

**COMMON AIS STAFF
PROFILING
(CASP)**

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Abstract			
<p>These guidelines for Common AIS Staff Profiling (CASP) result from the CASP project, part of the Management Improvement initiative of the AIS AHEAD Programme.</p> <p>Staff Profiling builds upon task information to identify the knowledge, skills and experience (competencies) required for specific job roles. The task information is then further analysed to produce person specifications, job descriptions and to develop selection criteria and identify training needs. Staff Profiling enables Competency Management which requires establishing typical competency inventory information, organisational data (job families, job titles, proficiency standards, employee names, job/role descriptions, individuals' CVs, and job and assignment history), along with organisation policies, standards, roles, responsibilities, forms and procedures.</p> <p>The challenge for the CASP project while addressing AIS/MAP and associated ARO functions was to produce generic guidelines that are applicable within any ECAC State AIS organisation.</p> <p>The CASP guidelines are composed of this CASP document and its associated CASP Repository.</p> <p>The CASP document gathers the results of the CASP Development Group (CASP-DG) work. It provides mappings of competencies with AIS/MAP work functions, explains the competency management processes, and enables the use and deployment of the CASP Repository. The CASP Repository, a Microsoft Excel database, holds at a functional, generic level the competency information that has been assembled, analysed and validated.</p> <p>CASP was reviewed and updated in 2010 following the INFO06 Focus Group activity.</p>			
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FOREWORD

This document, along with the CASP Repository, forms the principal deliverable of the Common AIS Staff Profiling (CASP) project. This project has been conducted under the auspices of the EATM AIS AHEAD Programme and is one of a group of projects aimed at improvement of the management of Aeronautical Information Services.

Following an initial study, a Task Force was formed comprising AIS, human resource and training experts. This Task Force, called the CASP Development Group, was responsible for the making of this deliverable and the conduct of a Consultation Seminar where feedback from potential users was obtained.

Updates to this document can be found on the EUROCONTROL AIM web site <http://www.eurocontrol.int/aim> and questions or comments can be addressed to: aim@eurocontrol.int.

It is to be hoped that this document will provide the foundation for the future development of AIS and the staff in that field.

We would like to acknowledge the efforts of those experts who have made contributions to the Common AIS Staff Profiling (CASP) project. They were the members of the Common AIS Staff Profiling Development Group (CASP-DG), and the Reviewers of the first version of the CASP document. Without their commitment and support this work would not have come to fruition.

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Introduction

- Context, Purpose, Scope
- The CASP Repository
- The CASP document
- Document Outline

Context

The Common AIS Staff Profiling (CASP) project is part of the Management Improvement initiative of the AIS AHEAD Programme. Within EATM the AIS AHEAD Programme strives to achieve the ultimate goal of improving AIS efficiency in relation to quality, accuracy, integrity and cost effectiveness via a number of projects specifically aimed at improvements in: *(1) Performance, (2) Techniques, and (3) Management.*

The rapidly changing environment of ATM, with the requirement to handle ever more flight and safety critical aeronautical information, has imposed the need for increased use of automation within Aeronautical Information Services (AIS). There remain, however, a whole range of tasks that must be performed or be supervised by people and, in consequence, there is a need to address the range of Human Resource activities that will enable AIS personnel and organisations to align and adapt even more efficiently to this changing environment. Furthermore, ISO 9001:2000 which is applicable to AIS, requires that management ensures that tasks be performed only by those competent to do so, leading to a need to identify tasks and to assess the competencies required.

Purpose

Within Human Resource activities, Staff Profiling is defined as the process that describes the tasks that people perform, the qualifications and training that they need, and the associated assessments. The grouping of tasks leads to various job descriptions and person specifications depending upon the work environment (organisation, tools, etc.). The objective of this document is to provide Common AIS Staff Profiling guidelines and generic tools for use by ECAC State AIS Staff and Organisations. This document is an aid to the implementation of harmonised competency management processes in AIS/MAP and associated ARO functions.

Scope

Staff Profiling enables Competency Management which in turn requires more than just an inventory of competencies. Competency Management requires that two major elements be addressed: **Content** and **Process**, both of which are essential to establishing a viable system for managing Competencies.

The **Content** element includes traditional competency inventory information and consists of organisational data such as job families, job titles, proficiency standards, employee names, job/role descriptions, individuals' CVs, and job and assignment history.

The **Process** embodies policies, standards, roles, responsibilities, forms and procedures. It constitutes the transactional duties people and organisations have regarding the delivery of competency management objectives.

These CASP guidelines are organised in two parts:

- The CASP Repository corresponds to the content element. This is defined at a functional, generic level so as to remain meaningful and adaptable for any State AIS/MAP organisation. The information that has been assembled and analysed is organised in a Microsoft Excel database.
- The CASP document explains the processes, and enables the managed use and deployment of the CASP Repository.

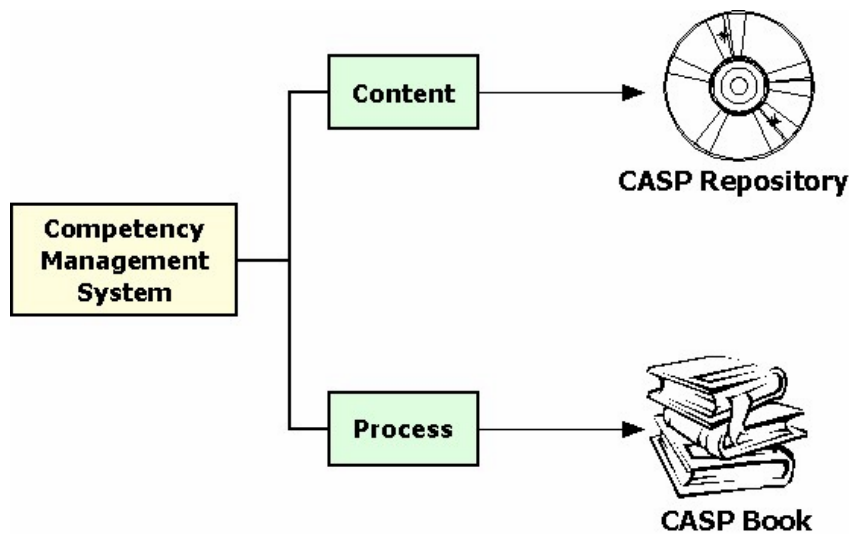


Figure 1. CASP Deliverables

Although competency management systems might be linked to promotion criteria and/or compensation and reward schemes, these areas are intentionally excluded from the scope of the CASP project deliverables. These sensitive areas should remain organisation specific. However, these areas should also be addressed at policy level by organisations to avoid jeopardising successful implementation of a competency management system.

The CASP Repository

The CASP Repository consists of:

- Function based job analysis (work functions and related tasks);
- CASP competency model;
- Function-competency mappings.

The analysis work carried out by a group of experts in AIS, human resources and training (the CASP Development Group) to develop the CASP Repository content focussed principally upon the AIS/MAP and associated ARO functions and tasks. It is to be noted that although work functions related to ARO and Additional Service Provision are included in the analysis at a high level, there was no detailed task analysis for them as these vary greatly from one State to another.

A proven generic competency model was selected and used as a starting point to define the CASP competency model. The model was developed by Saville and Hollingsworth (SHL

Group, plc), a firm of HR consultants, and it constitutes a de facto industry standard that has been developed and validated across a number of organisations (the EUROCONTROL Agency being one of them). The generic model was then adapted and customised to meet the needs of AIS. This customised form is the CASP Model, which was then validated by AIS stakeholders and SHL.

The mapping between the competencies of the CASP Competency Model with the AIS Work Functions represents the core of the CASP development work. It should be noted, however, that the current status of CASP Repository is not intended to provide a complete Competency Management System solution in terms of content, but rather a competency framework that should be further developed and adapted to the specific AIS work environment. The existing human resource processes then need to be adapted and refined to incorporate competency management.

The CASP document

Guidelines to implement the Process are described in the CASP document. It is now generally recognised in business that being a capable organisation -one that is able to meet challenges and business goals - depends on the competencies of individual performers. Excellent performance of an organisation relies upon its intellectual assets and these constitute one of the foundations for competitiveness. Competence and competency management have therefore become crucial success factors.

The ability to implement competency management and achieve undeniable results requires that organisations take stock of available competencies and manage them in a way that increases the performance throughout the value chain.

This document provides guidelines concerning the following processes that are part of the competency management system.

- Competency Assessment;
- Selection Process;
- Competency Planning;
- Competency Development; and
- Personal Profile Portfolios, as the core enablers of assessment and appraisal record keeping.

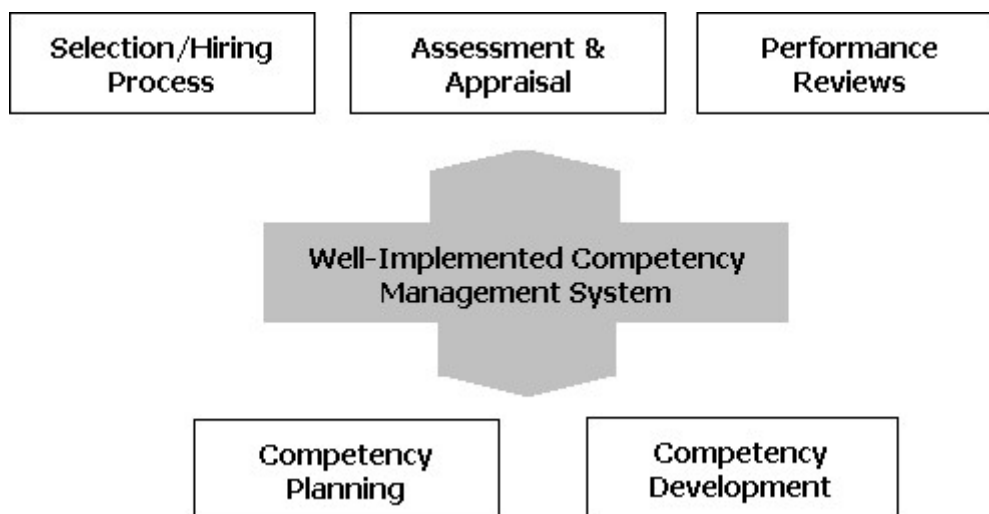


Figure 2. Overview of a Competency Management System

Document Outline

This Common AIS Staff Profiling document is organised as follows:

- **Chapter 1** summarises the results of the analysis undertaken to establish the potential usefulness of Common AIS Staff Profiling and presents the list of benefits identified.
- **Chapter 2** provides a general overview of the CASP Framework. It includes the CASP functional model and associated competency model. It also presents the methodology used for the functional job analysis.
- **Chapter 3** explains possible uses of a competency model. It clarifies how competency models relate to the traditional concepts of knowledge, skills and abilities and gives the major reasons why a competency model is preferred.
- **Chapter 4** details competency management processes suggested for AIS organisations when adopting and adapting CASP. It covers issues related to competency assessment, competency planning and competency development. It explains the selection process and gives some tips and tricks for interviewing.
- **Chapter 5** discusses the (Performance Assessment and Competency Enhancement (PACE) guidelines. PACE is a proposed appraisal process for planning and evaluating the performance of AIS professionals.
- **Chapter 6** provides typical actions required to implement/deploy competency management processes and indicates Key Performance Indicators (KPI) commonly used to evaluate the performance of such processes.
- **Appendix A** - CASP Competency Model
- **Appendix B** - Mappings between Work Functions and Competencies
- **Appendix C** - Pace Form
- **Appendix D** - Glossary

CHAPTER 1 – The Rationale

In order to establish the potential usefulness of Common AIS Staff Profiling an analysis of the associated institutional requirements placed upon ECAC AIS organisations was undertaken. This analysis served as an initial validation of stakeholder requirements that was subsequently complemented by an early definition of the benefits that would be accrued through the availability of Common AIS Staff Profiling guidelines. This Chapter summarises the results of this analysis and presents the list of identified benefits.

- Institutional Requirements
- Implementation in States
- CASP Project
- Benefits

1.1 Institutional Requirements

1.1.1 ICAO and Quality Assurance

AIS organisations are governed at global level by the standards in ICAO Annex 15 (Aeronautical Information Services) [1]. These require that each Contracting State introduces a quality system covering each functional stage of AIS. Annex 15 recommends that the quality system should be established in accordance with the ISO 9000 series international standard.

In the ECAC area, States agreed a European Convergence and Implementation Programme (ECIP) Implementation Objective (INF 02) to implement ISO 9001:2000 in AIS by the end of 2003.

Implementation of ISO 9001:2000 Quality Management introduces a specific requirement to establish human resource management for the functions covered by the quality system.

To be specific, ISO 9001:2000 Clause 6.2 - Human Resource - requires that “Personnel performing work affecting product quality shall be competent on the basis of appropriate education, training, skills and experience.” In recognising the importance of “Competence, awareness and training” this clause goes further than the 1994 ISO version which considered training aspects only.

1.2 Implementation in States

In anticipation of this ISO requirement ECAC States recognised the need to implement human resource management as part of the ISO certification process for their AIS Organisations. States who were further along the road to certification had, however, expressed difficulties in meeting this ISO clause. It was therefore concluded that the ECAC State AIS community would benefit from their pooling of resources and sharing of their experience of the related ISO clause implementation with the help of EUROCONTROL.

Eleven States made available to EUROCONTROL their existing information about job descriptions, training and assessment corresponding to the provisions necessary to meet the ISO requirements.

The tables below summarise the main characteristics of the profiling information received. They categorise the type of information received to enable a comparative assessment. Each table summarises the submission from each State for one specific type of information. Where there is no information listed, this means that this type of information was not provided by the State AIS. To ensure anonymity, the ten States are identified with the letters A to K¹ followed by the number of job descriptions provided. The eleventh State is not shown as, at the time of the submission of the information, it had been certified to the former version of the ISO standard with an exemption for the human resource clause.

State/Nr of job descriptions	Organisation
A/1	
B/72	Could be deduced from work position title in job descriptions.
C/10	Could be deduced from name of line manager in job description.
D/6	Comprehensive organisation description with functional description of units: main duties/responsibilities.
E/--	Described in terms of training, it includes 4 certificate levels: AIS employee in training, AIS specialist I, AIS specialist II, and AIS specialist II-Instructor.
F/11	ANS directive for AIS organisation laying down its scope and responsibilities. It defines 4 hierarchical levels for personnel and 9 functional areas (departments) including one military department
G/1	
H/7	Repeated in each job description.
I/9	
J/6	Built in job descriptions through name of unit and reporting line.
K/7	Operational concept for non-ATCO functions analysing the evolution of the different functions, the related careers with an analysis of the evolution of current sub-functions. Definitions of the new functions (basic mission), job synopsis (function organisation chart), associated job profiles and possible future career models are described.

¹ A to K makes eleven, this is due to the fact that in one instance information was received both from the Civil and Military AIS

State/Nr of job descriptions	Job Description
A/1	High level applicable to AIS operational functions and NOF.
B/72	Comprehensive work positions descriptions including: <ul style="list-style-type: none"> • main functions, • activities, • associated competencies with required level of expertise • abilities. Of the 72 job descriptions, 28 relate directly to functions encompassing AIS operations including NOF & QM.
C/22	Ten work positions descriptions including: <ul style="list-style-type: none"> • responsibilities, • activities, • reporting line. Twelve "Competencies" sheets describing: <ul style="list-style-type: none"> • skills and abilities requirements, • reporting line, • designed substitute for each competency in case of job holder absence.
D/6	Job function descriptions including: <ul style="list-style-type: none"> • mission summary, • main job responsibilities, • manager & subordinates (where applicable).
E/--	
F/11	Individual job descriptions including: <ul style="list-style-type: none"> • reporting line, • responsibilities, • main tasks. Detailed responsibilities, competencies and procedures described separately within departments' operating procedures.
G/1	Only one high level training profile for Briefing Officer providing the functions: Pre-flight information MET and AIS, ARO & Part of NOF functions.

State/Nr of job descriptions	Job Description
H/7	Individual job descriptions for Charting function only: <ul style="list-style-type: none"> • purpose of job, • dimensions i.e. which charts & secondary duties, • accountabilities (responsibilities) with time percentage for each, • experience, • job context, • scope for impact, • organisation, • relationships internal external.
I/9	Work position profiles including: <ul style="list-style-type: none"> • position name, • theoretical training requirements • practical training requirements. No description of duties, probably this is part of a distinct organisation document.
J/6	Job descriptions include: <ul style="list-style-type: none"> • post title, • reporting line, • objectives within organisation structure, • core activities within Result Areas i.e. responsibilities, • for managers: quantitative information on budget, Nr. of staff, • job requirements (education, experience, skills).
K/7	Specialist profiles related to AIM functions: <ul style="list-style-type: none"> • function title, • Unit, • career, • salary, • line manager, • general mission, • tasks and responsibilities in different service areas.

State/Nr of job descriptions	Training
A/1	Content includes both theoretical and practical phases.
B/72	Needs identified through periodical assessment, content not described.
C/10	
D/6	Modular training structure with mandatory modules and modules specific to functions.
E/--	Basic professional training includes both theoretical studies and practical training on the job. It caters for 3 different specialisations in operational AIS functions with competency levels in English. Later, there is in service and development training.
F/11	Practical and theoretical training lead to examination prior to authorisation of performance. Test curriculum for performance of positions of AIS staff is laid down in an ANSP HRD directive.
G/1	For Briefing Officer, the institutional training includes: a general ANS course, then a specialised Briefing officer course in line with the AIS Common Core Content and for MET the equivalent of commercial pilot license course, finally OJT. The rest of the AIS headquarter staff (AIP, Charts, the other part of NOF etc) is trained on the job.
H/7	Stated in job description as part of experience.
I/9	Stated in job description.
J/6	
K/7	ANS Training concept includes a generic employee job description covering all ANS functions. It defines the recruitment requirements including a competency profile, the selection process and employment conditions. It describes the generic training model and specific training models for each function. Also included in the training concept are the course module description, examination regulation, success condition, training abortion, educational principles (how is the training conducted) and the principles of licensing.

State/Nr of job descriptions	Certification
A/1	At the end of the training phase.
B/72	
C/10	
D/6	
E/--	Certificate and licensing scheme including retraining following long work interruption.
F/11	Authorisation of performance - retraining following long work interruption.
G/1	
H/7	
I/9	
J/6	
K/7	Qualification validated by a license to work unsupervised on certain work positions.

State/Nr of job descriptions	Periodical Competency Assessment
A/1	Planned to be introduced in 2003.
B/72	Guidelines for annual job appraisal, including continuation training evaluation and follow-up.
C/10	
D/6	
E/--	License suspension if evaluation failure. Fixed experience periods to progress in job levels. Individual training records with evaluation results.
F/11	Annual competency assessment through re-examination.
G/1	
H/7	
I/9	
J/6	
K/7	

State/Nr of job descriptions	Education requirement
A/1	Defined.
B/72	No view on education background other than through initial appraisal interview.
C/10	
D/6	Defined within separate section on training.
E/--	Defined as selection criteria for new recruits (also defined selection procedure).
F/11	
G/1	
H/7	Stated in job description as part of experience section: academic level, professional experience, specific technical competencies.
I/9	
J/6	Included in the job description.
K/7	Included in the training concept.

1.2.1 Outcome

There are marked variations in the profiling information provided, reflecting the interpretation and local requirements of States. This further emphasises the need for a common approach.

Understandably, there is an obvious relationship between the arrangement of the AIS organisation and the number of job descriptions provided. There is also the influence of the position of the AIS organisation within the broader ANS or CAA context.

Concerning training, there is either ab-initio institutional training complemented by on the job training or on-the-job training only.

Finally, although licensing or authorisation of performance is applied in three States, this is clearly not common practice in the sample analysed.

1.3 CASP Project

The initiation phase of the 'Common AIS Staff Profiling' project started with a scoping analysis that produced a Report entitled 'Production of a Common AIS Staff Profile' [2]. This report includes four main parts: Requirement Analysis, Stakeholder Identification, Risks and Benefits Assessment, and a Proposal for the development of the next phase of the Staff Profile project.

However, the report proposal was not taken up by the AIS AHEAD programme and the associated Programme Steering Group. A more pragmatic way forward was preferred. The Common AIS Staff Profiling Development Group (CASP-DG) (Cf. Foreword) working under the auspices of the AIS AHEAD Programme, ensured the direct involvement of Subject Matter Experts during the entire CASP development.

One of the first items upon which the CASP-DG concentrated its attention was the validation of the risks and benefits that had been included in the "Production of a Common AIS Staff Profile" report. The list of direct benefits is shown after.

1.4 **Benefits**



CASP Direct Benefits

- ◆ For AIS Staff:
 - Ability to demonstrate competencies;
 - Clarity and transparency of AIS activities.
- ◆ For AIS Managers:
 - Framework for HRM in AIS e.g. – resource planning.
- ◆ For ATM Operational Services:
 - Improved quality, safety, cost;
 - Improved AIS staff performance.
- ◆ For Regulatory Bodies:
 - ISO Certificate maintenance;
 - useful input for States if licensing considered.
- ◆ For overall Business:
 - potential market for Training;
 - Reduction of isolated development costs.
- ◆ For Interoperability & Standardisation:
 - Improved staff mobility - internal and external

1.5 **Chapter References**

- [1] Aeronautical Information Services Manual (Doc 8126 AN/872), ICAO, Sixth Edition-2003.
- [2] Production of a Common AIS Staff Profile (Project Initiation Phase), EUROCONTROL, EATMP, Edition 0.3.

CHAPTER 2 – CASP Framework

This chapter covers the work achieved by the Common AIS Staff Profiling – Development Group (CASP-DG). It summarises the formal job-analysis methodology: “Combination Job Analysis Method (C-JAM)” upon which CASP-DG work is based. It outlines the model used to implement the CASP Repository. All important deliverables and decisions made by the CASP-DG are explained in a step-by-step.

- Methodology
- Models
- CASP Repository Design
- CASP Step by Step

2.1 Methodology

Although there was a common consensus on a function-based analysis, the development group did not choose a particular methodology for job analysis at the beginning. However, through further background research, it was realised that the group had intuitively adopted an approach known as the “Combination Job Analysis Method (C-JAM)” [1].

C-JAM is a function-based job analysis methodology in which two major sets of descriptors: Functions and KSA (Knowledge, Skills, and Abilities) are used. Subsequently, Scales are used to associate these descriptors:

- *Functions* are descriptions of what and how a job is done;
- *KSA* are statements of the Knowledge, Skills and Abilities a staff member needs in order to carry out his tasks. Jobholder KSA information is essential for a variety of personnel management purposes such as personnel selection;
- *Scales* indicate are the most important aspects of a job and KSA in a particular function.

In the C-JAM methodology, information gathering is usually done by teams of Subject Matter Experts² (SMEs). These are people who are familiar with the work and tasks of the functions being analysed. Ratings (measurements) of both the functions and of the KSA are suggested by C-JAM methodology. These same ratings may also then be used in selection programmes, assessment of staff competencies and in training programmes.

The C-JAM methodology was adapted in accordance with the specific requirements of the CASP project scope. The following sections explain how.

² This corresponds to the CASP Development Group.

2.2 MODELS

The following models help us to understand the processes and analysis carried out by the CASP-DG.

2.2.1 Function Model

The first adaptation was to structure the functional analysis. Functions and related tasks were handled within three complementary entities:

- Function Diagram;
- Work Functions;
- Tasks.

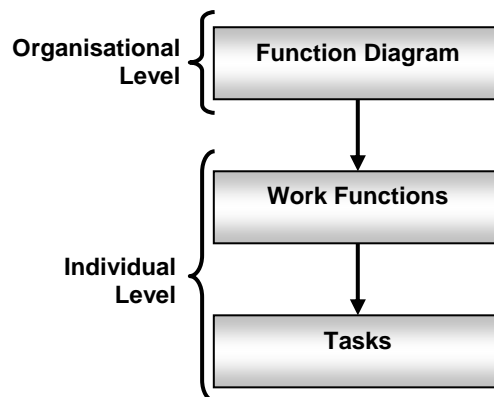


Figure 3. Entities in Functional Analysis

The **Function diagram** depicts how work functions are organised. At a higher level, it defines function categories and each work function is placed in at least one function category. Next, at the level of the individual member of staff, **Work functions** correspond to what the AIS professional does and they describe his/her main responsibilities. Finally, at a more detailed level again, there is a description of the tasks carried out within the work function.

Use of a function diagram as an overall framework is quite common in job analysis and is also suggested by the C-JAM methodology. The main objective is to facilitate functional analysis (e.g., to spot duplicate functions or to identify functions that can be combined). The CASP-DG created its own working function diagram which was improved as work progressed. Other possible function diagrams are feasible but the one developed was the result of detailed discussion within the CASP-DG.

2.2.1.1 Categories in the Function Diagram

The Function diagram contains three function packages:

- *AIS Functions*;
- *Associated ARO Functions*; and
- *Additional Service Provision* (i.e. non-standard AIS products and services).

A detailed task analysis was made only for the *AIS Functions* package, which was used to derive *AIS Work Functions*. In contrast, for the packages *ARO Functions* and *Additional Service Provision*, work functions were analysed at a higher level, in a top-down manner, using some job descriptions provided by States.

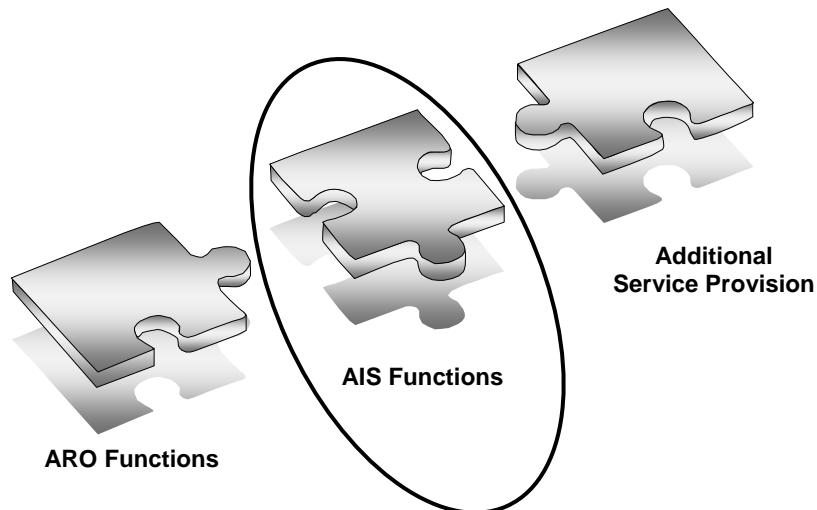


Figure 4. Function Packages

AIS Functions are further classified into two function categories: *operational* and *support* (as inspired from the EUROCONTROL Model for Task and Job Descriptions for ATM Technical Staff [2]). Operational functions are directly related to the production of AIS products and provision of AIS services. All other functions, which are not directly related to production of AIS products and provision of AIS services, are covered in the category *support*.

Operational functions are further classified into three sub-categories:

- *Operational Control Functions*. This sub-category covers operational control and supervisory functions required for data management and coordination;
- *Data Management*. This sub-category corresponds to management of AIS data. It groups additional sub-categories: static data management, dynamic data management, charting and publications;
- *Coordination*. Thirdly, in this category are found external and internal coordination functions that are required for AIS services and products.

Support functions are covered by seven sub-categories: financial resource management, human resources management, quality management, change management, safety management, technical support and customer services³. All these functions are required for the successful performance of an AIS organisation. However, they are not directly linked to AIS products and services.

³ It should be noted that “customer services” was initially considered as an operational function. There was a debate on whether it was directly linked to service provision or not. Finally, it was moved to support functions due to the nature of the majority of work functions under this function category.

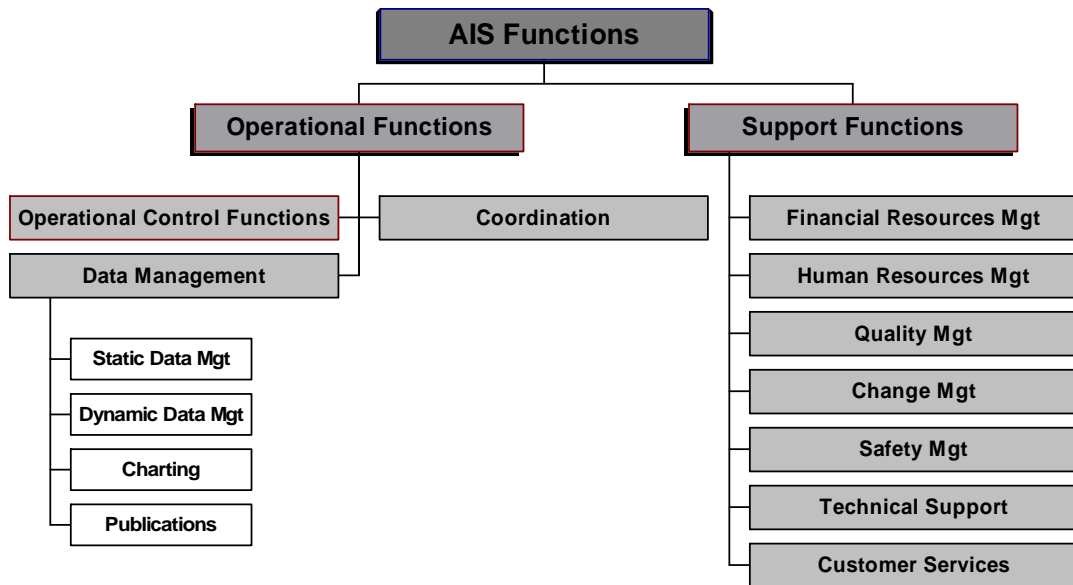


Figure 5. Function Diagram for AIS Functions

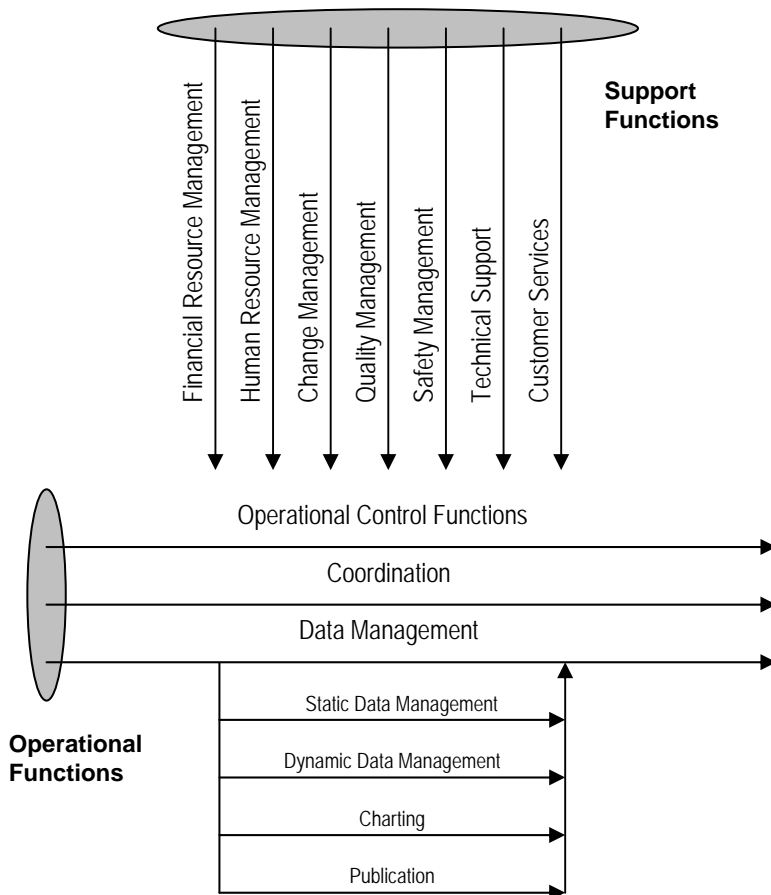


Figure 6. Relationships within AIS Function Diagram

COMMON AIS STAFF PROFILING (CASP)

AIS Functions			
OPE	Operational	SUP	Support Function
DAM	Data Management	SUP-a	identify customer requirements
DAM-a	code/decode aeronautical information	SUP-b	develop strategic business plans
DAM-b	translate aeronautical information	SUP-c	provide legal management
DAM-c	perform quality checks on aeronautical data/information	SUP-d	revise national operational manuals
DAM-d	process post flight information	SUP-e	update ICAO and Eurocontrol documents
DAM-e	provide data for compiling statistical data	SUP-f	compile statistical information
DAM-f	ensure traceability of aeronautical data/information	SUP-g	print aeronautical publications
DAM-g	process raw data	SUP-h	manage stock
STA	Static Data	SUP-i	maintain aeronautical national publications library
STA-a	compile static data	SUP-j	develop business plan
STA-b	compile positional data	SER	Customer Services
STA-c	process static data	SER-a	manage customers' accounts for AIS services and products
STA-d	maintain database of static data	SER-b	administer AIS customer services
STA-e	maintain foreign static AIS publications	SER-c	distribute aeronautical publications
STA-f	prepare static data for national and international database	SER-d	provide help-desk for AIS services and products
DYN	Dynamic Data	FIN	Financial Resource Management
DYN-a	process foreign dynamic data	FIN-a	plan finance
DYN-b	publish NOTAM	FIN-b	control finance
DYN-c	publish NOTAM Checklist	FIN-c	execute financial transactions
DYN-d	publish Trigger NOTAM	HUM	Human Resource Management
DYN-e	publish SNOWTAM	HUM-a	ensure availability of sufficient AIS Staff
DYN-f	publish ASHTAM	HUM-b	determine training requirements
DYN-g	produce PIB	HUM-c	arrange and follow-up training
DYN-h	prepare tailored dynamic data	HUM-d	define job descriptions
DYN-i	maintain dynamic database	HUM-e	conduct the process of staff selection and recruitment
CHA	Charting	HUM-f	ensure compliance of AIS staff with competency requirements
CHA-a	maintain aeronautical chart library	HUM-g	prepare staff resource planning
CHA-b	publish aeronautical charts	QUM	Quality Management
PUB	Publications	QUM-a	establish quality management system
PUB-a	publish AIC	QUM-b	maintain quality management system
PUB-b	publish AIP	QUM-c	monitor customer satisfaction
PUB-c	publish AIP AMDT	CAM	Change Management
PUB-d	publish AIP SUP	CAM-a	identify opportunities and trends for change
PUB-e	publish NOTAM summaries	CAM-b	plan change
PUB-f	publish additional information for specific purposes	CAM-c	implement change
OCF	Operational Control Functions	CAM-d	review results of change
OCF-a	supervise data management	SAM	Safety Management
OCF-b	supervise customer services	SAM-a	analyse safety improvement reports
OCF-c	manage staff resources	SAM-b	implement safety improvement procedures
OCF-d	develop operating standards and procedures	SAM-c	undertake risk assessments
COR	Co-ordination	SAM-d	implement procedures to delete risks
COR-a	coordinate with data sources	SAM-e	establish safety management system
COR-b	coordinate between AIS functions	TEC	Technical Support
COR-c	coordinate with customers	TEC-a	design technical systems
		TEC-b	implement technical systems
		TEC-c	maintain technical systems
ARO	ARO Functions	ASE	Additional Service Provision
ARO-a	accept post flight information and transmit it to ATS/AIS	ASE-a	provide additional commercial services
ARO-b	compile statistical data	ASE-b	provide additional national services
ARO-c	process FPL and FPL associated messages	ASE-c	provide national specific information
ARO-d	provide information for flight preparation	ASE-d	provide other national aviation related publications
ARO-e	support incident investigation (ARO Side)		
ARO-f	process ATFM messages		
ARO-g	publish SNOWTAM		
ARO-h	maintain supporting material		
ARO-i	perform other tasks according to national/local specification		

Figure 7. AIS Functions and sub-functions

2.2.1.2 *Function/Task Syntax*

Functions and tasks are written in a particular syntax. In each case, the syntax consists of the following:

- An action verb - what is happening?
- An object - to whom or what?
- Acting upon what instructions or sources of information?
- Using what tools, equipment, work aids?
- Result - to achieve what result?

Each function/task starts with an action verb. The action verb is always followed by an object. Additional qualifying statements may be included to show how or why the function/task is carried out. Use of such syntax forces consistent use of action verbs: the same verb is used for the same purpose in the function definitions.

This syntax is built into the CASP Repository as shown in the following task description report.

<i>Task Description</i>	
Identifier	
10	
Description	
conduct internal audit	
Verb	Object
conduct	internal audit
Instructions/Sources of Information	
Unit work instructions/quality manual	
Tools, Equipment, Work Aids	
Previous audit reports, performance indicators, audit checklist	
Result	
Audit report	
Reference	
CT4.1	AIS Staff Profile Requirements, Ed1.2, 01/97
Creation Date	Author
14/03/03	E. Ozkan
Comments	
QUM-a (109)	

Figure 8. Task Description Sample

2.2.2 Competency Model

The second adaptation made to C-JAM is to define a CASP Competency Model. The notion of KSA was overlaid with the concept of “competency”- a **competency** being defined as “an underlying characteristic of a person which results in an effective and/or superior performance in a job” [9] and might result from knowledge, skill or ability. Therefore, the term *competency* has a broader meaning than the *KSA* (See Chapter 3 for more information).

The CASP competency model has two complementary components:

- Competencies to describe people attributes and requirements,
- Job Requirements specifying the educational, experience and physical requirements of a job or function.

Competencies may be prioritised and scaled when they are associated with a work function. Whereas, if applicable, job requirements are directly associated with a job or a work function.

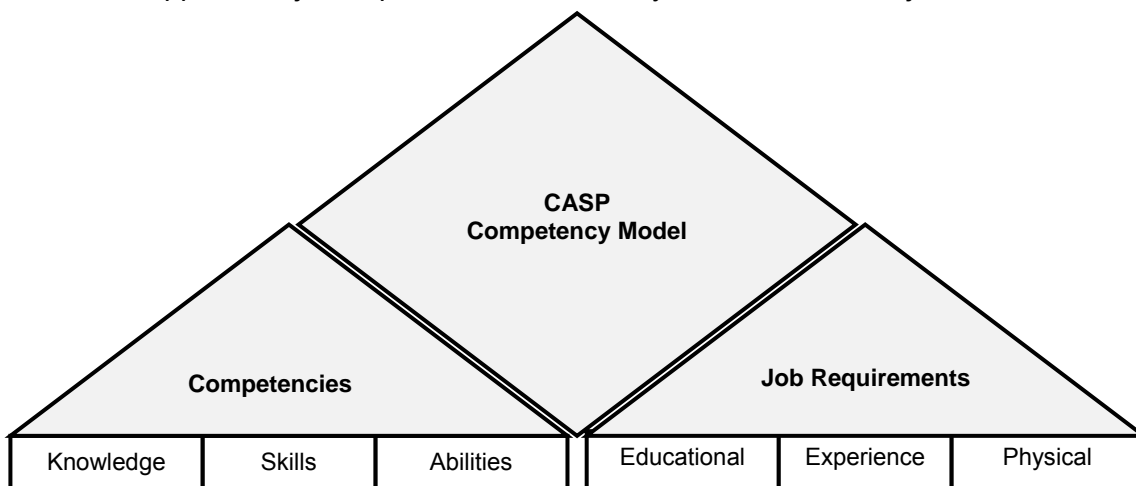


Figure 9. Components of CASP Competency Model

2.2.2.1 Competency Categories

For categorising and structuring competencies, two competency models were considered by CASP-DG:

- The competency model built by SHL Group, plc. as used by EUROCONTROL,
- The model used by the U.S. Occupational Information Network.

Both models were found to be “generic”. The first Competency Model, available in EUROCONTROL, was considered to be an appropriate starting point. This model was adopted and adapted by the CASP-DG. It was validated by AIS professionals at a dedicated consultation seminar. SHL Group, plc. has since noted and expressed its appreciation of the professional nature of the adaptation made to their original Competency Model.

This Competency Model contains three cross-functional competency categories that might be applicable to all kinds of work functions (whether managerial, supervisory or operational):

- Technical and Professional;
- Individual Specific;
- Culture Specific.

There are three additional categories that contain competencies applicable only to supervisory and managerial work functions:

- Business Leading;
- Aligning Organisation;

- Organising People and Tasks.

The following figure maps out these competency categories against the role of the AIS professional.

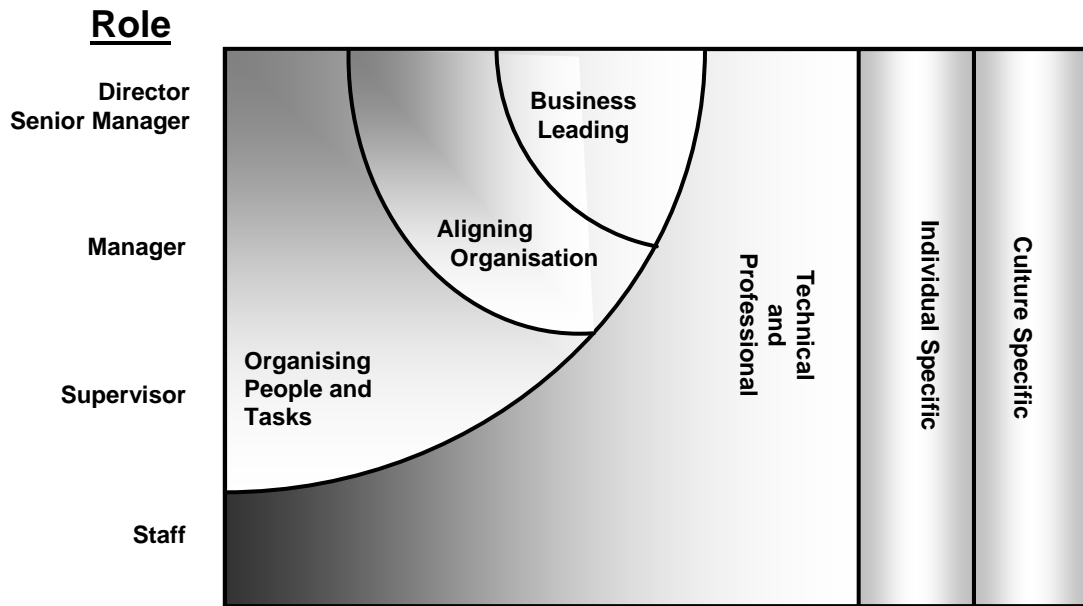


Figure 10. Categories in the Competency Model

The following table lists the competencies selected in the adapted CASP Competency Model. The full CASP Competency Model including the Competency definitions is at Appendix A. When using the CASP Competency Model, it is very important to understand the competency definitions in the context of the work functions and competency categories in which they are used.

CASP COMPETENCY MODEL ⁴		
O. Organising People and Tasks	A. Aligning Organisation	B. Business Leading
<ol style="list-style-type: none"> 1. Objective Setting 2. Motivating Others 3. Proactive Communication 4. Developing Others 5. Management Control 6. Maintaining Discipline 7. Caring for Others 8. Providing Direction 	<ol style="list-style-type: none"> 1. Organisational Awareness 2. Creating Awareness 3. Managing Organisation Performance 4. Integrity 5. Role Clarification 	<ol style="list-style-type: none"> 1. External Awareness 2. Strategic Thinking 3. Systems Thinking 4. Initiating Change 5. Championing Causes 6. Governance 7. Stakeholder Relations
T. Technical and Professional	I. Individual Specific	C. Culture Specific
<ol style="list-style-type: none"> 1. Critical Examining I 2. Critical Examining II 3. Information Analysis 4. Problem Analysis 5. Problem Solving 6. Operational Knowledge 7. Professional Expertise 8. Adherence to procedure 9. Physical Safety Awareness 10. Aviation Safety Conscious 11. Administrative Skills 12. Flexibility of Closure 13. Judgement and Decision Making 	<ol style="list-style-type: none"> 1. Self Confidence 2. Interpersonal Sensitivity 3. Building Relationships 4. Networking 5. Reliability 6. Oral Communication 7. Persuasive Communication 8. Written Communication 9. Stress Tolerance 10. Adaptability 11. Accuracy 12. Methodical 13. Selective Attention 14. Decisiveness 	<ol style="list-style-type: none"> 1. Cross Cultural Awareness 2. Empowering 3. Creativity 4. Energy 5. Self Development 6. Quality Focused I 7. Quality Focused II 8. Organisational Learning Focused 9. Customer Focused I 10. Customer Focused II

Figure 11. List of Competencies

2.2.3 Scales

For each work function, all applicable competencies were identified and then scaled according to their relative importance.

A four point scale is used in CASP:

- *Essential*: The competency is essential for carrying out the work function. The AIS professional must have this competency;
- *Relevant*: The AIS professional should have this competency in order to carry out his/her work function although it is not critical as in the point Essential above;
- *Nice to Have*: It is desirable for the AIS professional to have this competency since it will make the execution of the work easier or smoother. However, the work function could be carried out without it;
- *Not Applicable*: The competency is neither required nor relevant to the execution of the work function.

⁴ Adapted from SHL Group, plc. Competency Model

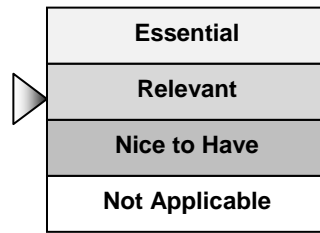


Figure 12. The CASP Competency Scale

2.3 CASP Repository Design

The CASP Repository, a *Microsoft Excel* database, is designed and developed to store and use the CASP data assembled. The database design is based on the function and competency models given in the previous sections and contains the following objects:

- Job/role
- Functional Model
 - Function Diagram
 - Work Function
 - Task
- Competency Model
 - Competency
 - Job Requirement
- Scales (Scaled Competency Definitions)

Although job/roles exist as an object in the Repository conceptual model, there are no job/roles in the CASP Repository (except some examples). It is for each State responsibility to define its own job/role titles according to its organisational context and needs. Please see Chapter 4 for more information.

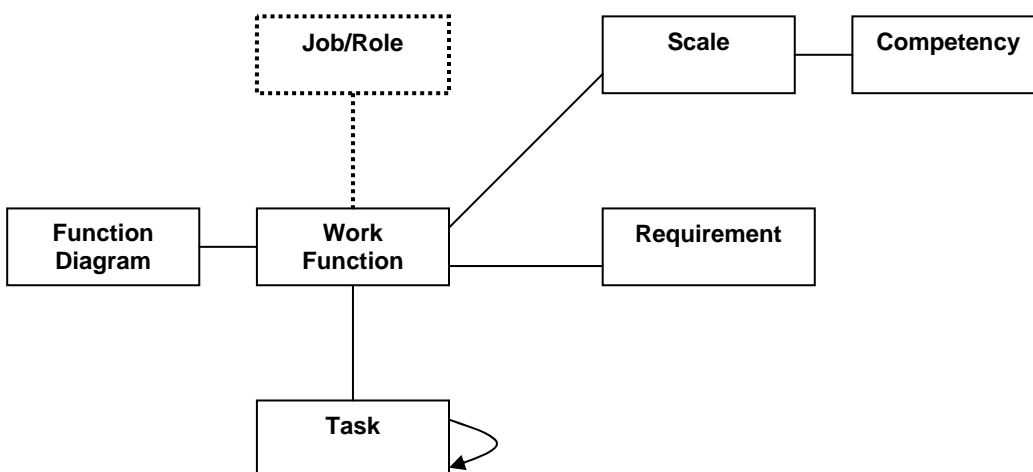


Figure 13. Objects in the CASP Repository

To reiterate some of the relationships between the above objects, the Function Diagram contains various function categories. Each Work function is associated with at least one of these categories. Work functions are given detail by listing tasks. A Task can relate to one or more Work functions. Furthermore, a Task can be a sub-task of another Task.

A Scale is an association between a Work function and a Competency. It exists if the Competency is required to carry out the Work function. A Competency can be associated with one or more Work functions. Similarly, a Job Requirement can be associated with a Work function(s).

2.4 CASP Step-by-Step

The basic steps in the C-JAM methodology are illustrated in the following flowchart:

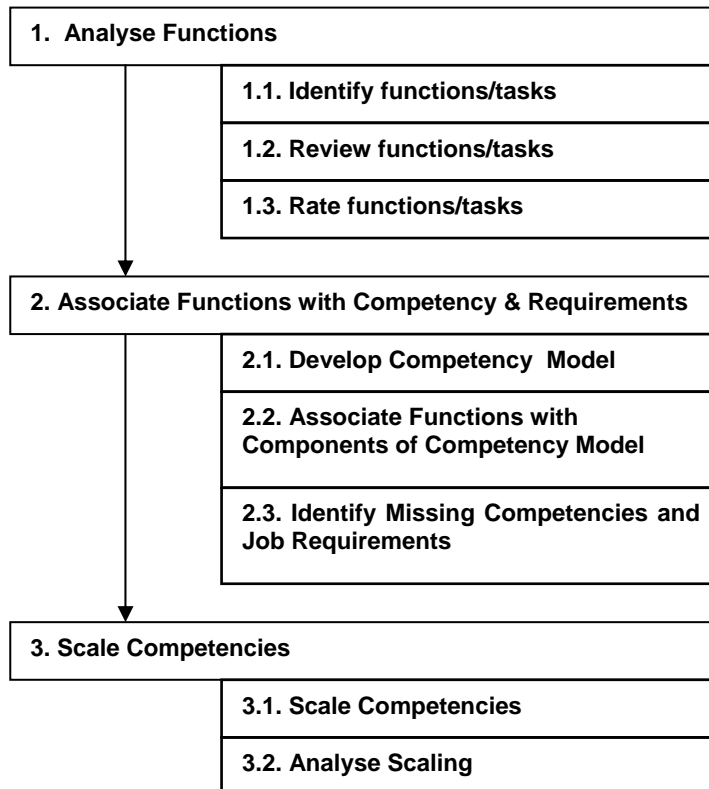


Figure 14. Flowchart of C-JAM Methodology

2.4.1 Preliminary Work

The following facts were assembled at the start of the CASP-DG work:

- Job titles used throughout AIS organisations vary considerably from one AIS organisation to another. On the other hand, functions executed by AIS organisations are quite similar as they all apply the Standards and Recommended Practices established by ICAO in Annex 4 [5], and Annex 15 [4] and together with the guidance of Doc 8126 [6]. It follows therefore, that it is more logical to use a function-based analysis than a job-based analysis;
- Considerable effort was spent to identify tasks (mostly based on the EUROCONTROL AIS Data Process (ADP) [2] and AIS Static Data Procedures (SDP) deliverables [2]) during the initiation phase of the CASP project. Most of the low-level tasks were determined during this work;
- Many functions were identified in the document titled “AIS Staff Profile Requirements, Ed1.2, 01/97”. This document contains some functions that were not covered in the CASP project initiation phase.

The following sources of information were used in identifying work functions and tasks:

- Tasks identified during the CASP project initiation phase;

- Functions identified in the “*AIS Staff Profile Requirements, Ed1.2, 01/97*” [3];
- Subject Matter Experts (CASP-DG) acting as a Job Analysis Task Force committee to delineate important work functions and competencies;
- ICAO Standards, Recommended Practices and Guidance Material:
 - Annex 4
 - Annex 15
 - Doc. 8126
- Information gathered from State AIS about the profession or job:
 - Job vacancies
 - Job descriptions
- Training Material
 - EUROCONTROL Common Core Content and Training Objectives for Basic AIS Training (Phase 1 - ab-initio) [7]
 - EUROCONTROL Common Core Content and Training Objectives for Basic AIS Training (Phase 2 - Specialist) [8].

2.4.2 Analysis of Functions

A large number of tasks were identified in the initiation phase. Furthermore, some other functions (mostly high-level) were found in the document titled “*AIS Staff Profile Requirements, Ed1.2, 01/97*” [3]. As a first step, functions and tasks found in these two resources were compiled in a single function/task inventory.

This process was handled during function/task generation meetings with the Subject Matter Experts of CASP-DG. A draft function model was derived and functions/tasks were classified according to the function diagram in the following way:

- Create a draft function model;
- Identify work functions and separate them from tasks;
- Categorise functions according to the function diagram;
- Associate tasks with the work functions;
- Review work functions, add missing functions and if necessary, add tasks associated to new work functions.

The step “*Review functions/tasks*” above included the following tasks for the CASP-DG:

- Check wording of functions/tasks according to the function/task syntax;
- Ensure that action verbs are used consistently in the functional analysis;
- Identify and remove duplicated work functions;
- If necessary, combine functions to create new work functions;
- Review the final list of work functions and their associated tasks.

When analysing work functions and related tasks, the CASP-DG debated that certain functions and tasks could be considered as safety related and/or safety critical because of the impact of incorrect or untimely information provided by AIS on the use of such aeronautical information/data. However, the identification of these safety related tasks was not within the Terms of Reference of CASP-DG.

The original C-JAM methodology suggests the following as guides for rating work functions and tasks:

- *Frequency/Time Spent* – frequency of executing a function/task relative to other functions/tasks;
- *Difficulty* – difficulty in executing a function/task relative to other functions/tasks;
- *Criticality/Consequences of error* – the degree to which an incorrect performance would result in negative consequences;
- *Overall Importance* – a weighted average of frequency, difficulty and criticality.

Time Spent / Frequency	Difficulty
<input type="checkbox"/> Small Amount	<input type="checkbox"/> One of the easiest
<input type="checkbox"/> Less than Average	<input type="checkbox"/> Easier than most
<input type="checkbox"/> Average	<input type="checkbox"/> Average
<input type="checkbox"/> Above average	<input type="checkbox"/> Harder than most
<input type="checkbox"/> Large amount	<input type="checkbox"/> One of the hardest
Criticality	Overall Importance
<input type="checkbox"/> Very insignificant	<input type="checkbox"/> Very unimportant
<input type="checkbox"/> Insignificant	<input type="checkbox"/> Unimportant
<input type="checkbox"/> Average	<input type="checkbox"/> Average
<input type="checkbox"/> Critical	<input type="checkbox"/> Important
<input type="checkbox"/> Very critical	<input type="checkbox"/> Very important

Figure 15. Sample For Rating Functions/Tasks

This “rating” step of the C-JAM methodology is demanding in terms of resources. It is usually carried out for selected work functions considered to be the most critical within an organisation. Furthermore, ratings are highly influenced by the actual organisation and work context. Therefore, this rating step should be carried out at individual AIS organisation level.

2.4.3 Associate Functions with Competencies & Requirements

In this step, work functions and competencies were associated and missing competencies were identified. The basic objective was to create a map similar to the following:

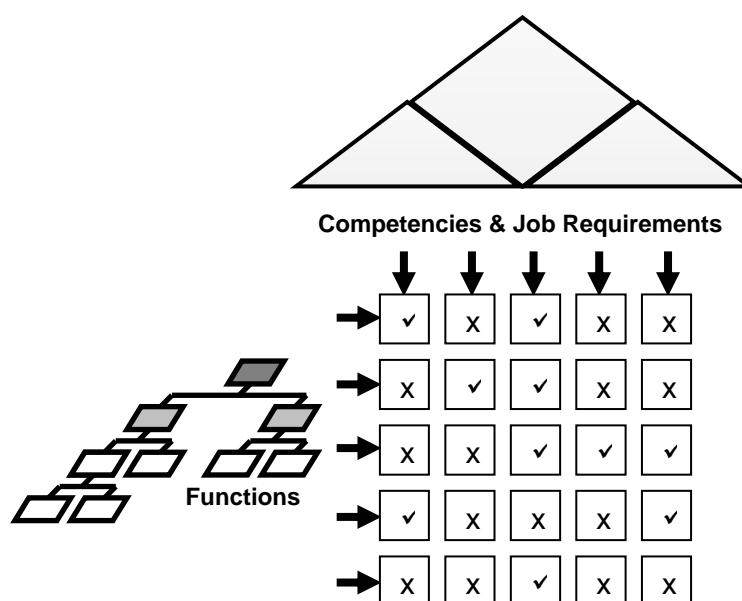


Figure 16. Work Function-Competency Map

A work function-competency map is a tool that identifies the competencies needed to perform a work function effectively. These maps can be aggregated to form the map for a job role, project team, business unit or an entire organisation. Competency maps are important to many of the key human resources management functions. They are essential for proper selection, evaluation, succession planning and for guiding training and development.

2.4.4 Job Requirements

In addition to Competencies, Job Requirements should be associated with Work Functions. These associations should be carried out at individual State level as the culture, labour market, education levels, etc. have a strong influence on these requirements. The CASP-DG thought it useful to produce a generic, indicative list of Requirements as shown after. Also, these Requirements are included as selectable objects in the CASP Repository.

JOB REQUIREMENTS	
•	Education:
○	Formal school
○	Higher education
○	Vocational education
•	Experience (duration)
•	Age (range)
•	Aviation background
•	Computer literate
•	Working hours (office/extended/shift hours)
•	Keyboard proficiency
•	Language skills (which, proficiency: written, etc.)
•	Medical/health check
•	Nationality
•	Physical
•	Criminal record clearance

Figure 17. List of Requirements

2.4.5 Scaling Competencies

Many competencies can be applicable to a given work function. However, if there are too many competencies associated with the work function, it will be impractical to use. Typically, a work function should have 5 to 10 principal competencies.

The CASP-DG therefore identified, prioritised and scaled applicable competencies defined in the Work Function - Competency Map.

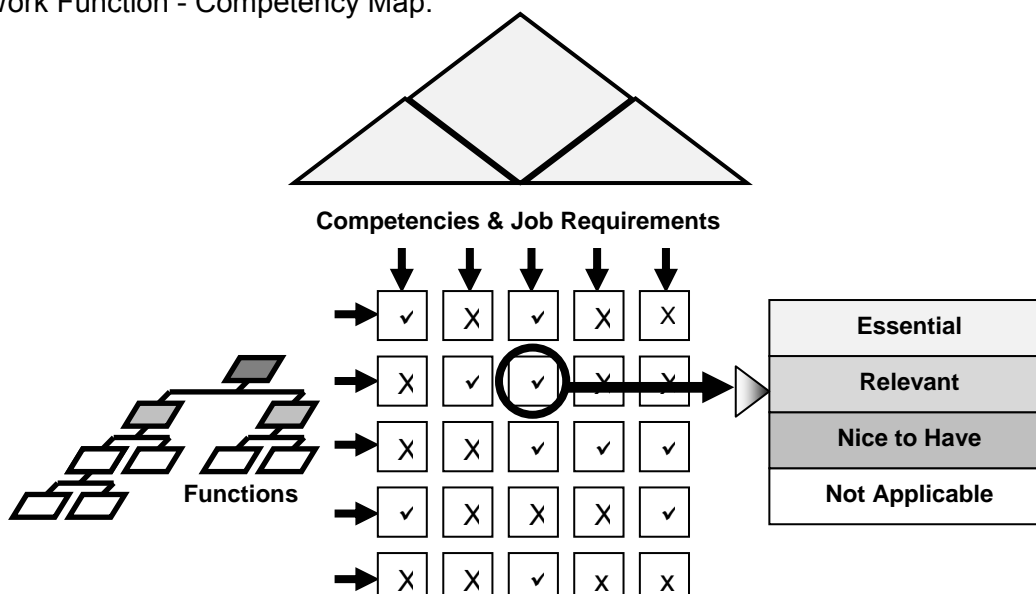


Figure 18. AIS Functional Competency Matrix

The Figure 18 illustrates one of the basic outcomes of the CASP project: the *AIS functional competency matrix* that shows the mappings between work functions and scaled competencies. These mappings are held in the CASP Repository and are given by work function at Appendix B.

After scaling, mappings should be analysed for each competency by asking the following four questions:

- Is the competency necessary for newly hired employees? (yes or no)
- Is it practical to expect this competency in the labour market? (yes or no)
- To what extent will a problem be likely, if this competency is ignored in selection (compared with the other competencies)?
- To what extent do different levels of the competency distinguish the superior from the average performer (compared with the other competencies)?

Competency	Necessary	Practical	Likely problem Descriptions					Higher From Average				
			1	2	3	4	5	1	2	3	4	5
1. (Fill in)	<input type="checkbox"/>	<input type="checkbox"/>	1	2	3	4	5	1	2	3	4	5
2.	<input type="checkbox"/>	<input type="checkbox"/>	1	2	3	4	5	1	2	3	4	5
3.	<input type="checkbox"/>	<input type="checkbox"/>	1	2	3	4	5	1	2	3	4	5
4.	<input type="checkbox"/>	<input type="checkbox"/>	1	2	3	4	5	1	2	3	4	5

Figure 19. Sample Annotation of Jobholder Competency

This analysis is likely to be highly influenced by culture and organisation and should therefore be carried-out at the individual State level when preparing rating scales for selection criteria, see Chapter 4 sections 3 and 4.

2.5 Chapter References

- [1] Job Analysis – Methods, Research and Application for Human Resource Management in the New Millennium, Brannick, M. T., Levine, E. L., Sage Publications Inc., ISBN 0-8039-7203-2, 2002.
- [2] Model for Task and Job Descriptions for ATM Technical Staff, HUM.ET1.ST01.2000-GUI-02, Edition 1.0, 03/07/96.
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- [9] The Competent Manager, A Model for Effective Performance, Boyzatis, R. E., ISBN-13 978-0471090311, 1982.

CHAPTER 3 – Uses of a Competency Model

We have spoken of competencies as well as knowledge, skills and abilities. But are these terms not addressing the same thing? Why do we need therefore to draw up a competency framework when we could simply analyse what are the required knowledge, skills and abilities (KSA) for each profile and use them as a checklist for various purposes?

This chapter will show why such an approach would not be enough and why it will be useful for us to bring a more studied approach.

Let us begin by making sure we all understand what these words mean and that they are used precisely in this context.

- Terminology
- Deriving KSA
- Using Competencies

3.1 Terminology

Many documents and articles in the field of Human Resource Management have been written about the meaning and use of these terms. Here are some simple working definitions that we will use:

Knowledge: a sum of information or expertise that has been acquired through education and learning. Knowledge is linked with,

Skill: a particular expertise or dexterity to do something well that has been acquired and developed through experience and practice. Skill is built on the basis of knowledge.

Ability: something a person has which gives them the capacity or talent to carry out a particular task or series of tasks. Some abilities are derived from traits which are inherent e.g. being tall, being stubborn, being talkative, being outgoing. Ability and talent can also be developed. However, it is debatable whether you can put into a person a talent that is not already there.

Knowledge, skills and abilities (or talent) are different. *Knowledge and skills are transferable from person to person*, but they tend to be specific to a situation.

Abilities or talents are transferable from one situation to another, but they are *specific to the person*.

In reality, all three elements, - *Knowledge, Skills, Abilities* - interact. In any one job, there will be a range of performance by individual staff (from the poor performances to excellent performance). Our underlying supposition for the purpose of this document is the notion of *effective performance*. In this, we will see that a certain repertoire of knowledge and skills is a prerequisite to effective performance. It is common to note that managers in ATM often tend to focus on technical knowledge and skills. But it is interesting to note that actually what

most often accounts for a staff member to excel in his/her job is in fact ability and especially talent.

A competency is "an underlying characteristic of a person which results in an effective and /or superior performance in a job" [1]. It could result from knowledge, skill or an ability.

Competence is the description of the effect of effective and superior performance in a job. A person who has and uses the right competencies will have competence in the job.

It is useful to note that Competencies and Competence, as well as being applied to a person, can also be applied at a more general level to an organisation. The literature of Organisational and Management theory often refers to a company's organisational competencies.

3.2 Deriving KSA

3.2.1 Knowledge

One can often make quite intuitive analyses of a job in order to derive the qualifications and background needed to carry out the functions of a job. Someone who is familiar with the job, or a manager defining the person specification required for a post, should quite easily be able to make a statement about what is needed as a prerequisite for a prospective job applicant. What they are doing here is making a series of statements about what is the level of knowledge required for a particular job. For a job of computer engineer for example, a certain minimum level of academic achievement and technical knowledge will be necessary. What for example is the knowledge that is essential to do the job in an effective way? Beyond that, more careful consideration will need to be given as to what knowledge might be useful or necessary to have in the job. Prerequisites aimed too high may lead to a situation where an overqualified person is in the job thus leading to an increased risk of dissatisfaction for the jobholder.

3.2.2 Skills

We can best think of deriving a skills requirement by thinking in terms of the "know-how" required to do a job effectively. There may be a possibility to buy in "know-how" at the recruitment stage but there is also the possibility of a jobholder acquiring skills by listening, watching and actually performing the job under supervision. Let us use the example of a waiter in a restaurant. The waiter may use the experience (and therefore skill) gained in a previous job in another restaurant, but he/she will need to acquire the skills of working effectively in this particular restaurant (the type of customer, the menus offered, the wine list). In all probability, he will build on his stock of skills. But it is not excluded that he may be trained to acquire these skills, building on only a basic *knowledge base*. It is a question of time and whether the employing organisation has the time and resources to supply the training. It is also a question of "trainability". This in turn brings us to the question of abilities.

3.2.3 Abilities

To continue the example of our restaurant waiter, he/she will need to be able to empathise with his customers. What we are talking about here is an inherent talent that he has since been able to use and develop for his benefit and that of the organisation for which he is working. If a person has a particular capacity or talent to carry out or be trained to carry out certain tasks, we are likely to see the result of this ability in either one or both of two ways. Firstly, he/she is likely to be more easily and quickly trained to the required standard. And secondly, he/she is more likely to achieve in due time a high level of performance. Therefore, abilities become the ingredient that makes the difference between organisations in which people do they are doing their job effectively and those in which they are doing an *excellent* job.

3.3 *Using Competencies*

We return to the question posed in the introduction to this chapter. Why do we need competencies and a model when we have identified Knowledge, Skills and Abilities?

First of all, the Quality ISO 9001:2000 standard refers particularly to the need for an organisation to use competent personnel by ensuring they have the right experience, education, training and skills. An organisation also needs to support competence by defining acceptable levels of competence, identifying training needs, delivering training programmes, evaluating their effectiveness and maintaining a record of competence.

KSA are analysed by considering an individual. We could envisage making a simple analysis of one job using a fairly simple intuitive means. We would think about a particular job and try to make it come alive by thinking about a particular kind of person who was doing that job. This can be interesting enough. However, if we are to make full use of our analysis and apply it for some purpose to our organisation, we need to put the analysis into a higher level context in which we consider that person to be performing their job as just one of many roles in that organisation. In other words, there are the organisation's needs to consider.

In our simple example above of the waiter's job, it makes no sense if the waiter happens to be an exceptionally sophisticated and knowledgeable staff member, excellent though that might be, if the restaurant does not intend to position itself at the high end of the restaurant market. The organisation simply does not need this level of competence, may not be able to pay for it, and risks demotivating the individual in the job. We must therefore be able to use competencies in the appropriate organisational context.

The idea of a competency model is that it ties together at a higher level our analysis and discussion.

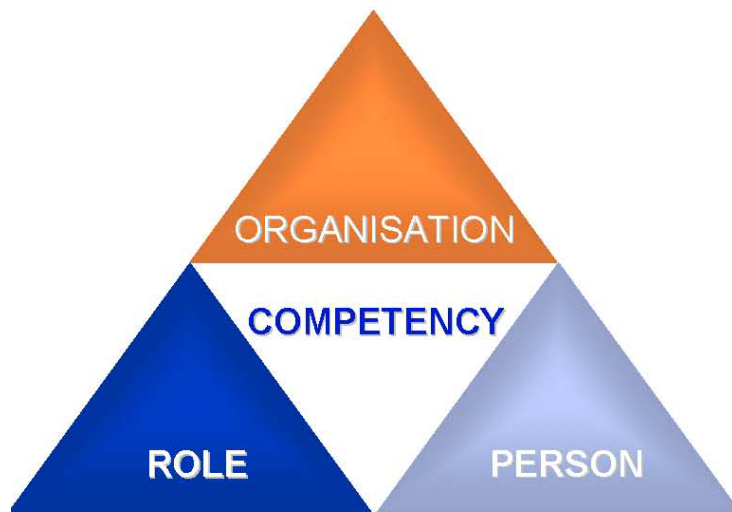


Figure 20. Understanding Competency Models

A competency is a structured way of describing effective job behaviour that provides:

- A clear specification of individual knowledge, skill and ability requirements;
- A link to the specific task requirements and the organisational context of a job. In other words, the KSA will be linked both to the tasks that the individual has to perform and to the type of organisation and its objectives and values;
- A common language to describe people and job requirements and their role in the organisation. There should be a grouping of the competencies so that we are able to focus on a particular group if we need to. For example, should we need to prioritise specific training needs or to develop staff during their career?

As can be seen from *Figure 20* before, a competency model can be at the heart of a means to integrate the strategic high level needs of the organisation, the lower level managerial needs and finally the needs and aspirations of the individual members of staff.

Understanding competencies and competency models can help managers to effectively manage people at work. Competency models can yield tools for measuring and assessing critical behaviours at work. Because we are talking about people and their behaviours at work, these are not scientific tools that are used and respond in the same way every time. Nevertheless, they do provide a structured method of analysis in describing what we find.

By referring to *Figure 21* after, we get a good overview of the various potential uses for the competency framework, once established. As a common platform, it can "speak the same language" for use in Organisational Development, Recruitment and Selection, Managing the performance of staff at work and for developing and training those staff.

At the corporate level, we can apply a common model to the whole organisation in order to have a high level picture of what needs to be done in one part of the organisation whilst at the same time ensuring that this course of action will be compatible with what is going on in another part of the organisation.

For recruitment uses, we will have a complete inventory of competencies on which to base the definition of job and person specifications. We will know what we have to measure in applicants so as to select the most suitable of them and we have a framework with which to frame questions in interviews.

We can use the model to help us design and apply performance appraisal tools. Significantly, it can provide material to use in the notoriously difficult areas of managing and developing "soft" skills that are seen as especially vital to achieving corporate aims.

Finally, using the same framework as that used in performance appraisal tools, we can turn our attention to defining training needs and measuring whether remedial actions have been successful.

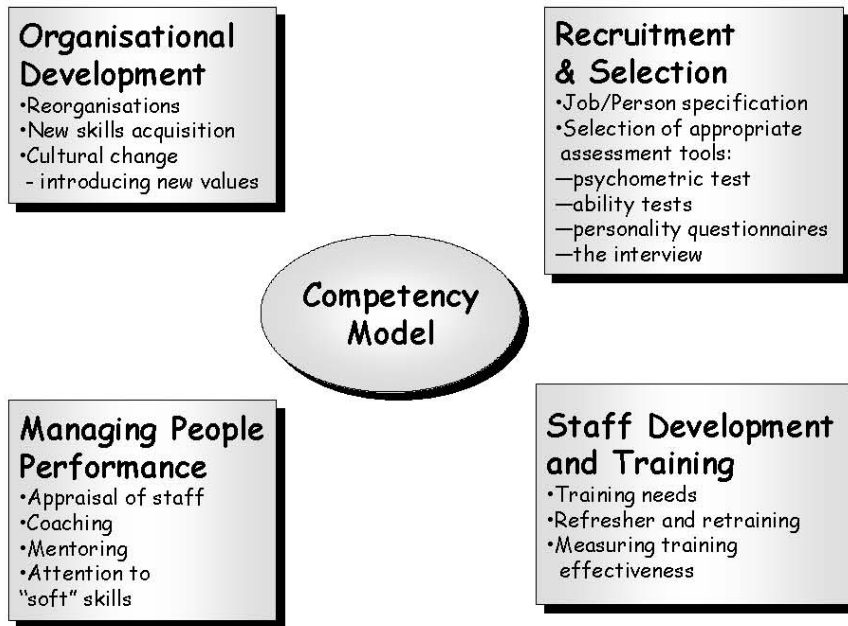


Figure 21. Uses of Competency Model

In the following chapters, these uses of a Competency Model are further detailed as is the use of the specific CASP Competency Model developed.

3.4 Chapter References

[1] The Competent Manager, A Model for Effective Performance, Boyzatis, R. E., ISBN-13 978-0471090311, 1982.

CHAPTER 4 – Competency Management Processes

This part of our document presents a set of tools/templates for use primarily by an AIS Service Provider when implementing their competency management processes in line with the ISO 9001:2000 requirement.

It provides general competency management guidelines which cover:

- Overview
- Adapting the CASP framework
- Competency assessment including selection criteria, a generic personnel development plan and performance appraisal checklists
- Competency planning
- Competency development
- Personal profile portfolios

4.1 Overview

4.1.1 What is Competency Management?

Appropriately qualified and experienced staff in sufficient numbers are prerequisites for an AIS organisation to provide safe and timely aeronautical information. Competency management ensures that an AIS organisation has the right competencies at the right time by identifying competency gaps and facilitating appropriate training, compensation and recruitment programmes based on current or future competency needs.

In the overall business context, staff competency is a valuable asset for any organisation. However, the organisation does not own it. Employees, as owners, invest their competencies and they can withdraw their capital by leaving. On the other hand, competencies can be developed through appropriate training programmes. Competency development should give reasonable returns to the organisation. Typically, return on competency investment depends upon:

- How much a particular competency is required by the organisation, and;
- How much the competency is used in the organisation.

Given the strategic importance of staff competency, we can see that an organisation needs to have mechanisms to maintain and manage its workforce's required competencies. For our purposes, competency management involves four major interrelated processes:

- Adapting the CASP Framework: In this process, we analyse job/roles and ask ourselves the question "What competencies does our organisation need?". The output of this process is jobs, associated work functions and competencies required to

perform the job, including the required level of those competencies. This process can be performed by adapting of the CASP framework to fit your work environment;

- Competency Assessment: This process seeks to establish “What are current levels of competencies of the organisation’s employees?”
- Competency Planning: This process in turn addresses two questions: “Which competencies should be developed to support and enable the organisation’s goals and objectives?” and “What is the gap between current and required levels of competencies?”
- Competency Development: Finally, this process evaluates “How can individual competency gaps be resolved through training and development?”

4.1.2 Justification

Implementation of competency based HR processes is mentioned in Annex 15 [7] and ISO9001:2000 [10].

Annex 15	ISO9001:2000
<p>3.2.3 Within the context of a quality system, the skills and knowledge required for each function shall be identified and personnel assigned to perform those functions shall be appropriately trained. States shall ensure that personnel possess the skills and competencies required to perform specific assigned functions, and appropriate records shall be maintained so that the qualifications of personnel can be confirmed. Initial and periodic assessments shall be established that require personnel to demonstrate the required skills and competencies. Periodic assessments of personnel shall be used as a means to detect and correct shortfalls.</p>	<p>6.2. Human resources 6.2.1 General Personnel performing work affecting product quality shall be competent on the basis of appropriate education, training, skill and experience 6.2.2 Competency, awareness and training The organisation shall</p> <ol style="list-style-type: none"> a) Determine the necessary competency for personnel performing work affecting product quality, b) Provide training or take other actions to satisfy these needs, c) Evaluate the effectiveness of the actions to be taken, d) Ensure that its personnel are aware of the relevance and importance of their activities and how they contribute to the achievement of the quality objectives, and e) Maintain appropriate records of education, training, skills and experience.

Figure 22. Excerpts From Annex 15 and ISO 9001:2000

4.1.3 Adapting CASP Framework

As has been explained in Chapter 2, the CASP framework is a function based approach and not a job based approach since jobs and roles can vary from one organisation to another. The CASP framework includes a functional model, a competency model and scales to measure required competencies for each function. In this way, the CASP framework provides us with a generic model that can be easily applied to different organisation charts and different job titles. States may thus customise the generic CASP framework to suit their environment.

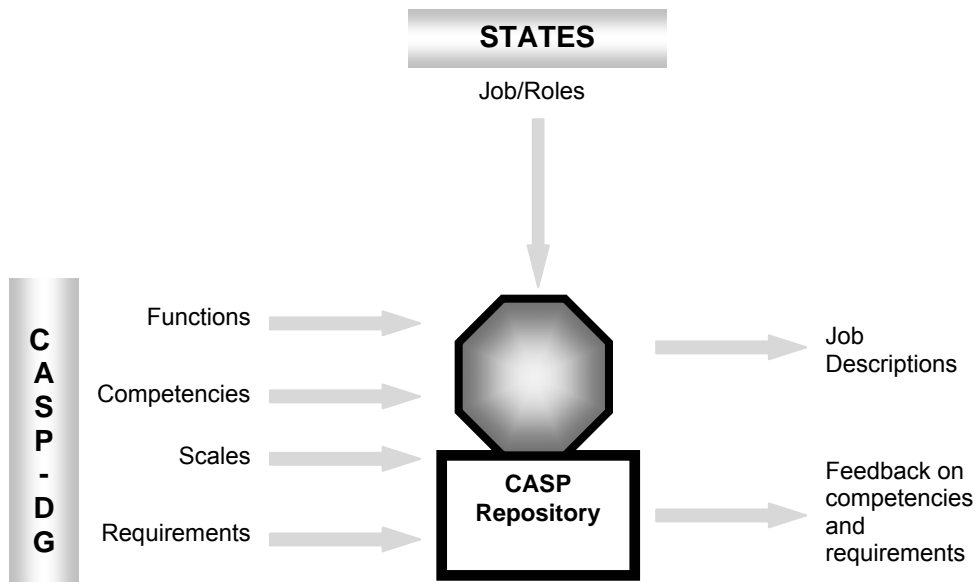


Figure 23. Anticipated Use of CASP Repository

4.1.4 Adapting the Functional Model

Although many similarities can be found, each AIS organisation has a different working environment and context. In general, each organisational context is defined by various components such as corporate culture, organisation chart and deployed management systems, etc. (see the Figure 24 below).

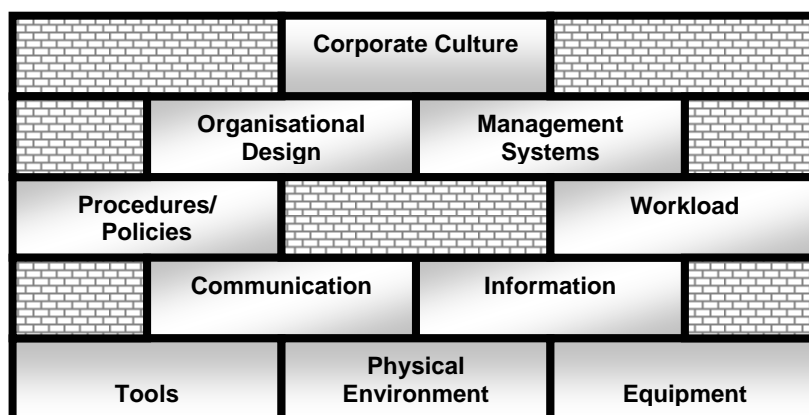


Figure 24. Organisational Context

The organisational context generally influences job duties and work functions carried out under a particular job title. As the first step, an AIS organisation should identify jobs⁵ by analysing its organisational context.

⁵ If the size of your organisation is small enough, you may prepare a person-CASP work function table to gain an overview of who does what in the organisation. Then, you can reach job descriptions by analysing this table.

Each job identified in the AIS organisation should be associated with work functions from the CASP Repository. In other words, work functions are building blocks to construct jobs for a particular organisation. The CASP work functions are organised around a generic function diagram that can be used to model any AIS organisation. Each function category in the function diagram can be mapped to departments/business units in your organisation. This approach will facilitate the association of CASP work functions to jobs.

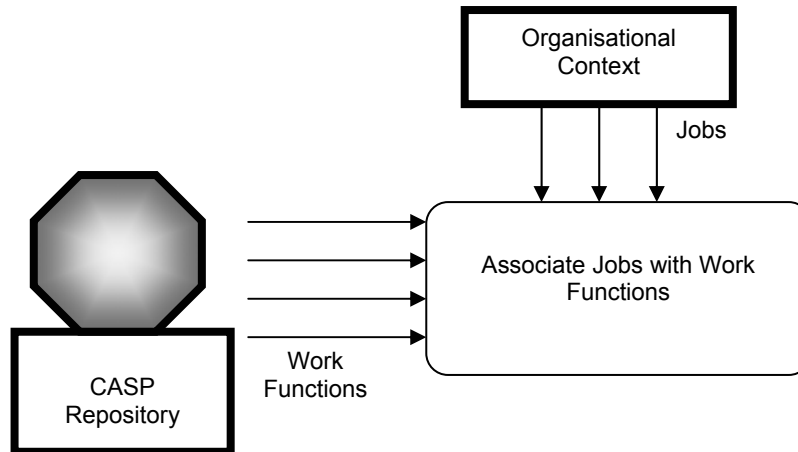


Figure 25. CASP - Adaptability Feature

However, the process of functional analysis should not be static. Changes in business needs, technology, organisational context, and external market forces, frequently result in changes in functional structure as well as job/roles. A function-based analysis allows addition of new work functions and removal of obsolete work functions. Similarly, competencies and requirements related to these work functions may be added or removed as required.

In the overall business context, organisations can be divided into two groups: with *stable settings* or with *dynamic settings* depending on the number and frequency of changes. AIS organisations are situated somewhere between these two settings but more typically closer to the stable settings. It is therefore anticipated that although there will be some changes to the CASP functional model, these changes will be gradual. The CASP functional model should therefore be extendible to incorporate these changes.

Stable Settings	Dynamic Settings
Tasks can be planned long time in advance	Tasks change fast, employees define their own tasks
Job roles stay fairly stable over time	Job roles are only defined in general terms
Competency requirements remain stable and can be planned for each job role	Only very general competency requirements can be defined for a job role
Organisation is based on hierarchy of job roles	Organisation is often project-based
Formal training can accommodate competency needs	Training on the job and coaching become more important

Figure 26. Stable versus Dynamic Settings

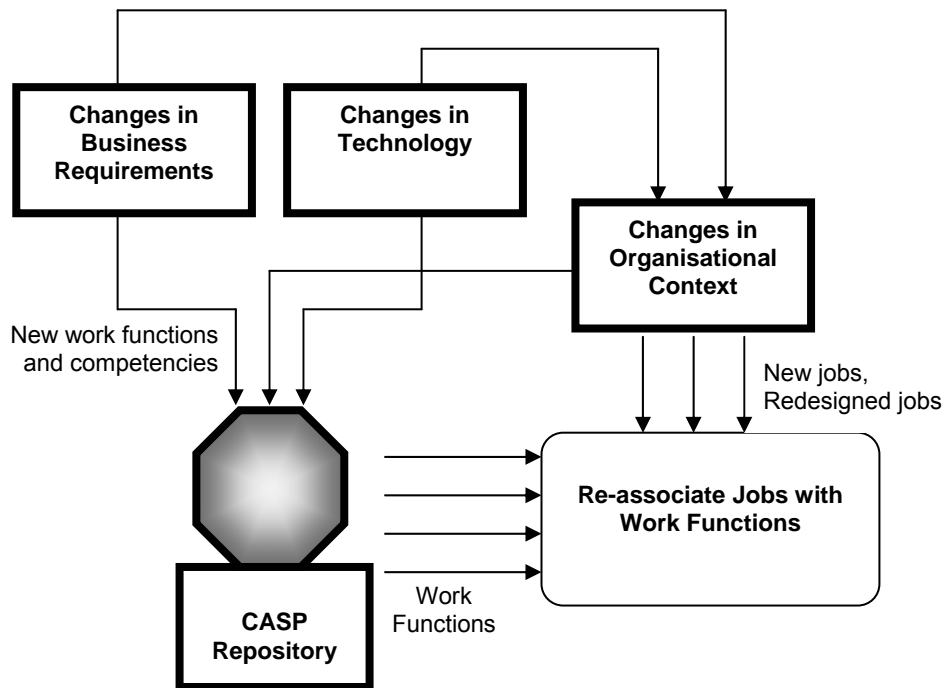


Figure 27. CASP - Extendibility Feature

4.1.5 Adapting the CASP Competency Model

The CASP Competency Model focuses on competencies that are common to AIS organisations.

However, there are some organisation-specific competencies that are not covered in the CASP Competency Model. These are notably

:

- *Technology Specific Competencies:* Competencies pertinent to a specific technology.
- *Product- or Process-Specific Competencies:* Competencies pertinent to a small cluster of jobs within a specific sector of an industry.

For these competencies, as the degree of specificity increases the degree of portability decreases. This is the main reason why such competencies are not included in the CASP Competency Model. However, this does not necessarily mean that these competencies are not useful. On the contrary, these competencies should be identified and the CASP Competency model be complemented with the identified competencies.

4.1.6 Forecasting Future Demand

The CASP Competency Model focuses on the common and current AIS work functions. It does not attempt to identify future possible directions in the AIS domain and arising demands on competency. Nevertheless, it would be wise not to ignore possible future developments in competency demands and to plan competency development activities to tie with these future demands. Figure 28 below poses some pertinent questions:

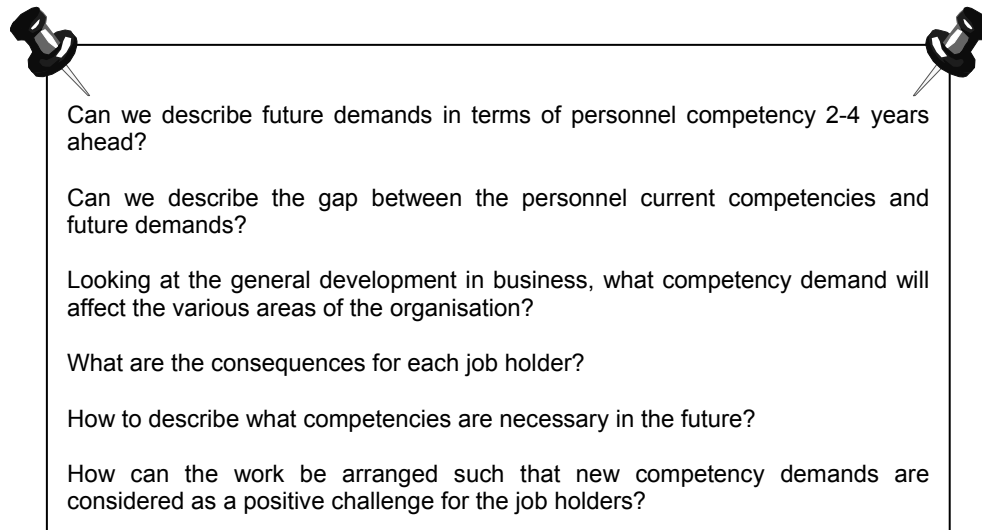


Figure 28. Questions for Forecasting Future Demands

4.2 Competency Assessment

In order to manage competencies, we need to be able to measure and assess them. This section provides guidance on:

- How to set-up an assessment team;
- Hints to prepare assessments; and
- Assessment methods.

4.2.1 Assessment and Appraisal

Work functions and their associated scaled competencies (i.e. functional competency map) on their own are useful, but they are just one part of the equation. They provide information upon what competencies to work towards, but they do not measure whether we have succeeded. That is why, in addition to developing work functions and associating them with scaled competencies; it is necessary to build a system of assessment based upon them.

4.2.2 Assessment Team

The assessment team should consist of members who have:

- *Assessment and certification experience* (e.g., human resources personnel, educators, social partners, individuals with employment assessment background in AIS business);
- *Employment law experience* (e.g., legal experts with specialised experience in civil rights and labour law).

When establishing an assessment team, qualifications such as the following should be sought:

- Expertise in work performance measurement;
- Expertise in job/work analysis;
- Experience developing and administering assessment programmes;
- Expert knowledge of employment and civil rights laws;
- Expertise in employment assessment validation principles; and
- Experience in costing the development and administration of assessment tools; and possibly
- Experience with certification or licensing programmes.

Two of the most challenging technical tasks involved in developing the assessment system are to determine the content of what needs to be measured and what methods will be used to measure the content.

4.2.3 What needs to be measured?

It might be prohibitive and impractical to measure all applicable competencies required for a job and every aspect of a competency. It is likely that we will need to prioritise the competencies to be assessed as part of the assessment process.

For example, depending on the State context, there will be competencies that can be reasonably expected as a result of the education background, while others will have to be trained, e.g. language requirements.

The points to be considered are as follows:

- Budget;
- Relative importance of competencies;
- Measurement feasibility.

One way to decide on the relative importance of competencies is to analyse the functional competency map (i.e., association between work functions and competencies) and study the corresponding competency definitions. This will help determine the most frequently associated competencies. These competencies would be the ones to concentrate on if one had a limited budget. The assessments should however be carefully carried out in order to capture the full richness of these competencies and the context in which you need them (i.e. work functions).

The validity of the content of the assessment process has to be ensured. Validity of the content means the degree to which the assessment developed reflects the competency to be measured.

The assessments will have limited value if they measure competencies only, divorced from the context of work described by the work functions. For example, the assessments may show whether individuals are good at mathematics or have strong listening skills, but they will not necessarily tell whether those individuals can use those competencies in the context of their work.

This is why assessments should measure competencies in the context of the work functions whenever possible. For example, instead of measuring an individual's writing skills or speaking skills, the assessments should measure whether someone can use those skills to identify a customer need.

4.2.4 Modularity

Modularity is another important element. It involves the development of assessments around clusters of related competencies. For example, individuals may need to be assessed in terms of work functions. In a modular assessment system, one assessment module might focus on one work function, along with its associated tasks and competencies, while another module might focus on another work function.

Modularity brings some advantages. For example, modularity provides individuals with the opportunity to distribute competency development over time. Also, it allows for an individual not having to retake the entire assessment. This requires detailed record keeping but, in the long run, saves time and money. Modularity also usually provides more detailed feedback (e.g. feedback on how an individual performed on a given module). Equally important, modularity can help to promote portability across different functional areas (i.e. when assessments are modular, it is easier to see the similarities across areas. If there are similarities, it may be possible for individuals to demonstrate competencies in another area). In fact, the greater degree of modularity in assessments, the easier it will be for individuals to transfer already assessed competencies.

4.2.5 Assessment Methods

There are various assessment methods that can range from paper-and-pencil multiple choice questionnaires to work simulations or observations of an individual's performance on-the-job. The choice of method is a matter in itself. Consideration has to be given to criteria such as: the competency to be measured, the number of assessments to be carried out or the budget available.

The following lists the various tools and methods that can be used for competency assessment:

- *Surveys.* Employees are surveyed through written and/or electronic questionnaires;
- *Interviews.* Face-to-face interviews with employees;
- *Observations.* Employees can be watched at work to determine where there is a gap between the organisation's standards and the performance of the employees;
- *Customer Comments.* Informal, unsolicited customer complaints can signal that there is something wrong and that customer needs are not being met. Some organisations have established systems for continuous customer input through comment cards, focus groups or formal interviews;
- *Employee Meetings.* When there is evidence that employee performance is below standards, managers can hold an employee meeting in which employees informally discuss the job tasks they feel they do well and those that need improvement. Employees can then suggest methods for improving performance and set goals to raise performance levels;
- *Tests.* Psychometric and ability tests are typical to assess potential competencies at the recruitment level. Written and/or electronic tests need to be designed, developed and administered;
- *Live Performance Simulations.* These types of assessments measure an individual's competencies based on how they perform a simulated work function. They are often useful for measuring social or interpersonal skills, such as listening, speaking, working in teams, building consensus and using social skills. For example, an assessment might involve a simulation of a customer calling about a complaint. The examinee completes a form using information gained from the caller. To complete the form, the examinee might access a computer file to obtain certain codes, use some basic arithmetic calculations and write a short narrative description of the problem. Following completion of the form, an examiner might ask the examinee a series of structured questions designed to assess his or her understanding of the problem. Key

considerations in this type of simulation are the need to provide a standardised stimulus (i.e., the customer problem) and a standardised scoring system;

- *Situational Judgement Inventory*. This is a method of assessment in which individuals are asked to consider various hypothetical work situations. The individual is provided with a series of alternative actions that he or she might recommend. This method may be more practical, but it is a less realistic way of assessing interpersonal and problem-solving skills;

- *Role-plays*. This type of assessment might involve live role-plays designed to assess interpersonal or social skills. Such an assessment might include a group exercise in which an individual's skills at building consensus are evaluated.

The choice of assessment methods will depend greatly on the specific aspects of the competencies being measured. How well those assessments measure performance, as well as practical considerations of time and expense. The most important goal in choosing assessment methods should be whether the method selected is the best method for measuring the competencies in the job context.

4.3 Selection Process

4.3.1 Selection Principles

Recruitment and selection of staff for the AIS should be made based on merit and relative efficiency, the requirements of the position, in fair and open competition to ensure that the best qualified applicant is selected for the job. In assessing the relative efficiency of candidates consideration should be given to the abilities, qualifications, experience, standard of work performance and personal qualities of each applicant, in so far as they are relevant to the efficient performance or potential to efficiently perform the duties [9].

The following principles and procedures are outlined as a suggested good practice. Individual organisations may have their own existing procedures which may work well and have been put in place for particular local reasons.

The Selection Committee should check that the field of applicants is of sufficient calibre to proceed with the selection. The procedures should enable a thorough investigation of the claims and merits of the applicants to be assessed against the selection criteria.

The Selection Committee should consist of a minimum of two people to determine the most suitable applicant. Two people enable cross grading and allow measurement of inter-rated reliability.

Selection Criteria must have rating scales that contain sufficient dimensions (i.e. enough points in the scales) to allow sufficient differentiation between candidates and to gather diagnostic.

The following table provides an example of a selection criteria grid that might be applied while recruiting ab-initio staff for AIS operational functions. The grid has been built by way of example and has not been validated.

Criteria	Average	Pronounced	Very Pronounced
Competencies			
I09 - Stress Tolerance Remains calm, objective and self-controlled under pressure. Maintains a stable performance in demanding situations. Accepts criticism without becoming hostile or over-defensive.		✓	
I13 - Selective Attention The ability to concentrate on a task over a period of time without being distracted.			✓
I11 - Accuracy Is detail conscious and accurate. Is attentive to points of detail and systematically controls data.			✓
C05 - Self Development Takes responsibility for own development. Actively pursues learning and career development opportunities. Seeks out and acts upon feedback on own performances.		✓	
I03 - Building Relationships Quickly builds rapport and puts others at ease. Easily establishes relationships with others. Able to maintain relationships with different types of people at all levels.	✓		
I12 - Methodical Is methodical and rigorous. Shows perseverance and commitment in performing routine tasks.		✓	
I10 - Adaptability Is able to work in a changing environment and to learn quickly new methods and new systems. Adapts readily to new situations and ways of working. Receptive to new ideas. Willing and able to adjust to changing demands and objectives.		✓	
T04 - Problem Analysis Breaks problem into constituent parts. Isolates problem areas by differentiating key elements from the irrelevant or trivial. Makes accurate use of logic and appropriate analysis techniques. Draws sound inferences from information available.			✓

Criteria	Average	Pronounced	Very Pronounced
I06 - Oral Communication Communicates orally in a manner, which is clear, fluent, and to the point. Is able to give and receive information using appropriate language and communication style. Clarifies understanding of information.	✓		
I08 - Written Communication Writes in a clear, concise and grammatically correct manner. Adapts style and language to the needs of the reader.	✓		
I14 - Decisiveness Willing to make firm and speedy decisions. Commit to definite courses of action on the basis of limited information if necessary.		✓	
Other Requirements			
Computer literate	✓		
Language Skills – English			
Verbal		✓	
Written	✓		
Language Skills – National Language			
Verbal	✓		
Written	✓		
Team work		✓	
Keyboard proficient	✓		
Nationality – (national or with working permit)			
	<input type="checkbox"/> Yes <input type="checkbox"/> No		
Age range – 18 - 28 years			
	<input type="checkbox"/> Yes <input type="checkbox"/> No		
Criminal record clearance			
	<input type="checkbox"/> Yes <input type="checkbox"/> No		
Higher Education			
	<input type="checkbox"/> Yes <input type="checkbox"/> No		
Working hours (open for irregular work)			
	<input type="checkbox"/> Yes <input type="checkbox"/> No		

4.3.2 Preparation

A number of documents should be in place at the beginning of the Selection Process. Normally, these would consist of:

- Job (Position) description and duty statement;
- Reporting line and position in the organisation structure;
- Selection criteria against which applicants will be assessed.

The CASP Repository enables the creation of the job description and the duty statement. These set the scene about what the jobholder is required to do, what the reporting arrangements are, and how the position fits in with the other work areas. Where possible, the above documents should be validated by:

- Current jobholders;
- Immediate supervisors of the job in question.

4.3.2.1 Selection Criteria

The Selection Criteria are the measure against which applicants' suitability will be assessed. The Selection Committee should, where appropriate, comply with laid down selection procedures and processes regarding the means to gather and assess applicant CVs and other data. Sources of information may include:

- Application form;
- Interview;
- Referee Reports;
- Work Samples; and/or
- Performance tests

Where used, rating scales should have enough points to allow sufficient differentiation. Negative indicators as well as positive indicators may be used as selection criteria. Examples of areas to be covered are: Technical and intellectual competencies, style of work (getting things done), social adjustment and team work.

4.3.2.2 Analysis of applications

The CV of applicants should be checked for:

- Completeness;
- Applicant's qualifications;
- Reason for leaving previous jobs;
- Missing elements;
- Possible gaps in dates between jobs.

Using the data from applicant's CV's and applying the selection criteria, applications can be sorted into three categories: possible (meet all/most criteria), maybes (meet some criteria) and reject (meet few criteria).

A shortlist of the most suitable applicants may be drawn up for further consideration at a large stage of the selection process.

4.3.2.3 Interview Plan

The interview plan should be carefully prepared:

- Questions and scoring guidelines based on the selection criteria should be developed;
- An interview schedule should be prepared allowing approximately 1-1.5 hours per interview.
- The interview itself should be at least of a semi-structured nature;
- All topics should be covered in the plan;
- Time should be allowed between candidates to write up interview notes;
- Time should be allowed at the end of the day for scoring;
- The candidate's CV/application form should be read thoroughly to make preliminary notes.

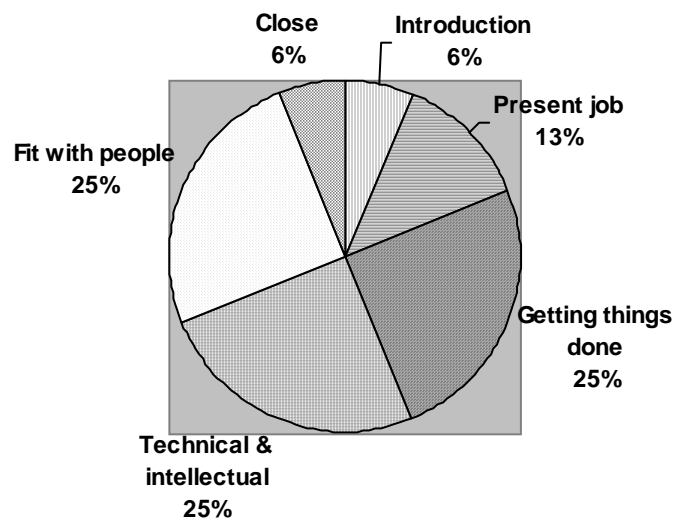


Figure 29. Interview Timetable in Percentages

4.3.3 Interview

4.3.3.1 Prepare interview room

- It should be a quiet room where there will be no disruption;
- All telephone calls should be held;
- Interviewee and interviewer(s) should sit at adjacent sides of the table, comfortably apart.

4.3.3.2 Opening the interview

Guidelines for the interviewer:

- Introduce yourself;
- Welcome the candidate and put him/her at ease;
- Explain the overall recruitment procedure;
- Describe the structure and length of the interview;
- Invite questions before you start;
- Follow your plan – question experiences and achievements as they relate to the Selection Criteria;
- Take notes, using candidate's own words;

- Remember pattern of questioning;
- Use open, non-directive questions (as opposed to closed questions that can be answered only by yes or no);
- Ask for examples of specific behaviour.

4.3.3.3 Closing the interview

- Advise the candidate that the interview is now over;
- Thank him/her for his/her co-operation;
- Ask him/her if there is anything more he/she would like to add;
- Ask if he/she has any questions for you;
- Tell the candidate what will happen next and when he/she can expect a decision;
- Thank the candidate for participating and ensure he/she knows the procedure for leaving the building, claiming expenses, etc.

4.3.4 Decision-Making Discussion

The Selection Committee should keep in mind the following during decision-making:

- Keep the numbers involved in the discussion to a minimum (an odd number can facilitate decision);
- Ensure adequate time for discussion per candidate;
- Arrange for someone to chair and someone to take notes;
- Discuss candidates, one at a time;
- Ask the interviewer to provide evidence to justify ratings;
- Be prepared to challenge and discuss the ratings of other interviewers;
- Bear in mind any other relevant information- e.g., ability tests, results of technical test, etc.

All unsuccessful applicants interviewed for the job should be notified in writing of the outcome and should be given the opportunity to obtain verbal feedback on their performance if they so desire. Applicants not listed for interview should be advised accordingly.

The selection report will provide an accurate account of the Committee's assessment of applicants and enough information for the decision-maker to make a decision. The report will be used as the basis for counselling unsuccessful employees and for review requests arising from the selection decision.

An appropriate personnel delegate will usually formally approve the Selection Committee's recommendation.

4.4 Competency Planning

The main activities involved in this process are as follows:

- Mapping and prioritising competency needs,
- Choice between alternative initiatives to meet the demands of prioritised competency needs,
- Definition of overall goal for competency management and for different work functions.

The competency gap analysis is partially covered by the proposed Performance Assessment and Competency Enhancement (**PACE**) process at individual (i.e. employee) level. Once the necessary data has been collected and the actual competency level of the organisation's employees is determined, an overall Competency Gap Analysis may be performed. By comparing the actual levels of competency to the required levels, the gap can be identified and the possible interventions required to close that gap may be determined.

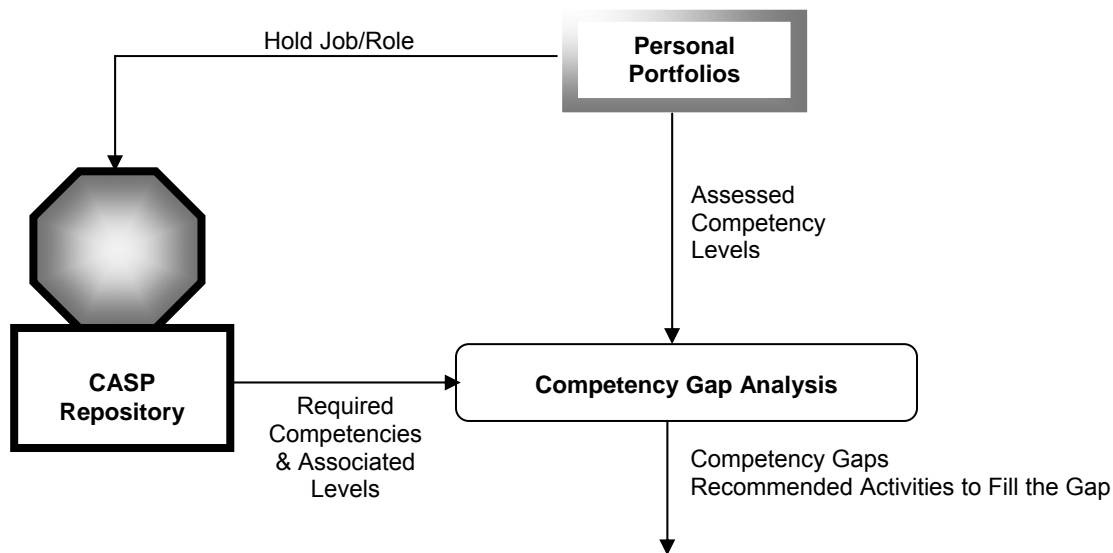


Figure 30. Competency Gap Analysis

The individual gaps can be aggregated to identify competency development needs for a job/role, project team, business unit or an entire organisation. Competency needs should be prioritised. To do so the following options and possibilities should be discussed thoroughly and organisational policies determined:

- Which competency can be mobilised/released by more efficient organisation and use of existing accessible competencies?
- Which competency can be developed through training efforts directed towards existing employees?
- Which competency has to be imported by way of recruitment, external co-operation or assistance?

Competency planning is a part of Human Resource Development (HRD). There are some questions that need to be answered to determine where HRD may be useful in providing solutions [3]:

- *Problems or deficits.* Are there problems in the organisation that might be solved by training or other HRD activities?
- *Impending change.* Are there problems that do not currently exist but are foreseen due to changes, such as new processes and equipment, outside competition, and/or changes in staffing?
- *Opportunities.* Could we gain a competitive edge by taking advantage of new technologies, training programmes, consultants or suppliers?
- *Strengths.* How can we take advantage of our organisational strengths, as opposed to reacting to our weaknesses? Are there opportunities to apply HRD to these areas?

- *New directions*. Could we take a proactive approach, applying HRD to move our organisation to new levels of performance? For example, could team building and related activities help improve our productivity?
- *Mandated training*. Are there internal or external forces dictating that training and/or organisation development will take place? Are there policies or management decisions that might dictate the implementation of a particular programme? Are there governmental mandates to which we must comply?

4.5 Competency Development

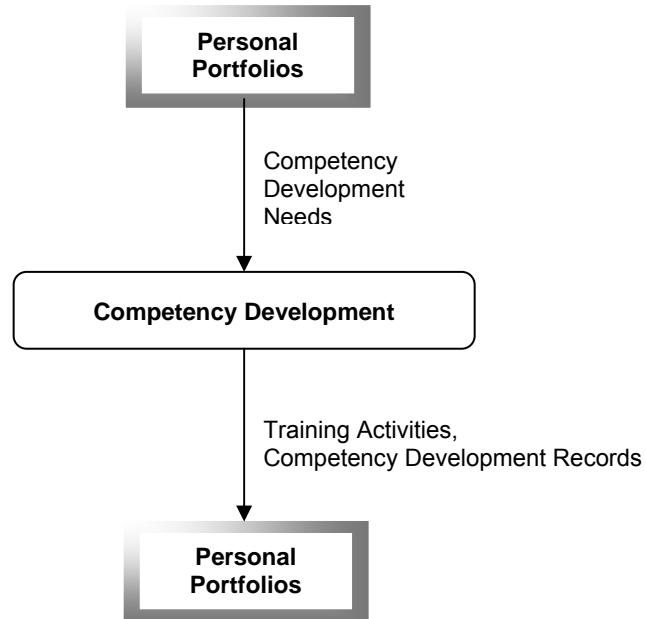


Figure 31. Competency Development

Competency development is a key activity of HRD and is driven by organisational needs determined through competency assessment and gap analysis. The process corresponds consists of a series of actions determined after the gap analysis. After execution, these actions or activities should be recorded in the personal profile portfolios.

Competencies are acquired through a variety of channels [6]:

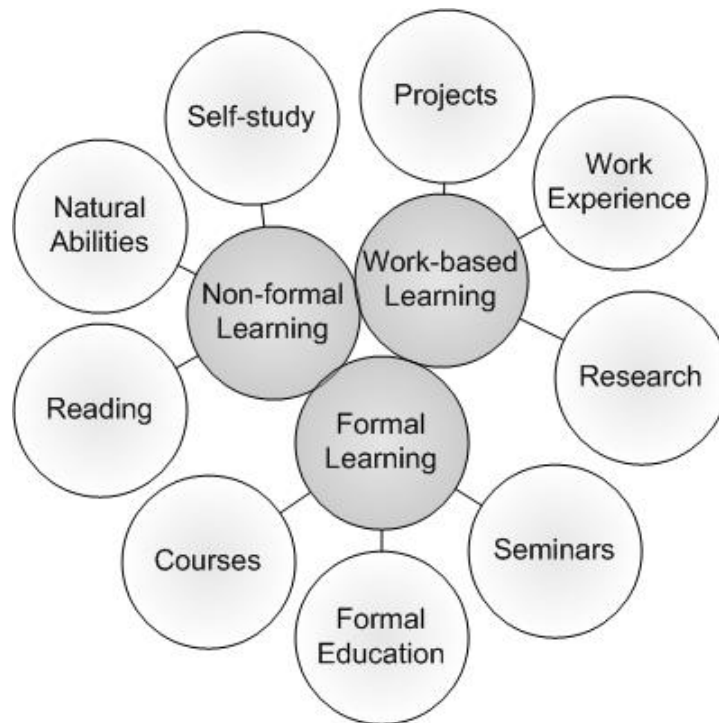


Figure 32. How Competencies are acquired?

In a business environment, training (on-the-job or external) is the most traditional way of acquiring competencies. Therefore, competency development should consider:

- Matching training interventions to organisational needs.
- Orienting new workers depending on the initial assessment.
- Developing where necessary custom training courses (content development, delivery & measurement). In an effective training programme, how the information is presented can be as important as the information itself. Different situations require different training methods, depending on the number and background of the learners, as well as the nature, goals and stability of the course content.
- Meeting individual learning preferences
-
- Designing the budget in order to show the *economic consequences* of training and non-training.
- Forecast pre-training benefits (e.g. reduction of error rate of x%) and monitor post-training results (evaluation questionnaire at the end of training and follow-up performance achievements in appraisal).

4.6 Personal Profile Portfolios

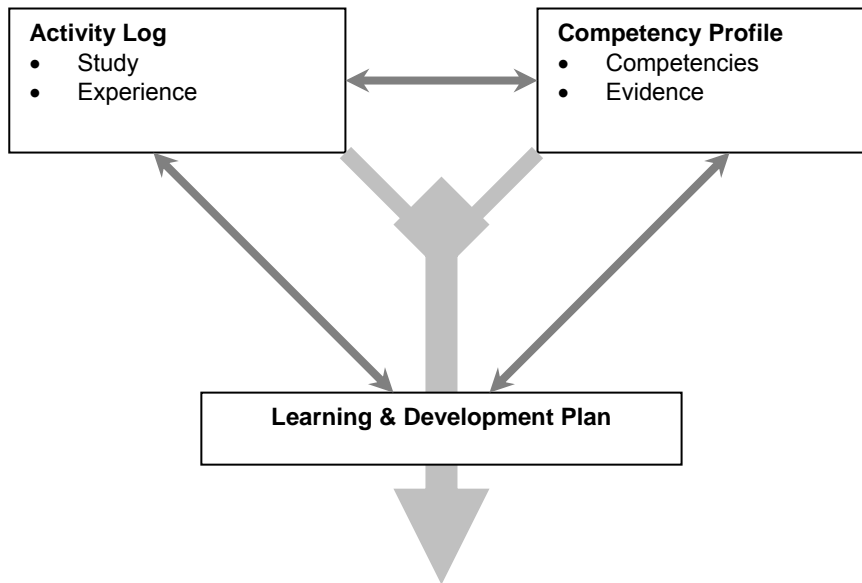


Figure 33. Contents of Personal Profile

Personal profile portfolios are instrumental to the establishment of a sound competency management within an organisation. These personal profiles should be used to maintain appropriate records of education, experience, training and qualifications. At their simplest, such records may consist of a “sign-off” to confirm that staff is able to proficiently carry out specific processes or follow certain procedures. These records should include a clear statement to say when a person is deemed to be competent to do the task for which they have been trained.

Personal Profiles should hold the following information [4] [5]:

- Assessed skills and competencies of an individual;
- Comparison against the requirements of his/her position;
- His/her career goals;
- A development plan.

Personal profiles should be used to [4] [5]:

- Track individual performance against required competencies;
- Plan developmental activities which are aligned with business goals;
- Monitor management success in people development.

For more on personal profile portfolio, see Chapter 5, the proposed Performance Assessment and Competency Enhancement (PACE) guidelines and their related form at Appendix C. PACE is based upon and adapted from the Sample Performance Appraisal Form given in the Appendix 5 of the document entitled “Report of the 11th Meeting of the APANPIRG ATS/AIS/SAR SUB-GROUP” [9].

4.7 Chapter References

[1] Developing Skill Standards for the Information and Communications Technology Industry Sector, PowerPoint presentation, Gordon Snyder - National Center for Telecommunications Technology, Paul Squires - Applied Skills & Knowledge, Joselito C. Lualhati - National Skill Standards Board.

- [2]** Built to Work, A Common Framework for Skills Standard, National Skill Standards Board, ISBN 0-9700518-0-8, 2000.
- [3]** Brinkerhoff, R.O., Achieving Results from Training, Jossey-Bass Inc., San Francisco, 1987, pp. 40-47.
- [4]** TNA - Personal Development Portfolios, <http://www.trainingneedsanalysis.co.uk>.
- [5]** Personal Development Portfolios, Learning Resource Center.
- [6]** ICT Skills and Employment. Vladimir Lopez-Bassols, DSTI/DOC(2002)10, OECD, 2002.
- [7]** Annex 15 — Aeronautical Information Services, Eleventh Edition, ICAO, July 2003.
- [8]** Aeronautical Information Services Manual (Doc 8126, AN/872), ICAO, Sixth Edition-2003.
- [9]** Report of the 11th Meeting Of the APANPIRG ATS/AIS/SAR SUB-GROUP (ATS/AIS/SAR/SG/11), ICAO Asia and Pacific Office, Bangkok, Thailand, 25 – 29 June 2001.
- [10]** ISO 9001:2000.

CHAPTER 5 –PACE Guidelines

Performance Assessment and Competency Enhancement (PACE) is proposed as an appraisal system for planning and evaluating the performance of AIS professionals. It is based upon and adapted from the Sample Performance Appraisal Form provided in Appendix 5 of the document entitled “Report of the 11th Meeting of the APANPIRG ATS/AIS/SAR SUB-GROUP” [1].

PACE is a planning and communication instrument that focuses on results achieved and competencies critical to effective performance. This chapter provides a step-by-step guide for following the PACE.

Employees and their supervisors are encouraged to review this guide prior to establishing the PACE system. Certain steps for completing the PACE may vary from one AIS organisation to another. Current AIS internal policies relating to similar performance appraisal processes should also be reviewed prior to adapting the PACE system for implementation.

- Definitions
- The PACE Process

5.1 ***Definitions***

5.1.1 **Performance Period**

The performance period covered by PACE should usually be 12 months. It may be less in the case of probationary periods, trial service or for other reasons determined by the supervisor. The beginning and end dates of the performance periods may be any annual time frame determined by the AIS organisation.

5.1.2 **Who should use the PACE?**

PACE should be used for personnel carrying AIS/MAP and associated ARO functions.

5.1.3 **Terms**

The following terms are used in the PACE:

- Employee: the employee whose performance is being planned and assessed;
- Supervisor: the person to whom the employee directly reports;
- Reviewer: the person to whom the supervisor directly reports, unless otherwise designated by the AIS organisation.

5.2 ***The PACE Process***

The PACE process is based upon open communication and a collaborative effort between the supervisor and the employee. They work together to develop a performance plan at the beginning of the performance period, continually monitor and modify it as needed, and assess the actual outcomes at the end of the period. The process then begins again with development of a plan for the next performance period.

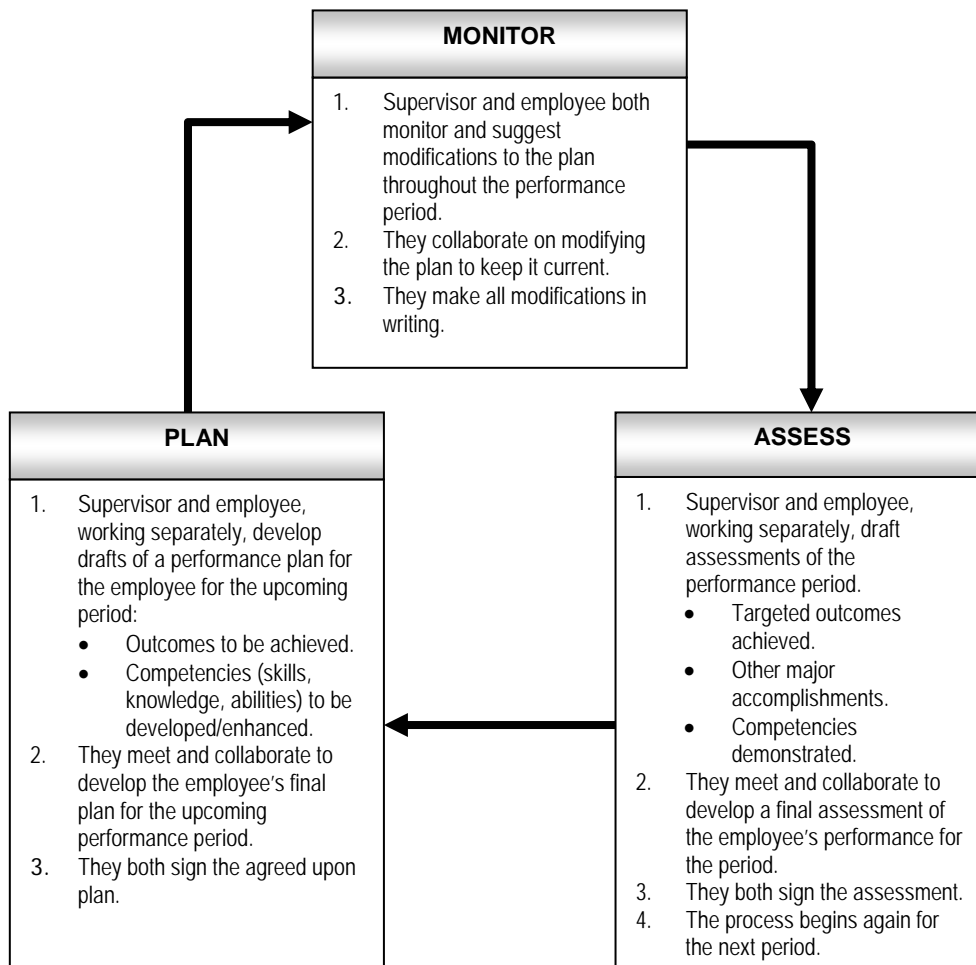


Figure 34. PACE Process

5.2.1 Planning

Step 1: Prior to preparing the **PACE**, the supervisor and employee should get together to:

- Discuss the PACE process, review the form, User's Guide and internal policies relating to the process
- Clarify the roles and responsibilities of the employee's position, using the job description
- Discuss and clarify the employee's position in relation to the mission, goals and objectives of the organisation

Step 2: Independently, the supervisor and employee should prepare drafts of:

- Section II *Performance Appraisal* and
- Section III *Competency Development Plan*

Step 3: At the **PACE** planning meeting, the supervisor and employee:

- Discuss the drafts of Section II *Performance Appraisal*
- Reach mutual understanding on performance expectations and the means by which they will be assessed
- Discuss the drafts of Section III *Competency Development Plan*
- Reach mutual understanding of the development needs and
- Plan to address those needs

Step 4: After the meeting, the supervisor:

- Completes the final draft of *Sections II and III* of the PACE
- Signs Section IV *Agreement of Understanding*
- Asks the employee to review the final draft and sign the *Agreement of Understanding*
- Signs Section IV *Agreement of Understanding*

5.2.2 Completing the PACE form

Hints for Section II *Performance Appraisal*

What Are Key Result Areas?

- Performance outcomes to be achieved by the employee during the upcoming performance period;
- Specific, observable and where possible measurable;
- Collaboratively developed by the supervisor and employee;
- A reflection of the organisation's mission and business objectives;
- A reflection of the employee's most significant job responsibilities and of how that person will spend most of his or her time.

Why Identify Key Result Areas?

Employees need to know beforehand the goals and standards against which their performance will be assessed. Without this information their performance cannot be appraised in an open and fair manner.

Why Develop Them Collaboratively?

When the employee participates in describing the performance expectations, he/she gains ownership for and a commitment to the achievement of those results.

What is a Well-Written Key Result Area?

- It describes the desired outcome;
- It may also describe the process to be used to achieve the desired outcome if the process is determined to be a significant aspect of the performance. Note: Be careful to avoid over-management by over prescribing processes;

- It describes how you will know when the outcome or result has been achieved. Not all results are “measurable.” However, they are observable. You should ask the question: “How will we know that this expected result has been achieved?”;
- It fits within the employee’s authority to accomplish;
- It is realistic within the time period and resources available;
- It should be prioritised relative to the other expected results.

Hints for Section III *Competency Development Plan*

How to Determine the Employee’s Developmental Needs?

There are several alternative methods. Here are some ideas:

- If this is the first time using PACE, the CASP Repository should be used to create a list of competencies as a worksheet to identify areas needing development. Otherwise, the completed Section VI from the previous performance period should automatically give the information needed to prepare the Competency Development Plan;
- Focus on the critical competencies for effective performance;
- Thinking of the job responsibilities and, especially, the Key Result Areas, what competencies need to be demonstrated in order to be successful (the CASP Repository may be used to select competencies)? Which of these competencies should the employee develop further to be more effective?
- If available and adapted to the case, a competency assessment tool may be used (questionnaires, tests, role-plays, simulations...). Data obtained from assessment tools may be an excellent supplement to PACE.

How to Carry the Performance Appraisal?

- The supervisor should be familiar with the guidelines for Interview (see Chapter 4 Section 4);
- He/she should have an open and fair discussion with the employee;
- He/she should listen carefully to what the employee feels he/she needs to be more effective;
- In a constructive and caring way, the supervisor should share his/her observations and the feedback he/she has received from those with whom the employee works. This leads naturally to the Competency Development discussion.

How to Prepare the Competency Development Plan?

For each competency needing development, an enhancement strategy should be determined. This determines what activity the employee should engage in to further develop the competency in question. There may be several alternative activities to consider. The effort/cost associated to development activities should be evaluated. These activities may include inter alia:

- Workshops, seminars, courses;
- Videos, tapes, computer-based training modules;
- Reading appropriate journals, documents;
- Shadowing;
- Coaching, mentoring;
- Conference attendance;
- Rotational assignments.

5.2.3 Monitoring

Have Priorities Changed?

During the course of the performance period, priorities or circumstances will likely shift. It might be very difficult to anticipate the significant issues that will arise during the course of the year. A key aspect of PACE is that there should be no surprises when it comes to evaluation time. Therefore, the PACE forms should be reviewed periodically during the course of the performance period. As a minimum, a quarterly review is suggested.

What to Look for?

- Are the original Key Result Areas still valid, realistic, and priority issues? If circumstances have changed so that the employee will no longer be held accountable for achievement of a result, then it should be deleted from the PACE form. If its priority has shifted (up or down), that should be noted accordingly;
- Have new accountabilities been added? As the employee receives new, significant expectations (i.e., those that will impact upon the performance evaluation at the end of the period), they should be added to the PACE form;
- How well does the employee perform? Give some feedback and recognition. A little positive reinforcement can go a long way in supporting continued excellent performance. On the other hand, if improvement is needed, let the employee know right away. Be specific and fair. Adjust the Competency Development Plan if needed.

5.2.4 Assessing

Step 1:

Prior to the performance evaluation meeting at the end of the performance period, the employee and supervisor should independently prepare drafts of Section V and VI.

Section V: When preparing the Development Assessment, the actual results achieved in relation to those expected (as listed in Section II) should be summarised. Information concerning the degree of completion, quality, quantity, timeliness and other relevant factors should be included. This summary provides important feedback for the employee and may be a useful documentation for employment decisions where performance is a factor.

Space is also provided to describe other important accomplishments achieved during the performance period that were not listed as expected results.

Section VI: In preparing the Competency Assessment, the supervisor should concentrate on providing specific, constructive narrative information in the space provided for each competency. This information is crucial in reinforcing the employee's demonstration of competencies. It is also critical in identifying areas needing improvement.

For some positions, some of the competencies may not be applicable. When this happens, simply note "not applicable to this position" on the form.

There may be other competencies that are important to the position but not listed on the form. If so, they should be added in the space provided.

The use of rating boxes is optional, unless otherwise directed by organisation's policy. If rating boxes are used, the categories are defined as:

1. Outstanding: *Performance objectives consistently met at outstanding level.*
2. Superior: *Performance objectives consistently met, frequently exceeds expected level.*
3. Satisfactory: *Fully competent and performance objectives met to required level.*

***4. Adequate:** Performance does not always meet the required level (e.g. persons promoted to this level within the last six months and who may be regarded as novices in the role might be rated at this level).*

***5. Unsatisfactory:** Performance regularly falls below minimum acceptable level. Performance objectives frequently not met. (Persons might be taken off duties to follow a competency re-development program or be proposed a new assignment).*

Step 2: At a scheduled performance evaluation meeting, the supervisor and employee should:

- Discuss the drafts of the Competency Assessment, probing in detail those areas where the employee demonstrates excellence and those areas where improvement is needed.
- Attempt to reach a common understanding of performance results and demonstration of competencies.
- Discuss the drafts of the Development Assessment. Both should share their own impressions of results achieved and provide feedback on the other's views.

Step 3: After the meeting, the supervisor should:

- Finalise Sections V and VI.
- Make any additional comments and signs Section VII.
- Ask the employee review the final document, make any comments, and sign Section VII.
- Deliver the signed document to the reviewer for review and signature.

Step 4: The reviewer (usually the second line supervisor) should:

- Monitor the completion of the document.
- Assess the quality of the completed PACE form (for example: that all sections were properly completed, adequate narrative commentary was provided, etc.)
- Make any comments regarding the process. The reviewer should not conduct another evaluation of the employee's performance. However comments in support of the supervisor's comments may be appropriate.
- Sign Section VII and return the document to the supervisor who will distribute copies to the employee and the keeper of personnel records in the organisation.

Step 5: The supervisor should:

- Receive the completed document from the reviewer and distribute a copy to the employee and the keeper of personnel records in the organisation.

5.3 Chapter References

[1] Report of the 11th Meeting Of the APANPIRG ATS/AIS/SAR SUB-GROUP (ATS/AIS/SAR/SG/11), ICAO Asia and Pacific Office, Bangkok, Thailand, 25 – 29 June 2001.

CHAPTER 6 – Implementation Planning

This chapter provides an implementation planning template for a phased introduction of competency management within an organisation. To begin with, it draws attention to cultural considerations that need to be carefully assessed and managed at organisation policy level to enable an effective implementation. It then concludes with an overview of the typical indicators that may be selected and used to measure the performance of a competency management system.

- Cultural Considerations
- Implementation Phases
- Suggested Schedule
- Typical Performance Indicators

6.1 *Cultural Considerations*

Implementing competency management requires the integration of the process into the culture of the organisation. Every organisation is different in terms of cultural considerations. These considerations include employee attitudes, as well as human resource policies, training policies, management objectives and other policies and procedures [1].

Among the many types of organisation cultures, there are three types that usually bear more risks for a successful competency management implementation [2]:

- A first type relates to organisations without a culture of exchange of information. In this type of organisation, people are protective of their knowledge and do not disseminate it easily. This is characteristic of cultures that do not reward people for knowledge transfer;
- A second type of organisation culture is one dominated by fear. People are concerned that the information identifying and assessing their competencies may be used against them for termination or reduced opportunities for promotion and re-assignment. Typically, these organisations have suffered downsizing, difficult reorganisations or other forms of instability;
- A third type is one dominated by indifference, intransigence and/or obstruction. People may focus on performance only and could not be bothered with participation. Or, employees just want to be left alone, do not feel any obligation or are not given sufficient management direction to co-operate. In this category may be found organisations that are dominated by rigid policies or by people who do not want to take on additional work, regardless of the benefits.

All of these cultural issues can be overcome by effective communication, policies and reward systems. Policies regarding promotion, transfer, training and rewards need to be in place and transparent. For example, people should not be promoted based on their competency

acquisition, but rather their competency application (performance). This is a particularly important point to get across where competency development programmes are established and continued over time [3].

Each organisation should evaluate their policies in the light of competency management. Most importantly, competency management processes should be institutionalised within the organisation, with clear definitions of the roles of each individual within the process and associated process elements (e.g. appraisal form, training development plan...) understood, acknowledged and expected at a prescribed time and place [4].

6.2 *Implementation Phases*

Communicating objectives to employees, setting up an implementation team, gathering competency information, establishing processes and procedures, training users. All these tasks are components of a competency management project which should be carefully integrated and planned for a successful implementation.

Classically, an implementation plan is composed of five phases as follows:

- *Planning* - This phase includes communicating to the staff, establishing the implementation team and addressing policy and procedural issues. The output is a fully developed and agreed project implementation set-up;
- *Data Gathering and System Preparation* - In this phase, competency information is gathered; work functions are identified and associations between work functions and jobs/roles descriptions are built. This corresponds to adapting the CASP framework within your organisation;
- *Pilot (Testing)*- An optional pilot group is selected, trained and monitored. As a result of this phase, data and procedures may be refined;
- *Full Deployment* - Competency profiles are prepared for participating employees, competency gaps are reviewed and development plans composed;
- *Post-Implementation Audit* - In this phase, conducted six to eight months after full deployment, procedures, data and other components of the competency management project are evaluated for effectiveness, completeness and accuracy. Refinements to the process may be recommended.

Each of the following sections presents one of these phases. Each section starts with a table presenting a summary of the phase. This summary contains identifiers and action descriptions. Then, each action is detailed by giving the following information:

- Identifier;
- Action description;
- Explanatory notes for this action;
- Who is responsible for this action;
- Frequency of executing this action.

6.2.1 Phase 1 – Planning

Identifier	Action description
1-01	Become familiar with the CASP framework
1-02	Establish a project team, resources and target dates
1-02.a	Nominate a project manager
1-02.b	Define the scope for implementation
1-02.c	Check other critical projects
1-02.d	Define program planning and implementation with respect to resource requirements
1-03	Produce a high level proposal for management support
1-04	Obtain management decision for implementation and support
1-05	Commit to an integrated, scope-wide approach to competency management
1-05.a	Communicate clearly commitment and support for implementation
1-05.b	Hold implementation team and functional areas' managers accountable for results
1-08	Communicate project objectives to employees

Identifier	1-01
Action description	Become familiar with the CASP framework
Notes	Read the CASP document thoroughly to ensure you have a clear understanding of the methodology.
Who?	Implementation Team
Frequency	Once at start-up

Identifier	1-02
Action description	Establish project team, resources and target dates
Notes	Use cross-functional expertise to help anchor the implementation team effort with regard to performance that matters
Who?	Implementation Team
Frequency	Once at start-up

Identifier	1-02.a
Action description	Nominate a project manager
Notes	Apply good project management skills to the competency management initiative. Project management skills that make a difference include task and schedule execution and control; budget control; customer and stakeholder relationship management staffing and most importantly personnel management.
Who?	Implementation Team
Frequency	Once at start-up

Identifier	1-02.b
Action description	Define the scope for implementation
Notes	Keep the project size manageable. Do not try to develop competency management for the entire organisation all at once. Based on business strategy and capabilities, select an area in which to begin the effort. Select the job titles for which the CASP competency model will be adapted. Demonstrate success in the selected area first and then tackle other areas.
Who?	Implementation Team
Frequency	Once at start-up

Identifier	1-02.c
Action description	Check other critical projects
Notes	If other strategic initiatives and critical projects exist within the organisation, proceed with caution. They have the potential to dilute support and focus for the competency initiative, especially if the same individuals might be asked to support both initiatives. If you must proceed in parallel with another critical project, separate out the competency initiative and have clear delineation of responsibilities to manage the project scope and focus.
Who?	Implementation Team
Frequency	Once at start-up

Identifier	1-02.d
Action description	Define program planning and implementation with respect to resource requirements
Notes	
Who?	Implementation Team
Frequency	Once at start-up

Identifier	1-03
Action description	Produce a high level proposal for management support
Notes	Build a business case up front to identify and document project goals and then market the business case to management and pertinent functional areas. This requires the availability of measurements of current initiatives related to competency management.
Who?	Implementation Team
Frequency	Once at start-up

Identifier	1-04
Action description	Obtain management decision for implementation and support
Notes	Get top management/leadership buy-in from the start and ensure continuing commitment to the project throughout its lifecycle. This includes frequent communications to sponsoring leadership. It must also include leadership attitude that demonstrates support for the project through memos/messages, resource allocation, and "cheerleading" activities.
Who?	Implementation Team-Senior Management
Frequency	Once at start-up, then continuous

Identifier	1-05
Action description	Commit to an integrated, scope-wide approach to competency management
Notes	
Who?	Senior Management
Frequency	Once at start-up

Identifier	1-05.a
Action description	Communicate clearly commitment and support for implementation
Notes	
Who?	Senior Management
Frequency	Once at start-up, then continuous

Identifier	1-05.b
Action description	Hold implementation team and functional areas' managers accountable for results
Notes	
Who?	Senior Management
Frequency	Once at start-up, then continuous

Identifier	1-06
Action description	Communicate project objectives to employees
Notes	
Who?	Project Manager - Implementation Team
Frequency	Once at start-up

6.2.2 Phase 2 – Data Gathering and System Preparation

Identifier	Action description
2-01	[Optional] Develop or acquire programs, practices and tools that support the ability of your organisation to implement competency management
2-02	Create or retrieve the list of job/roles in your organisation
2-03	Refine the CASP Functional Model
2-04	Associate work functions identified in action 2-03 to job/roles
2-05	Adapt the CASP Competency Model to your organisation
2-05.a	Create a customised dictionary of the competencies you manage
2-05.b	Develop usability of the competency model
2-05.c	Validate the resulting competency model with subject matter experts and exemplar performers
2-06	Develop a structure of competency types and levels associated to jobs and roles
2-06.a	Refine the competencies required for particular jobs and roles
2-07	Validate the resulting competency model content with managers
2-08	[Optional] Produce the desired competency profile for each functional area

Identifier	2-01
Action description	[Optional] Develop or acquire programs, practices and tools that support the ability of your organisation to implement competency management
Notes	
Who?	Implementation Team
Frequency	Once at phase start-up

Identifier	2-02
Action description	Create or retrieve the list of job/roles in your organisation
Notes	
Who?	Implementation Team
Frequency	Once at phase start-up

Identifier	2-03
Action description	Refine the CASP Functional Model
Notes	<p>Within the project scope, add missing work functions and or remove not applicable ones. You might also consider work functions required in the near-term future. Ask questions such as:</p> <ul style="list-style-type: none"> • What are the strategic goals for the organisation? • What business results will need to be produced by each Function (functional areas) to attain these strategic goals? • Which work functions are required to meet strategic goals and produce the desired business results? • What new technological or marketing capabilities will be needed to produce the desired business results in the future?
Who?	Implementation Team
Frequency	Once at start-up

Identifier	2-04
Action description	Associate work functions identified in action 2-03 to job/roles.
Notes	Start with key jobs, those that are clearly established and critical in terms of accomplishing business results. Then consider roles strategic in nature and critical in terms of being able to accomplish strategy and business goals.
Who?	Implementation Team
Frequency	Once at start-up

Identifier	2-05
Action description	Adapt the CASP Competency Model to your organisation
Notes	The adaptation of the competency model should focus both on competencies required for competent performance today, as well as competencies that are likely to be required in the near future. This requires asking additional questions during the adaptation process, such as <ul style="list-style-type: none"> • Given the organisation's strategy and the business context, how will the job have to change in the near future? • What new competencies may be required?
Who?	Implementation Team
Frequency	Once at start-up

Identifier	2-05.a
Action description	Create a customised dictionary of the competencies you manage
Notes	Start with the CASP Competency Model. Avoid getting "bogged down" in the lexicon and semantics of competencies. Keep in mind that competencies in the CASP model have to be understood within their group context i.e. competencies belonging to business leading apply to senior management level. Keep the focus on what the competency means within your organisational context.
Who?	Implementation Team
Frequency	Once at start-up

Identifier	2-05.b
Action description	Develop usability of the competency model
Notes	Usability of the model is of paramount importance. Competency definitions and other content should be recognisable and understood by constituents who will review and use the model. For this, examples that demonstrate use of competencies in your organisational context should be developed to: <ul style="list-style-type: none"> • Describe actions needed to do the job well and • Can be observed and verified. This increases the competency model's readability and usability, as well as its reliability and validity.
Who?	Implementation Team
Frequency	Once at start-up

Identifier	2-05.c
Action description	Validate the resulting competency model with subject matter experts and exemplar performers
Notes	Using individual and group techniques, elicit and maintain strong support from subject matter experts and exemplar performers who will be providing critical competency information. Without their support, the content of the competency model will not reflect the most critical competencies for a job title or position.
Who?	Implementation Team, subject matter experts, exemplar performers
Frequency	Once at start-up

Identifier	2-06
Action description	Develop a structure of competency types and levels associated to jobs and roles
Notes	
Who?	Implementation Team
Frequency	Once at start-up

Identifier	2-06.a
Action description	Refine the competencies required for particular jobs and roles
Notes	Prioritise competencies by job and roles. Refer to Chapter 2 samples for rating Functions/Tasks and annotation of Jobholder Competency
Who?	Implementation Team, subject matter experts, exemplar performers
Frequency	Once at start-up

Identifier	2-07
Action description	Validate the resulting competency model content with managers
Notes	This may require simple feedback and refinement during a focus group or it may be a more in-depth effort, requiring managers to rate and blind sort their employees against the model. Top performing employees should be rated higher than others if the competency model is a valid way to differentiate performance. This validation may require to re-undertake actions 2-05 and 2-06
Who?	Implementation Team, managers of functional areas
Frequency	Once at start-up

Identifier	2-08
Action description	[Optional] Produce the desired competency profile for each functional area
Notes	
Who?	Implementation Team
Frequency	Once at start-up

6.2.3 Phase 3 – Pilot (Testing)

Identifier	Action description
3-01	Define the scope for pilot implementation
3-02	Prioritise competencies by jobs and roles
3-03	Execute phase 4 for the selected scope
3-04	Execute phase 5 for the selected scope

Identifier	3-01
Action description	Define the scope for pilot implementation
Notes	See Action 1-02.b in Phase 1
Who?	Implementation Team
Frequency	Once at pilot implementation

Identifier	3-02
Action description	Prioritise competencies by jobs and roles
Notes	See Action 2-06.a in Phase 2
Who?	Implementation Team
Frequency	Once at pilot implementation

Identifier	3-03
Action description	Execute Phase 4 for the selected scope
Notes	
Who?	Implementation Team
Frequency	Once at pilot implementation

Identifier	3-04
Action description	Execute Phase 5 for the selected scope
Notes	
Who?	Implementation Team
Frequency	Once at pilot implementation

6.2.4 Phase 4 – Deployment

Identifier	Action descriptions
4-01	Initialise personal profile portfolios
4-01.a	[Optional] Add experience profiles indicating job history, assignments and other information relating to background.
4-01.b	Prepare a competency profile containing the core competencies for their job/role.
4-01.c	[Optional] Add appropriate historical and speciality competencies.
4-02	Perform personal competency profiling and reporting (PACE guidelines and form may be used)
4-02.a	Determine assessment method with associated metrics (i.e., performance indicator)
4-02.b	Rate the performance of individual employees in particular jobs according to competencies
4-02.c	Update personnel profile portfolios (with ratings)
4-03	Perform personal competency gap analysis
4-04	Prepare personal development plan
4-04.a	Prepare personal development plan summaries showing all of the competencies people need to develop
4-05	Aggregate personal competency gap analyses.
4-06	Analyse competencies in various forms.
4-07	Identify future “on-board” projections vis-à-vis what will be needed in the future (oversupply/undersupply of key competencies)
4-08	Determine training plans
4-08.a	Create a draft plan for business training
4-08.b	Validate and implement plan for business training.
4-08.c	Check how closely development activities are aligned with the organisation needs
4-08.d	Update personal profile portfolios (with training)
4-09	Determine recruitment needs.
4-09.a	Run gap and match analyses between individuals and job/roles
4-09.b	Identify key positions for which you have no candidates
4-09.c	Selection process
4-10	Retention
4-10.a	Report on how many key people and competencies you lose each year
4-11	Manage competency inventories

Identifier	4-01
Action description	Initialise personal profile portfolios
Notes	
Who?	HR Function
Frequency	Once

Identifier	4-01.a
Action description	[Optional] Add experience profiles indicating job history, assignments and other information relating to background.
Notes	
Who?	HR Function
Frequency	Once

Identifier	4-01.b
Action description	Prepare a competency profile containing the core competencies for their job/role.
Notes	
Who?	HR Function
Frequency	Once

Identifier	4-01.c
Action description	[Optional] Add appropriate historical and speciality competencies.
Notes	
Who?	HR Function
Frequency	Once

Identifier	4-02
Action description	Perform personal competency profiling and reporting (PACE guidelines and form may be used)
Notes	Select competencies used for assessment (See results of action 2-06). Identify features of each competency (i.e. content) to be assessed.
Who?	Functional area
Frequency	Annual

Identifier	4-02.a
Action description	Determine assessment method with associated metrics (i.e., performance indicator)
Notes	Results of Action 2-06.a
Who?	Implementation Team-Functional area
Frequency	Once

Identifier	4-02.b
Action description	Rate the performance of individual employees in particular jobs according to competencies
Notes	The PACE guidelines and form may be used (Chapter 5 and Appendix C)
Who?	Functional area
Frequency	Annual

Identifier	4-02.c
Action description	Update personnel profile portfolios (with ratings)
Notes	
Who?	HR Function
Frequency	At the end of each assessment

Identifier	4-03
Action description	Perform personal competency gap analysis
Notes	Compare job/role competency requirements with individual competencies. Create competency gap analysis reports (detailed and summary views). Reports should show each staff and where they need development.
Who?	HR Function
Frequency	Annual

Identifier	4-04
Action description	Prepare personal development plan
Notes	Consider different training alternatives: development courses, documents, developmental activities, etc.
Who?	Functional area
Frequency	Annual

Identifier	4-04.a
Action description	Prepare personal development plan summaries showing all of the competencies people need to develop
Notes	This provides a measurable rationale for training budgets and a means to identify people to attend courses.
Who?	Functional area
Frequency	Annual

Identifier	4-05
Action description	Aggregate personal competency gap analyses.
Notes	Perform team competency gap analysis. Then, perform Function competency gap analysis. Finally, perform organisational competency gap analysis
Who?	HR Function
Frequency	Annual

Identifier	4-06
Action description	Analyse competencies in various forms.
Notes	Provide an overview of the total competencies in the organisation. Establish the demand for those competency resources: [KPI] ((total of competencies needed) - (competencies available)) / (total competencies). Identify shortfalls and surpluses in competency: analyse personal profiles to identify strengths and weaknesses in competencies and experience. Assess trends and developments in competency levels over time
Who?	HR Function
Frequency	As required

Identifier	4-07
Action description	Identify future “on-board” projections vis-à-vis what will be needed in the future (oversupply/undersupply of key competencies)
Notes	Increase competency sets to meet organisation’s scope and growth. Ensure you are building the appropriate competency pool to support your future needs.
Who?	HR Function
Frequency	As required

Identifier	4-08
Action description	Determine training plans
Notes	Use result of Competency Gap Analysis to provide a foundation for personal competency development. Predict training demand by identifying training shortfalls and employee development needs.
Who?	Training Function
Frequency	As required, at least annual

Identifier	4-08.a
Action description	Create a draft plan for business training
Notes	Who needs what training? Why? What non-training solutions are available? Link the competency model to training opportunities. Integrate competency development with business strategies.
Who?	Training Function
Frequency	Annual

Identifier	4-08.b
Action description	Validate and implement plan for business training.
Notes	Ensure training and development programs build needed competencies, including more effective incorporation of knowledge sharing and mentoring in the development of employees (Post-training activity)
Who?	Training Function
Frequency	Annual

Identifier	4-08.c
Action description	Check how closely your development activities are aligned with the needs of your business
Notes	Post-training activity
Who?	Training Function
Frequency	Annual

Identifier	4-08.d
Action description	Update personal profile portfolios (with training)
Notes	Post-training activity. Record training effort.
Who?	HR Function
Frequency	As required

Identifier	4-09
Action description	Determine recruitment needs.
Notes	Use results of Competency Gap Analysis
Who?	HR Function
Frequency	As required

Identifier	4-09.a
Action description	Run gap and match analyses between individuals and job/roles
Notes	Who meets a certain profile?... Who does not?...
Who?	HR Function
Frequency	As required

Identifier	4-09.b
Action description	Identify key positions for which you have no candidates
Notes	Understand where new workload should go. Search for particular competencies internally. Identify individuals who are potential replacements for a vacancy (expected or unexpected)
Who?	HR Function
Frequency	As required

Identifier	4-09.c
Action description	Selection process
Notes	Compare candidates (internal or external) side-by-side by using required competencies.
Who?	HR Function - Managers
Frequency	As required

Identifier	4-10
Action description	Retention
Notes	Reconcile the aspirations of your key people with the opportunities available. Lengthen the time that staff stay with your organisation by allowing staff members to discover individual career paths within the organisation
Who?	HR Function
Frequency	As required

Identifier	4-10.a
Action description	Report on how many key people and competencies you lose each year.
Notes	Assess periodically internal and external factors that may affect ability of your organisation to obtain and retain competent staff.
Who?	HR Function
Frequency	Annual

Identifier	4-11
Action description	Manage competency inventories
Notes	Assess progress in competency management from HR reports. Provide commitment to update competency model on a regular basis. Competency model must be dynamic and responsive to changing markets and strategies.
Who?	Implementation Team
Frequency	As required

6.2.5 Phase 5 – Post-Implementation Audit

Identifier	Action description
5-01	Identify and make recommendations on competencies effecting functional support to organisation mission
5-02	Identify impediments to and opportunities for improvement in competency management
5-03	Evaluate procedures, data and other components of the project for effectiveness, completeness and accuracy
5-04	Assess use of the CASP Competency Management Model, make recommendations to EUROCONTROL AIM Domain.

Identifier	5-01
Action description	Identify and make recommendations on competencies effecting functional support to organisation mission
Notes	
Who?	Implementation Team and Functional areas
Frequency	Annual

Identifier	5-02
Action description	Identify impediments to and opportunities for improvement in competency management
Notes	
Who?	Implementation Team and Functional areas
Frequency	Annual

Identifier	5-03
Action description	Evaluate procedures, data and other components of the project for effectiveness, completeness and accuracy
Notes	
Who?	Implementation Team and Functional areas
Frequency	Annual

Identifier	5-04
Action description	Assess use of the Competency Management Model, make recommendation to EUROCONTROL AIM Domain.
Notes	
Who?	Implementation Team
Frequency	Annual

6.3 Suggested Schedule

The following timeline illustrates a suggested schedule for the implementation of competency management:

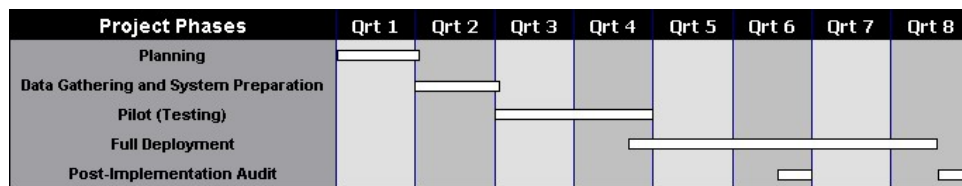


Figure 35. Suggested Schedule

6.4 Typical Performance Indicators

The following lists indicate 'human resource' indicators that give a measure of the performance of the different components of a competency management system. Some of these indicators should be measured before the start of implementation and then measured again post-implementation to assess the effectiveness of the implemented competency management system.

Competency Management

- Adherence to training plan at individual, functional areas and organisation levels;
- Competency turnover;
- Employees complying with their development plan;
- Employees that have improved competencies during past year;
- Employees that have completed a personal development plan;
- Needs assessment gap: required versus actual competencies for positions;
- Number of open jobs filled internally;
- Percentage of competency deployment matrix filled;
- Planned development opportunities accomplished.

6.4.1 Motivation, Empowerment & Alignment

- Days lost through absenteeism / total potential working days per annum;
- Days lost through strikes / total potential working days per annum;
- Employee satisfaction survey covering the following:
 - Employee perception of fair treatment
 - Employee perception of recognition or reward

- Employee perception of job safety climate
- Employee perception of supervision
- Employee perception of teamwork
- Satisfaction with competency training (employee and supervisor)
- Employees applying for open positions from particular departments (an indicator of dissatisfaction);
- Sick days / employee;
- Timekeeping;
- Employees receiving recognition.

6.4.2 Retention

- Average length of employment with the organisation;
- Employee turnover;
- Employees terminated for bad performance or other problems;
- Turnover of support staff;
- Unplanned turnover of staff.

6.4.3 Selection

- Acceptances of job offers;
- Applications for each vacancy;
- Cost of recruitment / number of recruits.

6.4.4 Training

- Amount invested per employee on training;
- Hours of training / employee / year;
- Percentage of self-development hours / time reports;
- Supporting technology to enhance learning;
- Training as % of turnover;
- Training expense as % of payroll.

6.4.5 Organisational Assets

- Average education level of all employees;
- Average professional experience;
- Employees certified for skilled job functions or positions;
- Individual capability test scores (e.g., number of staff qualifying for a particular skill level);
- Average age of all employees;
- Number of years in profession;
- Fresh staff ratio (e.g. % of employees with less than two years of service).

6.5 Chapter References

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[3] Making competency management work, Coert Visser & Gwenda Schlundt Bodien,
<http://www.m-cc.nl/makingcmwork.htm>, 2003, Organisations and People

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<http://www.peoplesciences.com/WhitePaper7.html>, People Sciences Incorporated.

APPENDIX 1 – CASP Competency Model*

CASP COMPETENCY MODEL		
O. Organising People and Tasks	A. Aligning Organisation	B. Business Leading
<ol style="list-style-type: none"> 1. Objective Setting 2. Motivating Others 3. Proactive Communication 4. Developing Others 5. Management Control 6. Maintaining Discipline 7. Caring for Others 8. Providing Direction 	<ol style="list-style-type: none"> 1. Organisational Awareness 2. Creating Awareness 3. Managing Organisation Performance 4. Integrity 5. Role Clarification 	<ol style="list-style-type: none"> 1. External Awareness 2. Strategic Thinking 3. Systems Thinking 4. Initiating Change 5. Championing Causes 6. Governance 7. Stakeholder Relations
T. Technical and Professional	I. Individual Specific	C. Culture Specific
<ol style="list-style-type: none"> 1. Critical Examining I 2. Critical Examining II 3. Information Analysis 4. Problem Analysis 5. Problem Solving 6. Operational Knowledge 7. Professional Expertise 8. Adherence to procedure 9. Physical Safety Awareness 10. Aviation Safety Conscious 11. Administrative Skills 12. Flexibility of Closure 13. Judgement and Decision Making 	<ol style="list-style-type: none"> 1. Self Confidence 2. Interpersonal Sensitivity 3. Building Relationships 4. Networking 5. Reliability 6. Oral Communication 7. Persuasive Communication 8. Written Communication 9. Stress Tolerance 10. Adaptability 11. Accuracy 12. Methodical 13. Selective Attention 14. Decisiveness 	<ol style="list-style-type: none"> 1. Cross Cultural Awareness 2. Empowering 3. Creativity 4. Energy 5. Self Development 6. Quality Focused I 7. Quality Focused II 8. Organisational Learning Focused 9. Customer Focused I 10. Customer Focused II

* adapted from the SHL Group plc, Competency Model

A1.1 O - Organising People and Tasks

Title	Definition
1. Objective Setting	Produces action plans in which objectives are clearly defined and steps for achieving them are clearly specified.
2. Motivating Others	Encourages others through enthusiasm and by recognising their contribution. Promotes a clear sense of purpose and inspires a positive attitude to work by focusing on successful accomplishment of objectives.
3. Proactive Communication	Identifies those who need to be told about problems, changes or new developments, and ensures they are informed. Promotes two-way communication with others.
4. Developing Others	Actively seeks to improve others' skills and talents by providing constructive feedback, coaching, training opportunities and assignments which challenge their abilities and encourages development.
5. Management Control	Plans and co-ordinates activities/projects. Establishes clear priorities. Plans the necessary and available resources to achieve an objective. Monitors performance against objectives. Proposes actions to revise and adapt plans in light of changing circumstances.
6. Maintaining Discipline	Establishes and communicates clear boundaries for acceptable behaviour. Takes action to address inappropriate behaviour.
7. Caring for Others	Monitors others' well being and shows empathy for their problems. Gives support and assistance to others to overcome difficulties.
8. Providing Direction	Provides team with a clear sense of direction. Uses the leadership style most appropriate to the situation. Takes charge when appropriate, instructs others on what to do and steers them towards successful task completion.

A1.2 A - Aligning Organisation

Title	Definition
1. Organisational Awareness	Takes account of organisation's structure in actions and decisions. Demonstrates an awareness of links between organisation structure and goals. Well informed and understands the impact of the Directorate on the organisation and industry. Attuned in to internal politics and alert to changing dynamics within the organisation.
2. Creating Awareness	Advises and influences others by creating awareness of a problem or issue. Identifies important aspects and wider implications of issues/problems for the Directorate and advises management on possible actions.
3. Managing Organisation Performance	Acts on the organisation's financial information. Ensures effectiveness of human resource utilisation. Monitors organisational performance against benchmarks.
4. Integrity	Maintains high ethical standards professionally. Deals fairly with others. Holds to agreements made with others.
5. Role Clarification	Redefines roles to reflect changes in priority and business direction. Clarifies the purpose and function of roles with job holders. Establishes the relationship between related roles and how each role contributes to organisational goals.

A1.3 B - Business Leading

Title	Definition
1. External Awareness	Maintain knowledge of competitor activity. Understands relevant external factors impacting on the organisation. Constantly updates knowledge of market environment and takes account of global trends.
2. Strategic Thinking	Develops strategic plan to realise the objectives/vision. Revises strategy in light of changing circumstances. Takes a long-term view on organisational success.
3. Systems Thinking	Recognises the interactions between related information. Takes account of the broader impact of actions initiated.
4. Initiating Change	Recognises when change is necessary, develops an effective action plan to implement change and monitors the results of change initiatives.
5. Championing Causes	Actively promotes the ideas and schemes of others. Shows commitment to others' ideas by own actions and continues to support others' ideas even when under pressure.
6. Governance	Understands and applies the legal obligations of the position held. Meets personal obligations for the position held. Encourages others to comply with legal and personal obligations.
7. Stakeholder Relations	Builds and maintains relations with key stakeholders. Forges links with other departments and establishes useful and supportive networks. Attuned to internal politics and alert to changing dynamics within and facing the organisation.

A1.4 T - Technical and Professional

Title	Definition
1. Critical Examining (I)	Screens data/documents and identifies the significant elements to detect any anomalies or inconsistencies. Takes all relevant details and information into account. Checks that information is in compliance with procedures and instructions. Verifies the reliability and correctness of the information before releasing it.
2. Critical Examining (II)	Critically examines information to check if it is correct and up-to-date. Relates data from various sources and verifies coherence. Evaluates possible alternatives when responding to specific queries or correspondences. Verifies the reliability and correctness of information before releasing it.
3. Information Analysis	Assesses and evaluates information using logical and appropriate analysis techniques. Seeks additional detail or clarification, if necessary. Seeks to identify and understand the real needs or issues.
4. Problem Analysis	Breaks problem into constituent parts. Isolates problem areas by differentiating key elements from the irrelevant or trivial. Makes accurate use of logic and appropriate analysis techniques. Draws sound inferences from information available.
5. Problem Solving	Uses rational, realistic and sound criteria to analyse and solve problems. Integrates data from various sources to develop effective solutions/ options. Considers all facts and alternatives available and makes realistic and coherent proposals or recommendations. Creatively develops solutions to problems.
6. Operational Knowledge	Demonstrates detailed and thorough knowledge and expertise in relation to the systems and procedures. Understands how the AIS processes are interrelated and linked. Maintains and keeps up to date with changes to systems and procedures.
7. Professional Expertise	Demonstrates technical or professional knowledge and skills related to the job. Maintains technical and professional knowledge and skills and keeps up to date in specialist areas. Actively keeps up to date with best practice across industry/profession.
8. Adherence to procedure	Acts in line with company policy and procedures. Follows verbal and written operating instructions consistently.
9. Physical Safety Awareness	Understands potential physical risk factors and takes action to minimise these. Uses materials and equipment in a safe and efficient way. Doesn't put self or others at risk of injury.
10. Aviation Safety Conscious	Is aware of the risks associated with aviation. Knows the Safety Management System and applies it. Promotes safety and ensure that his/her action will never endanger safety in the Air.
11. Administrative Skills	Systematically sorts and files information in order to have complete and up-to-date data. Registers information in a systematic and logical manner in order to facilitate easy retrieval of information.
12. Flexibility of Closure	The ability to identify or detect a known pattern (a figure, object, word or sound) that is hidden in other distracting material.
13. Judgement and Decision Making	Makes rational, realistic and sound decisions based on consideration of all the facts and alternatives available.

A1.5 I - Individual Specific

Title	Definition
1. Self Confidence	Independent and self-reliant. Has confidence in own ability to select appropriate courses of action. Able to stand ground in face of opposition.
2. Interpersonal Sensitivity	Shows consideration, concern and respect for other people's feelings. Listens to others and demonstrates interest in their opinions. Is tolerant of differing needs and viewpoints.
3. Building Relationships	Quickly builds rapport and puts others at ease. Easily establishes relationships with others. Able to maintain relationships with different types of people at all levels.
4. Networking	Builds a network of effective relationships with others. Encourages others to develop networks. Uses own network to the organisation's advantage.
5. Reliability	Consistent and dependable. Can be relied upon to deliver what has been agreed. Punctual and conscientious.
6. Oral Communication	Communicates orally in a manner, which is clear, fluent, and to the point. Is able to give and receive information using appropriate language and communication style. Clarifies understanding of information.
7. Persuasive Communication	Communicates in a way that is credible and has a positive impact on others. Is clear and articulate in explaining a course of action or problem/issue with a range of different audiences. Is able to give and receive information using appropriate language and communication style/approach to illustrate points. Listens to others and understands their points of view, even if different and antagonistic. Presents the key points of an argument persuasively and manages to convince.
8. Written Communication	Writes in a clear, concise and grammatically correct manner. Adapts style and language to the needs of the reader.
9. Stress Tolerance	Remains calm, objective and self-controlled under pressure. Maintains a stable performance in demanding situations. Accepts criticism without becoming hostile or over-defensive.
10. Adaptability	Is able to work in a changing environment and to learn quickly new methods and new systems. Adapts readily to new situations and ways of working. Receptive to new ideas. Willing and able to adjust to changing demands and objectives.
11. Accuracy	Is detail conscious and accurate. Is attentive to points of detail and systematically controls data.
12. Methodical	Is methodical and rigorous. Shows perseverance and commitment in performing routine tasks.
13. Selective Attention	The ability to concentrate on a task over a period of time without being distracted.
14. Decisiveness	Willing to make firm and speedy decisions, and commit to definite courses of action on the basis of limited information if necessary.

A1.6 C - Culture Specific

Title	Definition
1. Cross Cultural Awareness	Able to communicate with, relate to and see issues from the perspective of people of other cultures.
2. Empowering	Delegates responsibilities to appropriate subordinates. Gives others latitude to exercise their own initiative and invests them with the power and authority to accomplish tasks effectively.
3. Creativity	Generates new and imaginative ideas. Identifies fresh approaches and questions traditional assumptions. Develops new products, services or ways of working.
4. Energy	Enthusiastic and committed. Works hard towards goals and willingly tackles demanding tasks. Drives work activities along. Demonstrates capacity for sustained effort and hard work over long time periods.
5. Self Development	Takes responsibility for own development. Actively pursues learning and career development opportunities. Seeks out and acts upon feedback on own performances.
6. Quality Focused (I)	Is committed to achieve high quality work standards even when working to deadlines. Participates in identifying improvements to processes to enhance the quality of the service/work provided.
7. Quality Focused (II)	Sets high standards of performance for self and others. Develops, monitors and reviews unit's performance and quality standards to enhance the quality of the service/work provided.
8. Organisational Learning Focused	Ensures the organisation learns from its successes and failures. Seeks feedback from staff and customers about organisational performance. Encourages a culture of continuous improvement through own actions.
9. Customer Focused (I)	Is concerned to provide a prompt, efficient service to both internal and external customers. Shows interest in customer issues and seeks to identify individual customer needs accurately.
10. Customer Focused (II)	Monitors and acts on measures of customer satisfaction. Reviews and monitors section's/unit's service level and initiates corrective action if necessary. Encourages others to value customers.

APPENDIX 2 – Mappings between Work Functions and Competencies

This appendix contains mappings between work functions and competencies. These mappings are the body of work assembled at the CASP Consultation Seminar held in Luxembourg in July 2003, further mapped, analysed and classified by the CASP-DG. These mappings have to be read in conjunction with the AIS Functions and sub-functions (see Figure 36 next page)

For each work function category, mappings are given in a single table: the rows contain all the competencies (cf. Appendix A) applicable for that category and the columns contain the work functions in the category.

The following notation is used to illustrate the scaling applied to the mapping between a work function and a competency:

- E: Essential
- R: Relevant
- N: Nice to have
- U: Unassigned (Applicable but the scaling is not assigned yet)
- ?: To be done

Grey shading in a row denotes competencies selected by CASP-DG when performing the mapping and scaling. These competencies had not been chosen at the CASP Consultation Seminar.

Some competencies chosen at the Seminar have been de-selected as no mapping with the work functions could be established by CASP-DG. These de-selected associations however, still exist in the CASP Repository where they are noted Not Applicable.

AIS Functions			
OPE	Operational	SUP	Support Function
DAM	Data Management	SUP-a	identify customer requirements
DAM-a	code/decode aeronautical information	SUP-b	develop strategic business plans
DAM-b	translate aeronautical information	SUP-c	provide legal management
DAM-c	perform quality checks on aeronautical data/information	SUP-d	revise national operational manuals
DAM-d	process post flight information	SUP-e	update ICAO and Eurocontrol documents
DAM-e	provide data for compiling statistical data	SUP-f	compile statistical information
DAM-f	ensure traceability of aeronautical data/information	SUP-g	print aeronautical publications
DAM-g	process raw data	SUP-h	manage stock
STA	Static Data	SUP-i	maintain aeronautical national publications library
STA-a	compile static data	SUP-j	develop business plan
STA-b	compile positional data	SER	Customer Services
STA-c	process static data	SER-a	manage customers' accounts for AIS services and products
STA-d	maintain database of static data	SER-b	administer AIS customer services
STA-e	maintain foreign static AIS publications	SER-c	distribute aeronautical publications
STA-f	prepare static data for national and international database	SER-d	provide help-desk for AIS services and products
DYN	Dynamic Data	FIN	Financial Resource Management
DYN-a	process foreign dynamic data	FIN-a	plan finance
DYN-b	publish NOTAM	FIN-b	control finance
DYN-c	publish NOTAM Checklist	FIN-c	execute financial transactions
DYN-d	publish Trigger NOTAM	HUM	Human Resource Management
DYN-e	publish SNOWTAM	HUM-a	ensure availability of sufficient AIS Staff
DYN-f	publish ASHTAM	HUM-b	determine training requirements
DYN-g	produce PIB	HUM-c	arrange and follow-up training
DYN-h	prepare tailored dynamic data	HUM-d	define job descriptions
DYN-i	maintain dynamic database	HUM-e	conduct the process of staff selection and recruitment
CHA	Charting	HUM-f	ensure compliance of AIS staff with competency requirements
CHA-a	maintain aeronautical chart library	HUM-g	prepare staff resource planning
CHA-b	publish aeronautical charts	QUM	Quality Management
PUB	Publications	QUM-a	establish quality management system
PUB-a	publish AIC	QUM-b	maintain quality management system
PUB-b	publish AIP	QUM-c	monitor customer satisfaction
PUB-c	publish AIP AMDT	CAM	Change Management
PUB-d	publish AIP SUP	CAM-a	identify opportunities and trends for change
PUB-e	publish NOTAM summaries	CAM-b	plan change
PUB-f	publish additional information for specific purposes	CAM-c	implement change
OCF	Operational Control Functions	CAM-d	review results of change
OCF-a	supervise data management	SAM	Safety Management
OCF-b	supervise customer services	SAM-a	analyse safety improvement reports
OCF-c	manage staff resources	SAM-b	implement safety improvement procedures
OCF-d	develop operating standards and procedures	SAM-c	undertake risk assessments
COR	Co-ordination	SAM-d	implement procedures to delete risks
COR-a	coordinate with data sources	SAM-e	establish safety management system
COR-b	coordinate between AIS functions	TEC	Technical Support
COR-c	coordinate with customers	TEC-a	design technical systems
		TEC-b	implement technical systems
		TEC-c	maintain technical systems
ARO	ARO Functions	ASE	Additional Service Provision
ARO-a	accept post flight information and transmit it to ATS/AIS	ASE-a	provide additional commercial services
ARO-b	compile statistical data	ASE-b	provide additional national services
ARO-c	process FPL and FPL associated messages	ASE-c	provide national specific information
ARO-d	provide information for flight preparation	ASE-d	provide other national aviation related publications
ARO-e	support incident investigation (ARO Side)		
ARO-f	process ATFM messages		
ARO-g	publish SNOWTAM		
ARO-h	maintain supporting material		
ARO-i	perform other tasks according to national/local specification		

Figure 36. AIS Functions and sub-functions

A2.1 AIS Work Functions

A2.1.1 Operational Functions

Competency	DAM	DAM-a	DAM-b	DAM-c	DAM-d	DAM-e	DAM-f	DAM-g
C06 Quality Focused (I)	E	U	U	U	U	U	U	U
C08 Organisational Learning Focused	R			U	U	U	U	U
C09 Customer Focused (I)					U			
I01 Self Confidence	N				U			U
I05 Reliability	E	U	U	U	U	U	U	U
I11 Accuracy	E	U	U	U	U	U	U	U
I12 Methodical	E	U	U	U	U	U	U	U
I13 Selective Attention	U	U	U	U		U	U	
T01 Critical Examining (I)	U				U			
T02 Critical Examining (II)	E			U				U
T03 Information Analysis				U				U
T06 Operational Knowledge	R	U	U	U	U	U	U	U
T08 Adherence to procedure	E	U	U	U	U		U	U
T10 Aviation Safety Conscious	R	U	U	U	U		U	U
T11 Administrative Skills	R					U	U	
T13 Judgement and Decision Making	U							U

Table 1. Mappings for Data Management

Competency	STA	STA-a	STA-b	STA-c	STA-d	STA-e	STA-f
C06 Quality Focused (I)	R	U	U	U	U	U	U
I11 Accuracy	E	U	U	U	U		U
I12 Methodical	E	U	U	U	U	U	U
I13 Selective Attention	N	U	U	U	U	U	U
T01 Critical Examining (I)	E	U	U	U	U		U
T03 Information Analysis	E	U	U	U	U		U
T06 Operational Knowledge	E	U	U	U	U	U	U
T07 Professional Expertise	E	U	U	U	U	U	U
T08 Adherence to procedure	E	U	U	U	U	U	U
T10 Aviation Safety Conscious	U	U	U	U	U		U
T11 Administrative Skills						U	
T13 Judgement and Decision Making				U			U

Table 2. Mappings for Static Data Management

Competency	DYN	DYN-a	DYN-b	DYN-c	DYN-d	DYN-e	DYN-f	DYN-g	DYN-h	DYN-i
C06 Quality Focused (I)	R	U	U	U	U	U	U	U	U	?
C09 Customer Focused (I)	U							U	U	?
I11 Accuracy	E	U	U	U	U	U	U	U	U	?
I12 Methodical								U	U	?
T01 Critical Examining (I)	E	U	U	U	U	U	U	U	U	?
T03 Information Analysis	E	U	U	U	U	U	U	U	U	?
T06 Operational Knowledge	E	U	U	U	U	U	U	U	U	?
T07 Professional Expertise	E	U	U	U	U	U	U	U	U	?
T08 Adherence to procedure	E	U	U	U	U	U	U	U	U	?
T10 Aviation Safety Conscious	U	U	U		U	U	U	U	U	?
T11 Administrative Skills				U						?

Table 3. Mappings for Dynamic Data Management

Competency	CHA	CHA-a	CHA-b
C06 Quality Focused (I)	E	U	U
I05 Reliability	E	U	U
I11 Accuracy	E	U	U
I12 Methodical	E	U	U
I13 Selective Attention	U	U	U
T02 Critical Examining (II)	E	U	U
T03 Information Analysis	R	U	U
T06 Operational Knowledge	R	U	U
T07 Professional Expertise	E	U	U
T08 Adherence to procedure	R	U	U
T10 Aviation Safety Conscious	R		U
T11 Administrative Skills		U	
T12 Flexibility of Closure			U

Table 4. Mappings for Charting

Competency	PUB	PUB-a	PUB-b	PUB-c	PUB-d	PUB-e	PUB-f
C06 Quality Focused (I)	E	U	U	U	U	U	U
C09 Customer Focused (I)	U	U	U	U	U		U
I11 Accuracy	E	U	U	U	U	U	U
I12 Methodical	E	U	U	U	U	U	U
I13 Selective Attention	N	U	U	U	U	U	U
T01 Critical Examining (I)	E	U	U	U	U	U	U
T03 Information Analysis	N	U	U	U	U	U	U
T06 Operational Knowledge	E	U	U	U	U	U	U
T07 Professional Expertise	R	U	U	U	U		U
T10 Aviation Safety Conscious	U		U	U	U		
T11 Administrative Skills						U	

Table 5. Mappings for Publications

Competency	OCF	OCF-a	OCF-b	OCF-c	OCF-d
C07 Quality Focused (II)	E	U	U	U	U
C08 Organisational Learning Focused	N	U	U	U	U
C09 Customer Focused (I)	E		U	U	
C10 Customer Focused (II)	E		U		
I01 Self Confidence				U	
I02 Interpersonal Sensitivity			U	U	
I08 Written Communication					U
O02 Motivating Others	R	U		U	
O05 Management Control	E	U	U	U	
O06 Maintaining Discipline	U			U	
O08 Providing Direction	E	U	U	U	U
T05 Problem Solving	R	U			U
T06 Operational Knowledge	E	U			U
T07 Professional Expertise	E	U		U	U
T10 Aviation Safety Conscious	U	U		U	U
T11 Administrative Skills	N				
T13 Judgement and Decision Making		U		U	

Table 6. Mappings for Operational Control Functions

Competency	COR	COR-a	COR-b	COR-c
C01 Cross Cultural Awareness	N	U		U
C09 Customer Focused (I)	R	U	U	U
I02 Interpersonal Sensitivity			U	
I03 Building Relationships	E	U	U	U
I04 Networking	E	U	U	U
I05 Reliability	E	U	U	U
I07 Persuasive Communication	E	U	U	U
I08 Written Communication	U	U	U	U
O01 Objective Setting			U	
O03 Proactive Communication	E	U	U	U
O08 Providing Direction			U	
T05 Problem Solving	E	U	U	U
T07 Professional Expertise	R	U	U	U

Table 7. Mappings for Coordination

A2.1.2 Support Functions

Competency	SUP	SUP-a	SUP-b	SUP-c	SUP-d	SUP-e	SUP-f	SUP-g	SUP-h
B02 Strategic Thinking	R		C						
B06 Governance	E			C					
C03 Creativity	N		C						
C09 Customer Focused (I)	E	U							
I05 Reliability					U	U		U	U
I06 Oral Communication		U							
I08 Written Communication			U	U					
I11 Accuracy				U	U	U	U	U	U
I12 Methodical	R		U	U	U	U	U	U	U
T01 Critical Examining (I)		U					U		
T03 Information Analysis		U		U	U	U	U		
T04 Problem Analysis			C						
T06 Operational Knowledge		U							
T07 Professional Expertise	R			U	U	U	U	U	
T08 Adherence to procedure					U	U	U	U	U
T11 Administrative Skills	N				U	U			
T13 Judgement and Decision Making	R		U						

Table 8. Mappings for Support

Competency	SER	SER-a	SER-b	SER-c	SER-d
B01 External Awareness	U	C			
C01 Cross Cultural Awareness	N				
C06 Quality Focused (I)				U	
C07 Quality Focused (II)	R	U	U		U
C09 Customer Focused (I)	E				U
I05 Reliability	E	U	U	U	U
I06 Oral Communication	E				U
I09 Stress Tolerance					U
I11 Accuracy		U	U	U	
I12 Methodical	R	U	U	U	
T07 Professional Expertise	E	U	U	U	U
T08 Adherence to procedure		U	U	U	
T11 Administrative Skills	E	U	U	U	

Table 9. Mappings for Customer Services

Competency	FIN	FIN-a	FIN-b	FIN-c
A04 Integrity				C
B02 Strategic Thinking	N	U		
C08 Organisational Learning Focused	E	U	U	
I05 Reliability				U
I11 Accuracy	E		U	U
I12 Methodical	E	U	U	U
O01 Objective Setting	N			
T01 Critical Examining (I)	U	U	U	
T02 Critical Examining (II)			U	
T03 Information Analysis	E	U		U
T05 Problem Solving	R	U		
T07 Professional Expertise	U		U	
T08 Adherence to procedure	U		U	U
T13 Judgement and Decision Making		U		

Table 10. Mappings for Financial Resources Management

Competency	HUM	HUM-a	HUM-b	HUM-c	HUM-d	HUM-e	HUM-f	HUM-g
A01 Organisational Awareness	E	U						
A05 Role Clarification	E	U			U	U		
B02 Strategic Thinking	E	U						U
C01 Cross Cultural Awareness	N					U		
C03 Creativity	U		U					
I02 Interpersonal Sensitivity	E					U		U
I03 Building Relationships	U							
I05 Reliability								U
I06 Oral Communication	E					U		
I07 Persuasive Communication	U							
I08 Written Communication	U				U			
I11 Accuracy								U
I12 Methodical					U			U
O01 Objective Setting	E			U			U	U
O04 Developing Others	E			U				
O05 Management Control	E							
O07 Caring for Others	R							
T01 Critical Examining (I)			U	U	U	U	U	
T03 Information Analysis			U	U	U	U	U	U
T05 Problem Solving		U	U	U			U	U
T06 Operational Knowledge			U					
T07 Professional Expertise	U					U	U	
T08 Adherence to procedure							U	U
T11 Administrative Skills					U	U		
T13 Judgement and Decision Making	U	U	U	U	U	U	U	

Table 11. Mappings for Human Resources Management

Competency	QUM	QUM-a	QUM-b	QUM-c
A02 Creating Awareness	U	U		
B02 Strategic Thinking	R	U		
B04 Initiating Change	U	U	U	
C06 Quality Focused (I)	R		U	U
C07 Quality Focused (II)	E	U		U
C09 Customer Focused (I)	R		U	
C10 Customer Focused (II)	E			U
I03 Building Relationships				U
I05 Reliability			U	
I06 Oral Communication				U
I08 Written Communication	U	U	U	
I12 Methodical	U	U	U	
O01 Objective Setting	R	U	U	
O03 Proactive Communication	R	U	U	U
O05 Management Control			U	
T01 Critical Examining (I)				U
T03 Information Analysis				U
T05 Problem Solving		U		
T07 Professional Expertise	E	U	U	
T08 Adherence to procedure			U	

Table 12. Mappings for Quality Management

Competency	CAM	CAM-a	CAM-b	CAM-c	CAM-d
B01 External Awareness	E	U			
B02 Strategic Thinking	E	U	U		
B03 Systems Thinking	E	U	U	U	
B04 Initiating Change	E	U	U	U	U
C03 Creativity	N	U	U		
C07 Quality Focused (II)	E				U
C08 Organisational Learning Focused	R				
C10 Customer Focused (II)	E			U	
I02 Interpersonal Sensitivity	U				U
I06 Oral Communication					U
I07 Persuasive Communication				U	
O01 Objective Setting	E		U		
O02 Motivating Others				U	
O03 Proactive Communication	U			U	
O05 Management Control	E				
O07 Caring for Others					U
T01 Critical Examining (I)					U
T03 Information Analysis	R				U
T05 Problem Solving	E	U	U	U	
T13 Judgement and Decision Making	E	U	U	U	

Table 13. Mappings for Change Management

Competency	SAM	SAM-a	SAM-b	SAM-c	SAM-d	SAM-e
A02 Creating Awareness	U					U
B01 External Awareness	U	U				
B02 Strategic Thinking	U					U
B03 Systems Thinking	E	U				
B04 Initiating Change	U		U		U	
C07 Quality Focused (II)	E		U			
I02 Interpersonal Sensitivity	U		U		U	
I07 Persuasive Communication	U					
I08 Written Communication	U					
I12 Methodical	R					
O01 Objective Setting	E					
O02 Motivating Others					U	
O03 Proactive Communication	R		U		U	
O05 Management Control	U		U			
T03 Information Analysis	E	U		U		
T04 Problem Analysis	E	U	U	U		
T05 Problem Solving	R			U	U	
T06 Operational Knowledge		U		U		
T10 Aviation Safety Conscious	E	U	U	U	U	U
T13 Judgement and Decision Making		U	U	U	U	

Table 14. Mappings for Safety Management

Competency	TEC	TEC-a	TEC-b	TEC-c
B03 Systems Thinking	E	U	U	U
C03 Creativity	E	U		
I05 Reliability	E		U	U
I10 Adaptability	R			
I11 Accuracy		U		
I12 Methodical	E		U	U
T03 Information Analysis	E	U		
T04 Problem Analysis	E			
T05 Problem Solving	E	U	U	U
T06 Operational Knowledge	E	U		
T07 Professional Expertise	E	U	U	U
T09 Physical Safety Awareness	E		U	U

Table 15. Mappings for Technical Support

A2.2 ATS Reporting Offices

Competency	ARO	ARO-a	ARO-b	ARO-c	ARO-d	ARO-e	ARO-f	ARO-g	ARO-h	ARO-i
C06 Quality Focused (I)	E		U	U	U	U	?	U	?	?
C09 Customer Focused (I)	U	U		U	U	U	?		?	?
I05 Reliability	E	U	U	U	U	U	?	U	?	?
I06 Oral Communication	U	U		U	U	U	?		?	?
I08 Written Communication						U	?		?	?
I09 Stress Tolerance	N	U		U	U	U	?		?	?
I11 Accuracy	E	U	U	U	U	U	?	U	?	?
I12 Methodical	E	U	U	U	U	U	?	U	?	?
I13 Selective Attention			U				?		?	?
T01 Critical Examining (I)	E			U	U	U	?	U	?	?
T03 Information Analysis	U			U			?	U	?	?
T06 Operational Knowledge	E		U	U	U	U	?	U	?	?
T07 Professional Expertise	U	U				U	?	U	?	?
T08 Adherence to procedure	E	U	U	U	U	U	?	U	?	?
T10 Aviation Safety Conscious	E	U		U	U	U	?	U	?	?
T11 Administrative Skills	U		U				?		?	?
T13 Judgement and Decision Making	E			U			?		?	?

Table 16. Mappings for ARO Functions

A2.3 Additional Service Provision

Competency	ASE	ASE-a	ASE-b	ASE-c	ASE-d
B01 External Awareness	E	U			
B02 Strategic Thinking	E	U			
C06 Quality Focused (I)	E			U	U
C07 Quality Focused (II)	N			U	U
C09 Customer Focused (I)	E	U	U		
C10 Customer Focused (II)	E	U	U		
I06 Oral Communication	E			U	U
I07 Persuasive Communication	U	U	U		
O01 Objective Setting	R	U	U		
O03 Proactive Communication	R	U	U	U	U
T06 Operational Knowledge	R			U	U

Table 17. Mapping for Additional Service Provision

APPENDIX 3 – PACE

Performance Assessment and Competency Enhancement (PACE)

Employee Name:	Position Title:
Unit:	Location:
Position Reports To:	Date of Appointment:
Appraisal Period: From:..... To:	Purpose of Appraisal: <input type="checkbox"/> Annual <input type="checkbox"/> Trial Service <input type="checkbox"/> Probationary <input type="checkbox"/> Other

Instructions

Performance should be assessed **at least once per year** with a review of performance occurring at least halfway through the assessment period.

Performance should be evaluated against both annual Key Results Areas set by agreement between the employee and supervisor at the beginning of the assessment period and/or the Key Result Areas contained in the staff member's job description.

The employee and manager/supervisor should separately complete their own assessment of performance, training and development requirements prior to the interview.

Once the appraisal comments are completed and the appraisal formally reviewed, a copy of the completed form should be forwarded by the supervisor for filing in the employee's personal profile.

Only two copies of the completed form should be made. One is held by the employee and the other is kept in the employee's file. This file shall be confidential with access on a strict need-to-know basis. Forms might be destroyed **two** years after the date of appraisal.

Performance Ratings

1.	Outstanding	<i>Performance objectives consistently met at outstanding level.</i>
2.	Superior	<i>Performance objectives consistently met, frequently exceeds expected level.</i>
3.	Satisfactory	<i>Fully competent and performance objectives met to required level.</i>
4.	Adequate	<i>Performance does not always meet the required level (e.g. persons promoted to this level within the last six months and who may be regarded as novices in the role might be rated at this level).</i>
5.	Unsatisfactory	<i>Performance regularly falls below minimum acceptable level. Performance objectives frequently not met. (Persons might be taken off duties to follow a competency re-development program or be proposed a new assignment).</i>

A3.1 Section I. Competency Definitions

Competency Name	Description
Competency 1	
Competency 2	
...	
Other Competencies/ Requirements	

A3.2 Section II. Performance Appraisal

Performance Results

These are assessed against the Key Result Areas which were agreed at the beginning of the appraisal period, and extracted from the previous performance appraisal report, updated the case being.

Key Result Areas	Comments/Performance Indicator	Rating
1.		
2.		
3.		
4.		
5.		
6.		
7.		
8.		
9.		
10.		

Personal Attributes

These are characteristics i.e. competencies and other requirements which need to be considered for individual performance and/or career development reasons - transfer development action to Section V.

1) List those characteristics which will enhance the employee's successes

2) List those characteristics which require further development or strengthening

A3.3 Section III. Competency Development Plan

Together, the employee and his/her supervisor discuss the competencies critical to effectiveness for the position the employee holds and in relation to expected results. Identify performance elements needing further development to enhance the employee's present and future success. Competencies generally critical to effectiveness are noted below. Other important competencies and requirements unique to the employee's job and organisation should also be included in this plan. Outline a plan of training or other relevant activities to address the employee's developmental needs.

Competency Name	Required Level	Assessed Level	Objectives and Actions to be taken
Competency 1			
Competency 2			
...			
Other Competencies/ Requirements			

A3.4 Section IV Agreement of Understanding

(TO BE COMPLETED AT THE BEGINNING OF THE PERFORMANCE PERIOD)

The signatures below indicate that employee and his/her supervisor have discussed the performance and developmental expectations (as described in Sections II and III) for this performance period and understand the meaning and importance of those expectations. The employee keeps a copy of sections I through IV.

Employee

Supervisor

.....

(Signature)

(Date)

.....

(Signature)

(Date)

A3.5 Section V. Development Assessment

Name

Location

Unit

A3.5.1 Training and Development

<p>PERSONAL DEVELOPMENT What training or development activities have been undertaken during the year? (Design specific programs or activities.)</p>	
<p>CAREER ASPIRATIONS AND PLANNING Please identify position(s) that you would see as career goal(s) and how soon you would see yourself reaching this goal.</p>	
<p>TRAINING NEEDS What training and development do you believe is required for you in the next 12 months?</p>	

A3.5.2 Organisational Improvement

1) What changes or improvements do you see or suggest in your work area or responsibilities over the next three years?	
2) How will this affect your job and/or those of your subordinates?	
3) What action would you recommend or what steps are you taking to facilitate these changes?	

A3.5.3 Agreed Training and Development Objectives for Next Appraisal Period

As a result of discussion, detail the development objectives agreed:

Development Objective	Type/Location	Date	Priority

A3.6 Section VI. Competency Assessment

At the end of the performance period, the employee and his/her supervisor discuss the use of critical competencies. The competencies critical to employee's positions are listed. "Prompters" are included under each competency to facilitate discussion of the employee's performance in these areas. Competencies not relevant to the employee's position should be noted so. Competencies important to the position, but not listed, should be added by the supervisor under "*Other Competencies*."

The supervisor provides a detailed narrative on competency use. The feedback of well thought out, descriptive comments can help the employee focus on areas in need of development. Information from this section will also be used in preparing the Competency Development Plan for the next performance period.

Competency 1	
Competency 2	
...	
Other Competencies	

A3.7 Section VII. Performance Summary

Overall Performance Rating:

Refer to detailed definitions on page 1

1	2	3	4	5
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

A3.7.1 Supervisor Comments

Comments must be related to the evaluation of performance and interview discussion.

Supervisor

Name:
Signature:

Title:
Date:

A3.7.2 Employee Comments

Employee

Name:
Signature:

Title:
Date:

A3.7.3 Reviewer Comments

Reviewer

Name:
Signature:

Title:
Date:

THIS COMPLETES THE PACE FOR THE PAST PERFORMANCE PERIOD. THE SUPERVISOR IS RESPONSIBLE FOR ENSURING THAT THE EMPLOYEE RECEIVES A COPY OF THE COMPLETED AND SIGNED EVALUATION AND THAT A COPY IS PLACED IN THE EMPLOYEE FILE.

APPENDIX 4 – Glossary

Glossary entries in Italics relate to function and competency groups identifiers in the CASP Framework and Repository (See Chapter 2).

A.

Aligning Organisation

AIM

Aeronautical Information Management

AIP

Aeronautical Information Publication

AIS

Aeronautical Information Services

ANS

Air Navigation Services

ANSP

Air Navigation Service Provider

ARO

ATS Reporting Office

ARO

ARO Functions

ASE

Additional Service Provision

ATM

Air Traffic Management

ATS

Air Traffic Services

B.

Business Leading

C.

Culture Specific

CAA

Civil Aviation Authority

CAM

Change Management

CASP

Common AIS Staff Profiling

CASP-DG

Common AIS Staff Profiling-Development Group

CHA

Charting

C-JAM

Combination Job Analysis Method

COR

Coordination

CV

Curriculum Vitae

DAM

Data Management

DYN

Dynamic Data

EATM

European Air Traffic Management

ECAC

European Civil Aviation Conference

ECIP

European Convergence and Implementation Programme

FIN

Financial resources management

HR

Human Resources

HRD

Human Resource Development

HUM

Human Resources Management

I.

Individual Specific

ICAO

International Civil Aviation Organization

ISO

International Organization for Standardisation

KSA

Knowledge, Skills and Abilities

MAP

Aeronautical Charting

MET

Meteorology

NOF

International NOTAM Office

NOTAM

Notice To Airmen

O.

Organising People and Tasks

OCF

Operational Control Functions

OJT

On the Job Training

OPR

Operational Functions

PACE

Performance Assessment and Competency Enhancement

PUB

Publications

QM

Quality Management

QUM

Quality Management

SAM

Safety Management

SER

Customer Services

SME

Subject Matter Expert

STA

Static Data

SUP

Support Functions

T.

Technical and Professional

TEC

Technical Support