance of the production and support processes through systematic reviews based on quality management principles. The frequency of the review shall be determined based on the needs of the organisation. Input data for the review process shall</p>

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			the efficiency of the system. Through its leadership, top management should encourage the exchange of new ideas through open discussions and input assessment during management reviews. Review inputs and outputs are specified in articles 5.6.2 and 5.6.3 NOTE: IT IS PREFERABLE TO HAVE A PROCEDURE.		provide results beyond the efficacy and efficiency of the quality system. The results of the reviews shall provide data that can be used to plan the improvement of the organisation's performance. AIS is a service that operates on the basis of the information provided by its internal and external providers; quality of information is an AIM requirement. The entire organisation must be aimed at the implementation of systems that ensure the quality of data Objective: Structure a decision-making body in the organisation for continuous improvement. Value criteria: Continuous improvement.
Chapter VI Resource management. Top management must ensure that the essential resources both for strategy implementation and the achievement of the organisation's objectives are identified and available.	Human resources (6.2). The personnel performing work that affects the quality of the product must be qualified based on appropriate education, training, skills, and experience.	The chief of the AIS service must improve both the efficacy and efficiency of the organisation, including the quality management system, through participation and support from	Awareness and training The planning of education and training requirements must take into account the changes resulting from the nature of AIS service processes, personnel development	Head of the AIS area	In order to support the achievement of AIS service objectives and the development of its personnel, education and training planning shall consider: <ol style="list-style-type: none"> a) Personnel experience. b) Tacit and explicit knowledge.

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<p>This shall include resources for the operation and improvement of the quality management system, as well as for customer and other stakeholder satisfaction. Resources may be individuals, infrastructure, workplaces, information, providers and business partners, natural and financial resources.</p>		<p>individuals. To assist in the achievement of its performance improvement objectives, the organisation must promote participation and development of its personnel.</p>	<p>stages, and organisational culture.</p> <p>The objective is to provide personnel with knowledge and skills that, along with experience, will improve their competence.</p> <p>Education and training must emphasise the importance of meeting the requirements and the needs and expectations of customers and other stakeholders. It shall also include awareness of the consequences that failure to meet the requirements has on the organisation and its personnel</p> <p>NOTE: IT IS PREFERABLE TO HAVE A PROCEDURE.</p>		<p>c) Leadership and management skills. d) Planning and improvement tools. e) The establishment of teams. f) Problem solving. g) Communication skills. h) Culture and social behaviour. i) Knowledge of the needs and expectations of customers and other stakeholders. j) Creativity and innovation.</p>

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	<p>Infrastructure (6.3). The organisation must determine, provide and maintain the infrastructure required to achieve conformity with product requirements. Infrastructure includes, where applicable:</p> <ul style="list-style-type: none"> a) buildings, workspace and associated services, b) Process equipment (both hardware and software), and c) Support services (such as transportation or communication). 	<p>The head of the AIS service shall define the infrastructure required for the generation of AIS products, taking into account the needs and expectations of stakeholders. Infrastructure includes resources such as premises, working space, tools y equipments, support services, information and communication technology, and transportation facilities.</p>	<p>Infrastructure definition process. The process by which the required infrastructure is defined in order to achieve effective and efficient product completion. It shall include the following:</p> <ul style="list-style-type: none"> a) provide an infrastructure in terms of objectives, function, performance, availability, cost, safety, protection and renewal; b) develop and implement maintenance methods to ensure that the infrastructure continues meeting the organisation's needs; these methods shall consider maintenance kind and frequency, and verification of the operation of each infrastructure element, based on its criticality and application; c) assess the 	<p>Head of the AIS area</p>	<p>Maintenance plans include equipments of interconnected processes, such as communication, IT.</p>

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			infrastructure against needs and expectations of all stakeholders; d) consider environmental aspects associated with the infrastructure, such as conservation, pollution, wastes, and recycling. NOTE: IT IS PREFERABLE TO HAVE PROCEDURES ESTABLISHING “HOW” AND “WHEN” MAINTENANCE IS CARRIED OUT		

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<p>Chapter VII Product completion (7). The organisation must plan and develop the processes required for product completion. Planning of product completion must be consistent with the requirements of the other processes of the quality management system (see 4.1). During product completion planning, the organisation must determine, when appropriate, the following: a) Quality objectives and requirements for the product, b) The need to establish processes, documents, and to provide specific resources for the product, c) Activities required for verification, validation, follow-up, inspection, trial / test specified for the product, as well as product acceptance criteria, d) Records needed to demonstrate that the completion processes and</p>	<p>Planning product completion (7.1). The organisation must plan and develop the necessary processes for product completion. The planning of product completion must be consistent with the requirements of the other processes of the quality management system (see 4.1). During product completion planning, the organisation must determine the following, when appropriate:(see 7.1)</p>	<p>In order to plan the AIS service, we must have a clear understanding of the requirements established in Annex 15. The process-based approach ensures that process inputs are defined and recorded to serve as a basis for the formulation of requirements, which may be used for verification and validation of results. Inputs may be internal or external to the AIS service.</p>	<p>Inputs and outputs and process review Compliance with input requirements may imply consultation with internal and external parties. Inputs derived from activities not yet fully assessed should be subject to evaluation through subsequent review, verification and validation. The AIS service must identify significant or critical features of the products and processes in order to develop an effective and efficient plan for controlling and following up process activities. Process results that have been verified against process input requirements, including acceptance criteria, shall consider the needs and expectations of the</p>	<p>Head of the AIS area</p>	<p>The AIS service shall carry out regular reviews on process performance to ensure that the process is consistent with the operating plan. Some examples of elements to be considered in this review: a) Reliability and repeatability of the process. b) Identification and prevention of potential non-conformities. c) Consistency of inputs and results with planned objectives, the potential for improvement, and unresolved matters.</p>

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the resulting product meet the requirements (see 4.2.4). The result of this planning must be properly submitted for the organisation's operational methodology.			customer and other stakeholders. For verification purposes, the results shall be recorded and assessed against input requirements and acceptance criteria. This assessment must identify corrective action, preventive action, or potential improvements required for process efficacy and efficiency. The product verification can be carried out during the process in order to identify variations.		

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	Customer-related processes (7.2). Determining product-related requirements (see 7.2.1)	The organisation must determine: a) the requirements specified by the customer, including requirements for the delivery and subsequent activities and, b) the requirements not established by the customer but necessary for the specified or foreseen use, when known, c) legal and regulatory requirements related to the product, and d) any additional requirement defined by the organisation.	The AIS service determines the requirements of its product through the application of Annex 15, Annex 4, and local regulations established by the aeronautical authority.	Head of the AIS area			
	Review of product-related requirements (see 7.2.2)	The organisation must review product-related requirements. This review must be carried out before the organisation is committed to providing a product to the customer (for	The AIS service must have records proving compliance with the requirements defined by the customer along with additional requirements determined by the organisation, before	Head of the AIS area	When product and/or service requirements are modified, the organisation must ensure that the documentation is modified and that the personnel are aware of the modified requirements.		

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		example, sending offers, acceptance of contracts or orders, acceptance of changes to contracts or orders) and must ensure that a) product requirements are defined, b) differences between contract or order requirements and those previously established are resolved, and c) the organisation can meet the defined requirements.	acceptance, that they can be met and that they are coordinated with all stakeholders.		
	Communication with the customer (see 7.2.3)	The organisation must determine and implement effective provisions for communicating with customers related to a) product information, b) queries, contracts or orders, including modifications, and c) customer feedback, including customer complaints.	The AIS service must ensure that the organisation has defined mutually accepted processes for an effective and efficient communication with customers and other stakeholders. The organisation must implement and maintain such processes to ensure	Head of the AIS area	The organisation must establish the means of communication it will use to communicate with customers. For example: For service information: the web to inform current and future customers about the services it provides. For queries, new requirements, and modifications: documents, electronic means, fixed telephony, cell phones and fax. For customer feedback:

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			proper understanding of the needs and expectations of stakeholders, and to facilitate their translation into organisational requirements. These processes shall include the identification and review of relevant information and should actively involve the customer and other stakeholders.		satisfaction surveys and processing of customer complaints.
	Procurement (7.4). 7.4.1 Procurement process	The organisation must ensure that the purchased product meets the specified procurement requirements. The type and scope of control applied to the provider and the purchased product must depend on the effect of the purchased product on subsequent product completion or on the final product.	The head of the AIS service must ensure that effective and efficient procurement processes are defined and implemented for the assessment and control of purchased products, in order to meet the needs and requirements of the organisation, as well as those of stakeholders. The head of the AIS area must establish effective and efficient processes to identify	Head of the AIS area	Is the information received by AIS for dissemination coming from internal and external providers? Do we have a process to assess and control the information received? Do we have a process defining the type and scope of the provider? Example of data providers: mapping office, DGAC, geographic institutes, originators of NOTAM information.

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		The organisation must assess and select providers based on their capacity to supply products in accordance with the organisation requirements. Selection, assessment and re-assessment criteria must be established. Records must be kept of assessment results and any other necessary action derived from them.	potential sources of purchased materials, to develop existing providers or business partners, and to assess their capacity to provide the required products, in order to ensure the efficacy and efficiency of all procurement processes.		
	7.4.2 Procurement information	Procurement information must describe the product to be purchased, including, where appropriate: a) requirements for the approval of the product, procedures, processes and equipments, b) personnel qualification requirements, and c) quality management system	To ensure effective and efficient performance of the organisation, the head of the AIS area must ensure that the procurement processes consider the following activities: a) Timely, effective and precise identification of the needs and specifications of the product to be purchased	Head of the AIS area	Have we sent our providers information about our requirements (data)?

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		<p>requirements. The organisation must ensure the adequacy of the specified procurement requirements before communicating them to the provider.</p>	<p>b) Needs and criteria of the organisation for the verification of purchased products. c) Identification and traceability of the product, preservation of the product, documentation, including records, control of purchased products deviating from requirements, access to provider facilities. d) History of delivery, installation, and application of the product, development of the provider. e) Identification and mitigation of risks associated to the purchased product.</p>		
	7.4.3 Verification of the purchased products	The organisation must establish and implement inspection or other activities necessary to ensure that the purchased product meets the specified procurement	In order to ensure the effective and efficient performance of the organisation, the head of the AIS area must ensure that verification processes meet the requirements,	Head of the AIS area	Quite apart from the processes used by the AIS service to verify the products it purchases, the question is: What data-related processes does the AIS service have to verify the data received?

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		requirements. When the organisation or its customer want to conduct the verification at the provider’s facilities, the organisation must establish in the procurement information the provisions for the intended verification and the method for product release.	especially data requirements, since the requirement is the quality of the information.		
	7.5.2 Validation of the production processes and provision of services	The organisation must validate those production and service provision processes where the resulting products cannot be verified by subsequent follow-up or measurement activities. This includes any process in which deficiencies become apparent only after the product is in use or the service has been provided. The validation must demonstrate the	Note: THE “WHAT” AND “HOW” IN THE QUALITY MANUAL	Head of the AIS area	AIS services can be verified by follow-up activities or subsequent measurements, deficiencies or non-conformities, if any, appear only after the product is in use or the service has been provided. Therefore, the AIS service must validate the capacity of processes to achieve the planned results, using the following tools: a) The identified deficiencies or non-conformities, corrective and preventive actions and defences implemented are controlled through the corresponding

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		capacity of such processes to achieve the planned results. The organisation must establish provisions for these processes, including, if applicable: a) the criteria defined for process review and approval, b) equipment approval and personnel qualification, c) the use of specific methods and procedures, d) recording requirements, and e) re-validation.			records; b) Procedures or work instructions have been validated, confirmed for the required operations, demonstrating efficacy, compliance with international and local regulations, as well as with quality and safety standards established by the organisation. c) Audits; d) Risk control and mitigation
	7.5.3 Identification and traceability	When appropriate, the organisation must identify the product by suitable means, throughout the product completion process. The organisation must identify the status of the product with respect to follow-up and measurement	The Head of the AIS area must establish an identification and traceability process that goes beyond the requirements in order to collect data that can be used for improvement. The need for identification and	Head of the AIS area	The AIS establishes and applies the identification and traceability of the product or service, through control processes performed by the heads or shift supervisors of AIS organic units, keeping records of main and support activities, as required. Note: THE “WHAT” AND “HOW” IN THE QUALITY

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		requirements. Where traceability is a requirement, the organisation must control and record the unique identification of the product.	traceability may be derived from the status of the product, including its component. The status and capacity of the processes. Requirements in Annex 15 and Annex 4. Mitigation of identified risks.		MANUAL
	7.5.4 Property of the customer	The organisation must take care of the goods of the customer while they are under the control of the organisation or are being used by it. The organisation must identify, verify, protect and safeguard customer goods that have been supplied for use or incorporation into the product. Any customer good that is lost, damaged, or otherwise considered unsuitable for use must be recorded and			

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		reported to the customer.			
	7.5.5 Preservation of the product	The organisation must preserve the conformity of the product during the development of the internal process and delivery to its foreseen destination. This preservation must include identification, handling, packaging, storage and protection. Preservation must also apply to product components.			<p>The AIS preserves the conformity of products or services, in accordance with customer requirements, during the development of internal processes, by controlling the activities and reporting occurrences affecting service operations, for the purpose of decision making.</p> <p>Note: THE “WHAT” AND “HOW” IN THE QUALITY MANUAL</p>

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<p>Chapter VIII Measurement, analysis and improvement. The organisation must plan and implement the follow-up, measurement, analysis and improvement processes needed to:</p> <ul style="list-style-type: none"> a) demonstrate product conformity, b) ensure quality management system conformity, and c) continuously improve the efficacy of the quality management system. <p>This must include the identification of applicable methods, including statistical techniques and the scope of their use.</p>	8.2.1 Customer satisfaction	As one of the measures of quality management system performance, the organisation must follow-up the information on the perception of customers regarding the fulfilment of their requirements by the organisation. The methods for obtaining and using such information must be determined.	<p>Measurement data is important for fact-based decision-making. AIS shall ensure effective and efficient measurement, collection and validation of data to ensure service performance and stakeholder satisfaction. This must include the revision of the validity and purpose of measurements and the expected use of data to make sure they will add value to the service.</p> <p>The following are examples of the measurement of the organisation's process performance: Measurement and assessment of products, process capacity, achievement of project objectives, and customer and stakeholder</p>	Head of the AIS area	<p>Follow-up and measurement of customer satisfaction are based on the revision of customer-related information. The collection of such information can be either active or passive. Management must recognize that there are many sources of information on customers, and shall establish effective and efficient processes for collecting, analysing, and using this information to improve the organisation's performance. The AIS must identify available internal or external sources of information on customers, both written and oral.</p> <p>The following are examples of information on customers: Customer and user surveys, Feedback on all aspects of the product, customer requirements, and data on service provision.</p> <p>The head of the AIS area must use the measurement of customer satisfaction as a vital tool. The process used by the organisation to request, measure, and follow-up</p>

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			<p>satisfaction. The AIS must do a continuous follow-up of its actions to improve performance and record their implementation, since this could provide data for future improvements.</p> <p>The results of the analysis of data on improvement activities must be one of the inputs for the management review in order to provide information to improve the organisation's performance.</p>		<p>feedback on customer satisfaction must provide information on a continuous basis. This process must consider conformity with requirements, and compliance with customer needs and expectations.</p> <p>The AIS must establish and use sources of information on customer satisfaction and shall cooperate with customers to anticipate future needs. The AIS must plan and establish processes to effectively and efficiently listen to "the voice of the customer". Process planning must include the definition and implementation of methods for collecting data, including sources of information, frequency of collection, and the revision of data analysis.</p>

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	8.2.3 Process follow-up and measurement	The organisation must apply proper methods for follow-up, and when applicable, measurement of the quality management system. These methods must demonstrate the process capacity to achieve the planned results. When planned results are not achieved, corrections and corrective action must be implemented as appropriate, to ensure product conformity.	<p>The organisation must identify measurement methods and measure process performance. The organisation must incorporate these measurements into the processes and use them for process management.</p> <p>Measurements must be used for managing daily operations, for assessing processes that may be subject to continuous or phased improvement, as well as for significant improvement projects, in accordance with the organisation's vision and strategic objectives.</p> <p>Note: A DOCUMENTED PROCEDURE IS REQUIRED.</p>	Head of the AIS area	<p>Process performance measurements must cover stakeholder needs and expectations in a balanced manner. Some examples are given below:</p> <ul style="list-style-type: none"> • Capacity • Performance • Efficacy and efficiency of the individuals in the organisation. • Use of technologies.

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	8.5 Improvement 8.5.1 Continuous improvement	The organisation must continuously improve the efficacy of the quality management system by using the quality policy, the quality objectives, the results of audits, data analysis, corrective and preventive action, and management review.	The AIS must endeavour to continuously improve the efficacy and efficiency of the processes of the organisation rather than waiting for a problem to reveal opportunities for improvement. Improvements may range from phased activities to long-term strategic improvement projects. The AIS must have a process to identify and manage improvement activities. These improvements can result in changes to the process or product and even to the quality management system or the service.	Head of the AIS area	
	8.5.2 Corrective action	The organisation must take action to eliminate the cause of non-conformities in order to prevent them from occurring again.	The AIS must ensure that corrective action is used as a tool for improvement. Planning of the corrective action must	Head of the AIS area	During follow-up of corrective action, the AIS must identify sources of information and collect information to define the corrective action required. The corrective action so

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		<p>Corrective action must be commensurate to the effects of the non-conformities found.</p> <p>A documented procedure must be established to define requirements concerning: a) the revision of non-conformities (including customer complaints), b) the identification of the causes of non-conformities.</p>	<p>include the assessment of the importance of the problems in terms of the potential impact on aspects such as operating costs, non-conformity costs, product performance, safety in the operations, safety and satisfaction of customers and other stakeholders. Personnel from the appropriate areas must participate in the corrective action process. Likewise, emphasis must be placed on process efficacy and efficiency when taking action, and actions must be followed up to ensure achievement of the desired goals. Consideration must be given to the inclusion of corrective actions in the management review.</p> <p>Note: A DOCUMENTED</p>		<p>defined must focus on eliminating the cause of non-conformities in order to prevent them from occurring again. The following are examples of sources of information to be considered in the corrective actions:</p> <ul style="list-style-type: none"> • Customer complaints • Non-conformity reports • Internal audit reports • The results of management reviews • The results of data analyses • The results of satisfaction measurements • Relevant records of the quality management system • Organisation’s personnel • Process measurements • The results of self-assessments

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			PROCEDURE IS REQUIRED.		
	8.5.3 Preventive Action	<p>The organisation must determine actions to eliminate the causes of potential non-conformities to prevent them from occurring. Preventive actions must be commensurate to the effects of potential problems. A documented procedure must be established to determine the requirements for:</p> <ul style="list-style-type: none"> a) determining potential non-conformities and their causes, b) assessing the need to act to prevent the occurrence of non-conformities, c) determining and 	<p>The AIS must plan for the mitigation of effects of service loss, in order to maintain process and product performance.</p> <p>Loss prevention must be applied when planning product generation and support processes, activities, and products, to ensure stakeholder satisfaction.</p> <p>For loss prevention planning to be effective and efficient, it should be systematic. It must be based on data coming from appropriate methods, including the assessment of historical trends, and</p>	Head of the AIS area	<p>Data can be generated from the use of risk analysis tools, such as failure mode and effects analysis; the review of customer needs and expectations; the results of management review; the results of data analysis; satisfaction measurements; process measurement; systems consolidating sources of information of stakeholders; significant records of the quality management system; lessons learned from past experience; self-assessment results; processes providing early approach warning of out-of-control operating conditions.</p> <p>These data will provide information allowing for effective and efficient loss prevention planning and setting of appropriate priorities for each process and product</p>

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		implementing the required action, d) recording the results of action taken, and e) reviewing the preventive action taken.	critical aspects of the performance of the organisation and its products, to generate quantitative data. Note: A DOCUMENTED PROCEDURE IS REQUIRED.		in order to meet stakeholder needs and expectations. The results of efficacy and efficiency assessment of loss prevention planning must also be included in the management review, and must be used as input for modifying plans and for improvement processes.