SFIA® FOUNDATION

Skills Framework
for the Information Age

SFIA 8

The framework reference

Contents

Introduction to SFIA documentation

The SFIA Framework has become the global common reference for skills and competency for the digital world.

The SFIA website – www.sfia-online.org – is the primary source of information for the SFIA Framework. Additional resources to enable skills and competency development are available along with other elements of the supporting ecosystem.

A number of core documents are available for download if required. These include:

- **SFIA Framework reference** - *The SFIA standard*

The full description of the SFIA levels of responsibility, the generic attributes that define the SFIA levels, the behavioural factors, knowledge statements and all the SFIA professional skills. This document has been optimised for on-screen viewing - not for printing.

- **About SFIA** - *Guidance for the use of the SFIA standard*

An overview of the SFIA Skills and Competency Framework and essential understanding for how it can be used in the management and development of people.

- **SFIA Excel spreadsheet**

To help users incorporate SFIA into their own internal SFIA support tooling. It provides the content of the SFIA levels of responsibility, the generic attributes (containing the behavioural factors and knowledge statements) and the professional skills.

- **SFIA Summary chart** - *skills and generic attributes*

A summary chart of the SFIA professional skills on one side and the generic attributes on the other.

The *SFIA summary* is a useful quick reference for SFIA users. The detailed content for skills and levels of responsibility is in the *SFIA Framework reference.*

The *SFIA Framework reference* is specific for a version of the SFIA Framework. It provides full descriptions of the individual generic attributes, behavioural factors and professional skills.

The *About SFIA* document is not specific for a version of the SFIA Framework. This document can be updated independently of SFIA versions.

Both the *SFIA Framework reference* and the *About SFIA* documents contain essential information and should be read together in order to get the most benefit from using the SFIA Framework.

SFIA full framework view

This view includes every skill in SFIA 8 – organised into categories and subcategories.

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SFIA Levels of responsibility

The generic attributes that characterise SFIA's seven levels of responsibility and accountability provide the underlying structure of the SFIA Framework. They ensure that the definitions of professional skills are defined in a way that makes their different levels recognisably distinct and aligned to the levels of responsibility.

The power of the levels of responsibility

As well as providing the fundamental structure of the SFIA Framework, the seven levels of responsibility also provide a basis of mapping for professional career pathways, corporate structures and other frameworks. The nature of the generic attributes makes them suitable as the basis of core competencies, mappings and stages within a career path.

- An organisation that already has a set of core competencies or values can use them in combination with SFIA's professional skills and benefit from the spacing that the SFIA levels provide and the international recognition afforded by a global common standard.
- An organisation, a professional body or trade association for instance, that wishes to map its own established structure to SFIA can do so using the levels of responsibility characterised by the generic attributes as the basis of such a mapping.

Universal applicability

SFIA originated as a framework for the ICT community. It has evolved to be a framework that defines the skills and competencies required by business and technology professionals who design. develop, implement, manage and protect the data and technology that power the digital world.

SFIA is used across a breadth of business and professional functions. Many roles in industry are blended and require a mix of technical and non-technical skills and SFIA is ideally suited to this.

SFIA's universal applicability means that it can readily be applied and also extended beyond the digital professions into any technical or non-technical domain. The user base continues to find new areas to use SFIA, which is a visible sign of SFIA's usefulness, integrity and flexible design.

SFIA enables integration of different professional work using the levels of responsibility as the foundation, whether that be framework to framework or an organisation's structure to the SFIA Framework. This provides a global common reference model for integration.

SFIA 8: The framework reference | Levels of responsibility

Level 1 - Follow

Autonomy	Works under close direction. Uses little discretion in attending to enquiries. Is expected to seek guidance in unexpected situations.
Influence	Minimal influence. May work alone or interact with immediate colleagues.
Complexity	Performs routine activities in a structured environment. Requires assistance in resolving unexpected problems. Participates in the generation of new ideas.
Business skills	Has sufficient oral and written communication skills for effective engagement with immediate colleagues. Uses basic systems and tools, applications and processes. Demonstrates an organised approach to work. Has basic digital skills to learn and use applications and tools for their role. Learning and professional development — contributes to identifying own development opportunities. Security, privacy and ethics — understands and complies with organisational standards.
Knowledge	Has a basic generic knowledge appropriate to area of work. Applies newly acquired knowledge to develop new skills.

Level 2 - Assist

Autonomy

Works under routine direction. Uses limited discretion in resolving issues or enquiries. Determines when to seek guidance in unexpected situations. Plans own work within short time horizons.

Influence

Interacts with and may influence immediate colleagues. May have some external contact with customers, suppliers and partners. Aware of need to collaborate with team and represent users/customer needs.

Complexity

Performs a range of work activities in varied environments. May contribute to routine issue resolution. May apply creative thinking or suggest new ways to approach a task.

Business skills

Has sufficient oral and written communication skills for effective engagement with colleagues and internal users/customers.

Understands and uses appropriate methods, tools, applications and processes.

Demonstrates a rational and organised approach to work.

Has sufficient digital skills for their role.

Learning and professional development — identifies and negotiates own development opportunities.

Security, privacy and ethics — is fully aware of organisational standards. Uses appropriate working practices in own work.

Knowledge

Has gained a basic domain knowledge. Demonstrates application of essential generic knowledge typically found in industry bodies of knowledge. Absorbs new information when it is presented systematically and applies it effectively.

Level 3 - Apply

Autonomy

Works under general direction. Receives specific direction, accepts guidance and has work reviewed at agreed milestones. Uses discretion in identifying and responding to complex issues related to own assignments. Determines when issues should be escalated to a higher level. Plans and monitors own work (and that of others where applicable) competently within limited deadlines.

Influence

Interacts with and influences colleagues. May oversee others or make decisions which impact routine work assigned to individuals or stages of projects. Has working level contact with customers, suppliers and partners. Understands and collaborates on the analysis of user/customer needs and represents this in their work. Contributes fully to the work of teams by appreciating how own role relates to other roles.

Complexity

Performs a range of work, sometimes complex and non-routine, in a variety of environments. Applies a methodical approach to routine and moderately complex issue definition and resolution. Applies and contributes to creative thinking or finds new ways to complete tasks.

Business skills

Demonstrates effective oral and written communication skills when engaging on issues with colleagues, users/customers, suppliers and partners.

Understands and effectively applies appropriate methods, tools, applications and processes.

Demonstrates judgement and a systematic approach to work.

Effectively applies digital skills and explores these capabilities for their role.

Learning and professional development — takes the initiative to develop own knowledge and skills by identifying and negotiating appropriate development opportunities.

Security, privacy and ethics — demonstrates appropriate working practices and knowledge in non-routine work. Appreciates how own role and others support appropriate working practices.

Knowledge

Has sound generic, domain and specialist knowledge necessary to perform effectively in the organisation typically gained from recognised bodies of knowledge and organisational information. Has an appreciation of the wider business context. Demonstrates effective application and the ability to impart knowledge found in industry bodies of knowledge. Absorbs new information and applies it effectively.

Level 4 - Enable

Autonomy

Works under general direction within a clear framework of accountability. Exercises substantial personal responsibility and autonomy. Uses substantial discretion in identifying and responding to complex issues and assignments as they relate to the deliverable/scope of work. Escalates when issues fall outside their framework of accountability. Plans, schedules and monitors work to meet given objectives and processes to time and quality targets.

Influence

Influences customers, suppliers and partners at account level. Makes decisions which influence the success of projects and team objectives. May have some responsibility for the work of others and for the allocation of resources. Engages with and contributes to the work of cross-functional teams to ensure that customers and user needs are being met throughout the deliverable/scope of work. Facilitates collaboration between stakeholders who share common objectives. Participates in external activities related to own specialism.

Complexity

Work includes a broad range of complex technical or professional activities, in a variety of contexts. Investigates, defines and resolves complex issues. Applies, facilitates and develops creative thinking concepts or finds innovative ways to approach a deliverable.

Business skills

Communicates fluently, orally and in writing, and can present complex information to both technical and non-technical audiences when engaging with colleagues, users/customers, suppliers and partners.

Selects appropriately from, and assesses the impact of change to applicable standards, methods, tools, applications and processes relevant to own specialism.

Demonstrates an awareness of risk and takes an analytical approach to work.

Maximises the capabilities of applications for their role and evaluates and supports the use of new technologies and digital tools.

Contributes specialist expertise to requirements definition in support of proposals.

Shares knowledge and experience in own specialism to help others.

Learning and professional development — maintains an awareness of developing practices and their application and takes responsibility for driving own development. Takes the initiative in identifying and negotiating their own and supporting team members' appropriate development opportunities. Contributes to the development of others.

Security, privacy and ethics — fully understands the importance and application to own work and the operation of the organisation. Engages or works with specialists as necessary.

Knowledge

Has a thorough understanding of recognised generic industry bodies of knowledge and specialist bodies of knowledge as necessary. Has gained a thorough knowledge of the domain of the organisation. Is able to apply the knowledge effectively in unfamiliar situations and actively maintains own knowledge and shares with others. Rapidly absorbs and critically assesses new information and applies it effectively.

SFIA 8: The framework reference | Levels of responsibility

Level 5 - Ensure, advise

Autonomy

Works under broad direction. Work is often self-initiated. Is fully responsible for meeting allocated technical and/or group objectives. Analyses, designs, plans, executes and evaluates work to time, cost and quality targets. Establishes milestones and has a significant role in the assignment of tasks and/or responsibilities.

Influence

Influences organisation, customers, suppliers, partners and peers on the contribution of own specialism. Makes decisions which impact the success of assigned work, i.e. results, deadlines and budget. Has significant influence over the allocation and management of resources appropriate to given assignments. Leads on user/customer and group collaboration throughout all stages of work. Ensures users' needs are met consistently through each work stage. Builds appropriate and effective business relationships across the organisation and with customers, suppliers and partners. Creates and supports collaborative ways of working across group/area of responsibility. Facilitates collaboration between stakeholders who have diverse objectives.

Complexity

Implements and executes policies aligned to strategic plans. Performs an extensive range and variety of complex technical and/or professional work activities. Undertakes work which requires the application of fundamental principles in a wide and often unpredictable range of contexts. Engages and coordinates with subject matter experts to resolve complex issues as they relate to customer/organisational requirements. Understands the relationships between own specialism and customer/organisational requirements.

Business skills

Demonstrates leadership in operational management.

Analyses requirements and advises on scope and options for continual operational improvement.

Assesses and evaluates risk.

Takes all requirements into account when making proposals.

Shares own knowledge and experience and encourages learning and growth.

Advises on available standards, methods, tools, applications and processes relevant to group specialism(s) and can make appropriate choices from alternatives.

Understands and evaluates the organisational impact of new technologies and digital services.

Creatively applies innovative thinking and design practices in identifying solutions that will deliver value for the benefit of the customer/stakeholder.

Clearly demonstrates impactful communication skills (oral, written and presentation) in both formal and informal settings, articulating complex ideas to broad audiences.

Learning and professional development — takes initiative to advance own skills and identify and manage development opportunities in area of responsibility.

Security, privacy and ethics — proactively contributes to the implementation of appropriate working practices and culture.

Knowledge

Is fully familiar with recognised industry bodies of knowledge both generic and specific, and knowledge of the business, suppliers, partners, competitors and clients. Develops a wider breadth of knowledge across the industry or business. Applies knowledge to help to define the standards which others will apply.

Level 6 - Initiate, influence

Autonomy	Has defined authority and accountability for actions and decisions within a significant area of work, including technical, financial and quality aspects. Establishes organisational objectives and assigns responsibilities.
Influence	Influences policy and strategy formation. Initiates influential relationships with internal and external customers, suppliers and partners at senior management level, including industry leaders. Leads on collaboration with a diverse range of stakeholders across competing objectives within the organisation. Makes decisions which impact the achievement of organisational objectives and financial performance.
Complexity	Contributes to the development and implementation of policy and strategy. Performs highly complex work activities covering technical, financial and quality aspects. Has deep expertise in own specialism(s) and an understanding of its impact on the broader business and wider customer/organisation.
Business skills	Demonstrates leadership in organisational management. Understands and communicates industry developments, and the role and impact of technology in the employing organisation. Manages and mitigates organisational risk. Balances the requirements of proposals with the broader needs of the organisation. Promotes a learning and growth culture in their area of accountability. Leads on compliance with relevant legislation and the need for services, products and working practices to provide equal access and equal opportunity to people with diverse abilities. Identifies and endorses opportunities to adopt new technologies and digital services. Creatively applies a wide range of innovative and/or management principles to realise business benefits aligned to the organisational strategy. Communicates authoritatively at all levels across the organisation to both technical and non-technical audiences articulating business objectives. Learning and professional development — takes the initiative to advance own skills and those skills required in their area of accountability. Security, privacy and ethics — takes a leading role in promoting and ensuring appropriate working practices and culture throughout own area of accountability and collectively in the organisation.
Knowledge	Has developed business knowledge of the activities and practices of own organisation and those of suppliers, partners, competitors and clients. Promotes the application of generic and specific bodies of knowledge in own organisation. Develops executive leadership skills and broadens and deepens their industry or business knowledge.

Level 7 - Set strategy, inspire, mobilise

Autonomy	At the highest organisational level, has authority over all aspects of a significant area of work, including policy formation and application. Is fully accountable for actions taken and decisions made, both by self and others to whom responsibilities have been assigned.
Influence	Inspires the organisation, and influences developments within the industry at the highest levels. Makes decisions critical to organisational success. Develops long-term strategic relationships with customers, partners, industry leaders and government. Collaborates with leadership stakeholders ensuring alignment to corporate vision and strategy.
Complexity	Applies the highest level of leadership to the formulation and implementation of strategy. Performs extensive strategic leadership in delivering business value through vision, governance and executive management. Has a deep understanding of the industry and the implications of emerging technologies for the wider business environment.
Business skills	Has a full range of strategic management and leadership skills. Communicates the potential impact of emerging practices and technologies on organisations and individuals and assesses the risks of using or not using such practices and technologies. Establishes governance to address business risk. Ensures proposals align with the strategic direction of the organisation. Fosters a learning and growth culture across the organisation. Assess the impact of legislation and actively promotes compliance and inclusivity. Advances the knowledge and/or exploitation of technology within one or more organisations. Champions creativity and innovation in driving strategy development to enable business opportunities. Communicates persuasively and convincingly across own organisation, industry and government to audiences at all levels. Learning and professional development — ensures that the organisation develops and mobilises the full range of required skills and capabilities. Security, privacy and ethics — provides clear direction and strategic leadership for the implementation of working practices and culture throughout the organisation.
Knowledge	Has established a broad and deep business knowledge including the activities and practices of own organisation and a broad knowledge of those of suppliers, partners, competitors and clients. Fosters a culture to encourage the strategic application of generic and specific bodies of knowledge within their own area of influence.

Autonomy

All levels 1 to 7

Level 1 - Follow
Works under close direction. Uses little discretion in attending to enquiries. Is expected to seek guidance in unexpected situations.

Level 2 - Assist
Works under routine direction. Uses limited discretion in resolving issues or enquiries. Determines when to seek guidance in unexpected situations. Plans own work within short time horizons.

Level 3 - Apply
Works under general direction. Receives specific direction, accepts guidance and has work reviewed at agreed milestones. Uses discretion in identifying and responding to complex issues related to own assignments. Determines when issues should be escalated to a higher level. Plans and monitors own work (and that of others where applicable) competently within limited deadlines.

Level 4 - Enable
Works under general direction within a clear framework of accountability. Exercises substantial personal responsibility and autonomy. Uses substantial discretion in identifying and responding to complex issues and assignments as they relate to the deliverable/scope of work. Escalates when issues fall outside their framework of accountability. Plans, schedules and monitors work to meet given objectives and processes to time and quality targets.

Level 5 - Ensure, advise
Works under broad direction. Work is often self-initiated. Is fully responsible for meeting allocated technical and/or group objectives. Analyses, designs, plans, executes and evaluates work to time, cost and quality targets. Establishes milestones and has a significant role in the assignment of tasks and/or responsibilities.

Level 6 - Initiate, influence
Has defined authority and accountability for actions and decisions within a significant area of work, including technical, financial and quality aspects. Establishes organisational objectives and assigns responsibilities.

Level 7 - Set strategy, inspire, mobilise
At the highest organisational level, has authority over all aspects of a significant area of work, including policy formation and application. Is fully accountable for actions taken and decisions made, both by self and others to whom responsibilities have been assigned.

Influence

All levels 1 to 7

Level 1 - Follow
Minimal influence. May work alone or interact with immediate colleagues.

Level 2 - Assist
Interacts with and may influence immediate colleagues. May have some external contact with customers, suppliers and partners. Aware of need to collaborate with team and represent users/customer needs.

Level 3 - Apply
Interacts with and influences colleagues. May oversee others or make decisions which impact routine work assigned to individuals or stages of projects. Has working level contact with customers, suppliers and partners. Understands and collaborates on the analysis of user/customer needs and represents this in their work. Contributes fully to the work of teams by appreciating how own role relates to other roles.

Level 4 - Enable
Influences customers, suppliers and partners at account level. Makes decisions which influence the success of projects and team objectives. May have some responsibility for the work of others and for the allocation of resources. Engages with and contributes to the work of cross-functional teams to ensure that customers and user needs are being met throughout the deliverable/scope of work. Facilitates collaboration between stakeholders who share common objectives. Participates in external activities related to own specialism.

Level 5 - Ensure, advise
Influences organisation, customers, suppliers, partners and peers on the contribution of own specialism. Makes decisions which impact the success of assigned work, i.e. results, deadlines and budget. Has significant influence over the allocation and management of resources appropriate to given assignments. Leads on user/customer and group collaboration throughout all stages of work. Ensures users' needs are met consistently through each work stage. Builds appropriate and effective business relationships across the organisation and with customers, suppliers and partners. Creates and supports collaborative ways of working across group/area of responsibility. Facilitates collaboration between stakeholders who have diverse objectives.

Level 6 - Initiate, influence
Influences policy and strategy formation. Initiates influential relationships with internal and external customers, suppliers and partners at senior management level, including industry leaders. Leads on collaboration with a diverse range of stakeholders across competing objectives within the organisation. Makes decisions which impact the achievement of organisational objectives and financial performance.

Level 7 - Set strategy, inspire, mobilise
Inspires the organisation, and influences developments within the industry at the highest levels. Makes decisions critical to organisational success. Develops long-term strategic relationships with customers, partners, industry leaders and government. Collaborates with leadership stakeholders ensuring alignment to corporate vision and strategy.

Complexity

All levels 1 to 7

Level 1 - Follow
Performs routine activities in a structured environment. Requires assistance in resolving unexpected problems. Participates in the generation of new ideas.

Level 2 - Assist
Performs a range of work activities in varied environments. May contribute to routine issue resolution. May apply creative thinking or suggest new ways to approach a task.

Level 3 - Apply
Performs a range of work, sometimes complex and non-routine, in a variety of environments. Applies a methodical approach to routine and moderately complex issue definition and resolution. Applies and contributes to creative thinking or finds new ways to complete tasks.

Level 4 - Enable
Work includes a broad range of complex technical or professional activities, in a variety of contexts. Investigates, defines and resolves complex issues. Applies, facilitates and develops creative thinking concepts or finds innovative ways to approach a deliverable.

Level 5 - Ensure, advise
Implements and executes policies aligned to strategic plans. Performs an extensive range and variety of complex technical and/or professional work activities. Undertakes work which requires the application of fundamental principles in a wide and often unpredictable range of contexts. Engages and coordinates with subject matter experts to resolve complex issues as they relate to customer/organisational requirements. Understands the relationships between own specialism and customer/organisational requirements.

Level 6 - Initiate, influence
Contributes to the development and implementation of policy and strategy. Performs highly complex work activities covering technical, financial and quality aspects. Has deep expertise in own specialism(s) and an understanding of its impact on the broader business and wider customer/organisation.

Level 7 - Set strategy, inspire, mobilise
Applies the highest level of leadership to the formulation and implementation of strategy. Performs extensive strategic leadership in delivering business value through vision, governance and executive management. Has a deep understanding of the industry and the implications of emerging technologies for the wider business environment.

SFIA 8: The framework reference | Levels of responsibility

Business skills

All levels 1 to 7

Level 1 - Follow
- Has sufficient oral and written communication skills for effective engagement with immediate colleagues.
- Uses basic systems and tools, applications and processes.
- Demonstrates an organised approach to work. Has basic digital skills to learn and use applications and tools for their role.
- Learning and professional development — contributes to identifying own development opportunities.
- Security, privacy and ethics — understands and complies with organisational standards.

Level 2 - Assist
- Has sufficient oral and written communication skills for effective engagement with colleagues and internal users/customers.
- Understands and uses appropriate methods, tools, applications and processes.
- Demonstrates a rational and organised approach to work.
- Has sufficient digital skills for their role.
- Learning and professional development — identifies and negotiates own development opportunities.
- Security, privacy and ethics — is fully aware of organisational standards. Uses appropriate working practices in own work.

Level 3 - Apply
- Demonstrates effective oral and written communication skills when engaging on issues with colleagues, users/customers, suppliers and partners.
- Understands and effectively applies appropriate methods, tools, applications and processes.
- Demonstrates judgement and a systematic approach to work.
- Effectively applies digital skills and explores these capabilities for their role.
- Learning and professional development — takes the initiative to develop own knowledge and skills by identifying and negotiating appropriate development opportunities.
- Security, privacy and ethics — demonstrates appropriate working practices and knowledge in non-routine work. Appreciates how own role and others support appropriate working practices.

Level 4 - Enable

- Communicates fluently, orally and in writing, and can present complex information to both technical and non-technical audiences when engaging with colleagues, users/customers, suppliers and partners.
- Selects appropriately from, and assesses the impact of change to applicable standards, methods, tools, applications and processes relevant to own specialism.
- Demonstrates an awareness of risk and takes an analytical approach to work.
- Maximises the capabilities of applications for their role and evaluates and supports the use of new technologies and digital tools.
- Contributes specialist expertise to requirements definition in support of proposals.
- Shares knowledge and experience in own specialism to help others.
- Learning and professional development — maintains an awareness of developing practices and their application and takes responsibility for driving own development. Takes the initiative in identifying and negotiating their own and supporting team members' appropriate development opportunities. Contributes to the development of others.
- Security, privacy and ethics — fully understands the importance and application to own work and the operation of the organisation. Engages or works with specialists as necessary.

Level 5 - Ensure, advise

- Demonstrates leadership in operational management.
- Analyses requirements and advises on scope and options for continual operational improvement.
- Assesses and evaluates risk.
- Takes all requirements into account when making proposals.
- Shares own knowledge and experience and encourages learning and growth.
- Advises on available standards, methods, tools, applications and processes relevant to group specialism(s) and can make appropriate choices from alternatives.
- Understands and evaluates the organisational impact of new technologies and digital services.
- Creatively applies innovative thinking and design practices in identifying solutions that will deliver value for the benefit of the customer/stakeholder.
- Clearly demonstrates impactful communication skills (oral, written and presentation) in both formal and informal settings, articulating complex ideas to broad audiences.
- Learning and professional development — takes initiative to advance own skills and identify and manage development opportunities in area of responsibility.
- Security, privacy and ethics — proactively contributes to the implementation of appropriate working practices and culture.

SFIA 8: The framework reference | Levels of responsibility

Level 6 - Initiate, influence

- Demonstrates leadership in organisational management.
- Understands and communicates industry developments, and the role and impact of technology.
- Manages and mitigates organisational risk.
- Balances the requirements of proposals with the broader needs of the organisation.
- Promotes a learning and growth culture in their area of accountability.
- Leads on compliance with relevant legislation and the need for services, products and working practices to provide equal access and equal opportunity to people with diverse abilities.
- Identifies and endorses opportunities to adopt new technologies and digital services.
- Creatively applies a wide range of innovative and/or management principles to realise business benefits aligned to the organisational strategy.
- Communicates authoritatively at all levels across the organisation to both technical and non-technical audiences articulating business objectives.
- Learning and professional development — takes the initiative to advance own skills and leads the development of skills required in their area of accountability.
- Security, privacy and ethics — takes a leading role in promoting and ensuring appropriate working practices and culture throughout own area of accountability and collectively in the organisation.

Level 7 - Set strategy, inspire, mobilise

- Has a full range of strategic management and leadership skills.
- Communicates the potential impact of emerging practices and technologies on organisations and individuals and assesses the risks of using or not using such practices and technologies.
- Establishes governance to address business risk.
- Ensures proposals align with the strategic direction of the organisation.
- Fosters a learning and growth culture across the organisation.
- Assess the impact of legislation and actively promotes compliance and inclusivity.
- Advances the knowledge and/or exploitation of technology within one or more organisations.
- Champions creativity and innovation in driving strategy development to enable business opportunities.
- Communicates persuasively and convincingly across own organisation, industry and government to audiences at all levels.
- Learning and professional development — ensures that the organisation develops and mobilises the full range of required skills and capabilities.
- Security, privacy and ethics — provides clear direction and strategic leadership for the implementation of working practices and culture throughout the organisation.

Knowledge

All levels 1 to 7

Level 1 - Follow
Has a basic generic knowledge appropriate to area of work. Applies newly acquired knowledge to develop new skills.

Level 2 - Assist
Has gained a basic domain knowledge. Demonstrates application of essential generic knowledge typically found in industry bodies of knowledge. Absorbs new information when it is presented systematically and applies it effectively.

Level 3 - Apply
Has sound generic, domain and specialist knowledge necessary to perform effectively in the organisation typically gained from recognised bodies of knowledge and organisational information. Has an appreciation of the wider business context. Demonstrates effective application and the ability to impart knowledge found in industry bodies of knowledge. Absorbs new information and applies it effectively.

Level 4 - Enable
Has a thorough understanding of recognised generic industry bodies of knowledge and specialist bodies of knowledge as necessary. Has gained a thorough knowledge of the domain of the organisation. Is able to apply the knowledge effectively in unfamiliar situations and actively maintains own knowledge and shares with others. Rapidly absorbs and critically assesses new information and applies it effectively.

Level 5 - Ensure, advise
Is fully familiar with recognised industry bodies of knowledge both generic and specific, and knowledge of the business, suppliers, partners, competitors and clients. Develops a wider breadth of knowledge across the industry or business. Applies knowledge to help to define the standards which others will apply.

Level 6 - Initiate, influence
Has developed business knowledge of the activities and practices of own organisation and those of suppliers, partners, competitors and clients. Promotes the application of generic and specific bodies of knowledge in own organisation. Develops executive leadership skills and broadens and deepens their industry or business knowledge.

Level 7 - Set strategy, inspire, mobilise
Has established a broad and deep business knowledge including the activities and practices of own organisation and a broad knowledge of those of suppliers, partners, competitors and clients. Fosters a culture to encourage the strategic application of generic and specific bodies of knowledge within their own area of influence.

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SFIA professional skills

SFIA defines the skills and competencies required by professionals who design, develop, implement, manage and protect the data and technology that power the digital world.

The SFIA professional skills are defined to be consistent with the levels of responsibility definitions. The SFIA Framework has many skills to cover the wide breadth of activities that professionals need.

Navigating the SFIA skills

SFIA continues to group the skills into categories and subcategories. These do not have definitions themselves, they are just a navigation aid. Colour coding is also used to identify the categories.

- These categories and subcategories do not equate to jobs, roles, organisational teams or areas of personal responsibility.
- It is common practice for a specific job description, for instance, to comprise skills taken from multiple categories and subcategories.
- The grouping is intended to assist people who are incorporating SFIA skills in role profiles or job descriptions, or who are building an organisation's competency framework.

Many users find these categories useful, but SFIA is a flexible resource and the SFIA Skills can easily be grouped and filtered into alternative views to support specific industry disciplines, particular environments and frameworks.

SFIA focussed views

SFIA views provide a quick-start list of the SFIA skills which are most relevant to a selection of professional disciplines, industry topics and complementary frameworks.

As well as the SFIA full framework view where SFIA skills are organised by the common categories and sub-categories, several other views are available. These views organise the skills more appropriately for particular environments and provide additional information for SFIA use in those environments.

Currently available SFIA views include:

- Information and cyber security
- Big data and data science
- DevOps
- Agile
- Software engineering
- Enterprise IT

These views are refreshed by SFIA users operating in these areas, and further views are in development, created by industry users and added to the SFIA website when available.

Structure of the skills

Even with over 120 skills, the SFIA Framework is a straightforward framework to use. This simplicity is achieved by a consistent use of a rigorous structure - once you know the structure you can navigate all skills easily.

Each SFIA skill is presented consistently, with a brief description of the skill, supplemented with guidance notes to illustrate the application of the skill. These are followed by more detailed descriptions of what it means to practice the skill at each relevant level of responsibility.

Structure of the SFIA professional skills

Skills are constructed with the following reference details:

Skill name:	The name used for reference purposes
Skill code:	A unique code used as a short reference for the skill
Skill description:	A brief definition of the skill, without any reference to the levels at which it might be practiced
Guidance notes:	A broader description and examples to clarify application of the skill along with context for interpreting level descriptions. Examples are descriptive, not prescriptive.
Level description:	Definitions of the skill for each of the levels at which it is practised. The phrasing facilitates their use as professional competencies.

Example of a skill structure – illustrated by Digital forensics

Skill name:	Digital forensics
Skill code:	DGFS
Skill description:	Recovering and investigating material found in digital devices. Activities may include - but not limited to: - collecting, processing, preserving and analysing material - presenting forensic evidence based on the totality of findings
Guidance notes:	The scope of digital forensics includes finding evidence on computers and any device capable of storing digital data. The evidence may be used in support of security vulnerability mitigation, criminal, fraud, counterintelligence, or law enforcement investigations.
Level description:	Level 6: Plans and leads the organisation's approach to digital forensics. Sets policies, standards and guidelines for how the organisation conducts digital forensic investigations. Leads and manages high-risk, large or wide-ranging digital forensics investigations engaging additional specialists if required. Authorises the release of formal forensics reports. Level 5: Conducts investigations to correctly gather, analyse and present findings, including digital evidence, to both business and legal audiences. Collates conclusions and recommendations and presents forensics findings to stakeholders. Plans and manages digital forensics activities within the organisation. Provides expert advice on digital forensics. Contributes to the development of digital forensics policies, standards and guidelines. Evaluates and selects digital forensics tools and techniques. Level 4: Designs and executes complex digital forensic investigations on devices. Specifies requirements for resources and tools to perform investigations. Processes and analyses evidence in line with policy, standards and guidelines and supports production of forensics findings and reports. Level 3: Supports digital forensic investigations by applying standard tools and techniques to investigate devices. Recovers damaged, deleted or hidden data from devices. Maintains integrity of records and collects information and evidence in a legally admissible way.

Strategic planning ITSP

Creating and maintaining a strategy to align organisational actions, plans and resources with business objectives.

Guidance notes

Activities may include — but are not limited to:

- iterating and reviewing strategic plans
- developing plans to drive forward and execute strategy
- working with stakeholders to communicate and embed strategic management via objectives, accountabilities and progress monitoring.

Level 5

Collates information and creates reports and insights to support strategy management processes.

Ensures that all stakeholders are aware of the strategic management approach and timetables. Provides support and guidance to help stakeholders adhere to the approach.

Develops and communicates plans to drive forward the strategy and related change planning.

Contributes to the development of policies, standards and guidelines for strategy development and planning.

Level 6

Sets policies, standards, and guidelines for how the organisation conducts strategy development and planning.

Leads and manages the creation or review of a strategy that meets the requirements of the business.

Develops, communicates, implements and reviews the processes which embed strategic management in the operational management of the organisation.

Level 7

Leads the definition, implementation, and communication of the organisation’s strategic management framework.

Directs the creation and review of a strategy and plans to support the strategic requirements of the business.

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Information systems coordination ISCO

Coordinating information and technology strategies where the adoption of a common approach would benefit the organisation.

Guidance notes

This skill is typically applied within a large organisation in which information and technology strategy function is devolved to autonomous units, or within a collaborative enterprise of otherwise independent organisations.

Examples where a common approach would benefit the organisation include — but are not limited to — shared services, service integration and management, sourcing, supplier management, cloud strategy, enterprise architecture, security.

Level 6

Maintains awareness of the global needs of the organisation.

Promotes the benefits that a common approach to technology deployment will bring to the business as a whole.

Coordinates and collaborates with others on the promotion, acquisition, development, and implementation of information systems and services.

Level 7

Establishes the organisation's strategy for managing information and communicates the policies, standards, procedures and methods necessary to implement the strategy.

Coordinates all aspects of management of the life cycle of information systems.

Represents the interests of the entire organisation to general management and external bodies on matters relating to information strategy.

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Information management IRMG

Planning, implementing and controlling the full life cycle management of digitally organised information and records.

Guidance notes

Information and records are held in many forms including — but not limited to — digital documents, printed material, microform, e-mail, chats and websites. Information may be structured or unstructured and may be created by internal or external sources.

Specific laws and regulations may require organisations to maintain records of certain business activities and transactions for a minimum period.

Activities may include — but are not limited to:

- identifying, classifying, valuing, processing, storing, archiving, destroying information and records
- governance of how information is used to support decision-making, business processes and digital services
- developing and promoting strategies and policies for the design of information architectures, structures and taxonomies
- capturing and maintaining evidence of and information about business activities and transactions in the form of records
- implementing systems of cataloguing, metadata, indexing, and classification standards and methods used to organise recorded information
- ensuring compliance with legal obligations.

Level 4

Supports the implementation of information and records management policies and standard practice.

Monitors the implementation of effective controls for internal delegation, audit and control relating to information and records management.

Reports on the consolidated status of information controls to inform effective decision-making.

Identifies risks around the use of information. Recommends remediation actions as required.

Level 5

Ensures implementation of information and records management policies and standard practice.

Communicates the benefits and value of information, both internal and external, that can be mined from business systems and elsewhere.

Reviews new change proposals and provides specialist advice on information and records management. Assesses and manages information-related risks.

Contributes to the development of policy, standards and procedures for compliance with relevant legislation.

SFIA 8: The framework reference | Skills

Level 6

Leads and plans activities to communicate and implement information management strategies and policies.

Develops organisational policies, standards, and guidelines for information and records management. Ensures that the information required to support the organisation is defined, and devises information and records management processes.

Identifies the impact of statutory, internal or external regulations on the organisation's use of information and develops strategies for compliance.

Coordinates internal and externally sourced information resources to meet specific business objectives.

Level 7

Establishes and communicates the organisation's information management strategy.

Specifies at a strategic level the information needed to support the business strategy and business functions.

Directs information resources to create value for stakeholders.

Accountable for compliance with regulations, standards and codes of good practice relating to information and records management

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Enterprise and business architecture STPL

Aligning an organisation's technology strategy with its business mission, strategy, and processes and documenting this using architectural models.

Guidance notes

Enterprise architecture is typically considered across four domains: business, data, applications and infrastructure technologies. It may also include information security or legal and regulatory compliance.

Activities may include — but are not limited to:

- translating business strategies and objectives into an operating model
- assessing current capabilities and identifying required changes in capabilities to achieve objectives
- describing the interrelationships between people, organisation, service, process, data, information, technology and the external environment
- creating, iterating, and maintaining architectural models and views embodying the key principles that describe the organisation's future state, and that enable its evolution
- implementing enterprise architecture working practices to support and enable iterative/agile working
- interpreting business goals and drivers
- documenting and communicating constraints, standards and guiding principles necessary to define, assure and govern the required evolution
- using architectural models and processes to facilitate changes in the organisation's structure, business processes, information or data, business systems and infrastructure
- describing where and why the enterprise will benefit from cloud-based services.

Level 5

Develops models and plans to drive the execution of the business strategy, taking advantage of opportunities to improve business performance.

Contributes to creating and reviewing a systems capability strategy which meets the business's strategic requirements.

Determines requirements and specifies effective business processes, through improvements in technology, information or data practices, organisation, roles, procedures and equipment.

SFIA 8: The framework reference | Skills

Level 6

Develops enterprise-wide architecture and processes to embed the strategic application of change in the management of the organisation.

Leads the creation and review of a systems capability strategy that meets the strategic requirements of the business. Ensures the buy-in of all key stakeholders.

Captures and prioritises market and environmental trends, business strategies and objectives, and identifies the business benefits of alternative strategies. Develops and presents business cases for approval, funding and prioritisation of high-level initiatives.

Sets strategies, policies, standards and practices to ensure compliance between business strategies, technology strategies, and enterprise transformation activities.

Level 7

Directs the development of enterprise-wide architecture and processes to embed the strategic application of change in the management of the organisation.

Directs the creation and review of an enterprise capability strategy to support the strategic requirements of the business. Identifies the business benefits of alternative strategies.

Ensures compliance between business strategies, enterprise transformation activities and technology directions, setting strategies, policies, standards and practices.

Solution architecture ARCH

Developing and communicating a multi-dimensional solution architecture to deliver agreed business outcomes.

Guidance notes

Activities may include — but are not limited to:

- defining the planned operation and maintenance of the solution within a production environment — include changes to services, process, organisation, and operating models as well as technology
- ensuring that existing and planned solution components are compatible with relevant architectures, strategies, policies, standards and practices
- considering requirements for security, privacy and testing of solutions
- taking account of relevant architectures, strategies, policies, standards and practices
- identifying appropriate cloud services
- developing roadmaps to migrate components to cloud services
- developing and communicating an implementation roadmap
- providing guidance and risk-based governance to support solution implementation including managing requests for changes and deviations from specifications.

Level 4

Contributes to the development of solution architectures in specific business, infrastructure or functional areas.

Identifies and evaluates alternative architectures and the trade-offs in cost, performance and scalability. Determines and documents architecturally significant decisions.

Produces specifications of cloud-based or on-premises components, tiers and interfaces, for translation into detailed designs using selected services and products.

Supports projects or change initiatives through the preparation of technical plans and application of design principles. Aligns solutions with enterprise and solution architecture standards (including security).

Level 5

Leads the development of solution architectures in specific business, infrastructure or functional areas.

Leads the preparation of technical plans and ensures that appropriate technical resources are made available. Ensures that appropriate tools and methods are available, understood and employed in architecture development.

Provides technical guidance and governance on solution development and integration. Evaluates requests for changes and deviations from specifications and recommends actions.

Ensures that relevant technical strategies, policies, standards and practices (including security) are applied correctly.

Level 6

Leads the development of architectures for complex solutions ensuring consistency with agreed requirements.

Establishes policies, principles and practices for the selection of solution architecture components.

Manages trade-offs and balances functional, service quality and systems management requirements within a significant area of the organisation. Communicates proposed decisions to stakeholders.

Coordinates and manages the target architecture across multiple projects or initiatives. Maintains a stable, viable architecture and ensures consistency of design and adherence to appropriate standards across multiple projects or initiatives.

Innovation INOV

Identifying, prioritising, incubating and exploiting opportunities provided by information, communication and digital technologies.

Guidance notes

This skill focuses on a systematic, organisational approach to innovation. It is not describing personal behaviours, such as creativity.

Activities may include — but are not limited to:

- developing and implementing processes, tools and infrastructures to support innovation
- implementing innovation practices to support iterative/agile working
- facilitating internal and external communities, employees, commercial partners, customers, users and other stakeholders in the innovation process
- providing a framework for governance, monitoring and reporting on the innovation process.

Level 5

Manages the innovation pipeline and executes innovation processes.

Develops and adapts innovation tools, processes and infrastructures to drive the process of innovation. Identifies resources and capabilities needed to support innovation.

Encourages and motivates innovation communities, teams and individuals to share creative ideas and learn from failures.

Manages and facilitates the communication and open flow of creative ideas between interested parties and the set-up of innovation networks and communities.

Level 6

Obtains organisational commitment to innovation.

Develops organisational capabilities to drive innovation.

Leads and plans the development of innovation capabilities and implementation of innovation processes, tools and frameworks.

Leads the communication and an open flow of creative ideas between interested parties and the set-up of innovation networks and communities.

Level 7

Leads development of a culture that encourages innovation, risk-taking and collaboration.

Embeds innovation processes throughout business units and links strategy execution with innovation.

Aligns organisational and individual objectives, measures and rewards with innovation.

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Emerging technology monitoring EMRG

Identifying and assessing new and emerging technologies, products, services, methods and techniques.

Guidance notes

Activities may include — but are not limited to:

- assessing relevance and potential impacts — which may be threats or opportunities
- communicating the impact of emerging technologies.

Assessments may relate to business enablers, cost, performance or sustainability

Level 4

Supports monitoring of the external environment and assessment of emerging technologies.

Contributes to the creation of reports, technology roadmapping and the sharing of knowledge and insights.

Level 5

Monitors the external environment to gather intelligence on emerging technologies.

Assesses and documents the impacts, threats and opportunities to the organisation.

Creates reports and technology roadmaps and shares knowledge and insights with others.

Level 6

Plans and leads the identification and assessment of emerging technologies and the evaluation of potential impacts, threats and opportunities.

Creates technology roadmaps that align organisational plans with emerging technology solutions.
Engages with, and influences, relevant stakeholders to obtain organisational commitment to technology roadmaps.

Develops organisational guidelines for monitoring emerging technologies.

Collaborates with internal and external parties to facilitate intelligence gathering.

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Research RSCH

Systematically creating new knowledge by data gathering, innovation, experimentation, evaluation and dissemination.

Guidance notes

Activities may include — but are not limited to:

- determining research goals and the methods by which the research will be conducted
- actively participating in a community of researchers
- communicating formally and informally through digital media, conferences, journals, books and seminars.

The Research skill defined in SFIA is used for creating new knowledge including — but not limited to — commercial research and development or academic institutions.

Because of its name, this skill can be confused with general search and investigation into a topic of interest. In most cases, general investigations are covered by responsibilities described by the SFIA generic attributes. Many of the SFIA professional skills also make reference to investigation or similar activity

Level 2

Within given research goals, assists in selection and review of credible and reliable resources.

Searches for relevant material using specialised websites and sources, reads relevant articles to update knowledge of the relevant field.

Reports on work carried out and may contribute sections of publication-quality material.

Curates, under guidance, a personal collection of relevant material.

Level 3

Within given research goals, builds on and refines appropriate outline ideas for research, including evaluation, development, demonstration and implementation.

Applies standard methods to collect and analyse quantitative and qualitative data. Creates research reports to communicate research methodology, findings and conclusions.

Contributes sections of publication-quality material.

Uses available resources to update knowledge of any relevant field and curates a personal collection of relevant material. Participates in research communities.

Level 4

Builds on and refines appropriate outline ideas for the evaluation, development, demonstration and implementation of research.

Contributes to research goals and funding proposals. Collects and analyses qualitative and quantitative data as required.

Contributes to research plans and identifies appropriate opportunities for publication and dissemination of research findings. Makes an active contribution to research communities.

Presents papers at conferences, contributes significant sections of publication-quality material, and presents reports to clients.

SFIA 8: The framework reference | Skills

Level 5

Agrees research goals and methods and performs research projects to generate original ideas.

Attracts and manages external research funding. Maintains a strong external network within own area of specialism.

Provides advice and guidance on performing research. Selects, adopts and adapts data collection tools and techniques. Develops, reviews and constructively criticises the research and ideas of others. Shares practical demonstrations of research findings.

Takes part in professional activities outside own employing organisation. Presents papers at significant conferences, writes articles for specialist journals, and presents reports to key stakeholders.

Level 6

Develops the organisation's research policy and supervises the work of research functions.

Promotes activities externally, attracts and manages significant portfolios of research funding.

Sets research goals and authorises research proposals. Leads strategic and/or interdisciplinary research projects. Maintains a strong external network reaching beyond own immediate area of specialism.

Takes a leading part in professional activities outside own employing organisation. Presents keynote papers at major conferences, writes articles for high impact journals, and presents reports to major clients.

Demand management DEMM

Analysing and proactively managing business demand for new services or modifications to existing service features or volumes.

Guidance notes

Activities may include — but are not limited to:

- collaborating with the business to prioritise demand to improve business value
- developing and communicating insights into patterns of demand
- performing what-if analyses and scenario planning to develop insights and proposals to improve business value
- proposing responses to meet both short-term and long-term demand and facilitating decision-making and planning
- integrating demand analysis and planning with complementary strategic, operational and change planning processes.

Level 5

Implements demand management analysis and planning activities.

Provides advice to help stakeholders adopt and adhere to the agreed demand management approach. Manages the process of integrating demand management with complementary strategic, operational and change management processes.

Maintains a register of business requests and routes requests to the right place. Reports on the status of each request.

Reviews new business proposals and provides advice on demand issues. Works with business representatives to agree and implement short-term and medium-term modifications to demand.

Level 6

Defines the approach and sets policies for discovering, analysing, planning, controlling and documenting demand for services and products.

Organises scoping and business priority setting for strategic business changes involving business policy-makers and direction setters.

Engages with and influences senior stakeholders to improve the business value delivered from new or existing services and products.

Leads the development of demand management capabilities. Leads the integration of demand management with complementary strategic, operational and change management processes.

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Investment appraisal INVA

Assessing the attractiveness of possible investments or projects.

Guidance notes

Activities may include — but are not limited to:

- selecting and using appropriate techniques to compare financial investments and returns
- using recognised investment appraisal techniques to compare investment and returns include payback period, accounting rate of return, discounted cash flow (net present value and internal rate of return)
- collecting data using appropriate top-down or bottom-up approaches
- including other factors into the appraisal approach — such as legal considerations, environmental or social impact, operational benefits, risk
- developing scoring methods to allow for subjective benefits or dis-benefits and to aggregate the results of multiple appraisal methods to help compare options
- documenting and presenting the results of investment appraisals
- establishing investment appraisal as a tool for selecting projects/initiatives for further investigation.
- identifying possible sources of funding and the impact on the investment appraisal.

Level 4

Develops and documents investment appraisals for a range of different projects.

Identifies suitable appraisal techniques based on the characteristics of a project.

Collects the information required to create an investment appraisal in collaboration with internal and external stakeholders. Presents findings of investment appraisals to selected stakeholders.

Refines and maintains investment appraisals.

Level 5

Advises on investment appraisal approaches and tailors organisational standards to the context of portfolios/programmes.

Leads investment appraisal activities for simple portfolios and programmes and complex projects.

Level 6

Develops organisational policies, standards, and guidelines for investment appraisals.

Leads activities to establish consistent appraisal across the component projects and programmes within a portfolio.

Reviews investment appraisals for high-value initiatives to assure their quality.

Leads investment appraisal activities for complex programmes of work and portfolios.

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Financial management FMIT

Supporting the effective use and control of financial resources.

Guidance notes

This skill usually applies to specialist financial management roles — not to managers responsible for their own operational or project budgets.

Financial management needs to be aligned with business strategies and to working practices in areas including — but not limited to — governance, risk management, portfolio, programme and project management, asset management.

Activities may include — but are not limited to:

- financial management, control, and stewardship of assets and resources
- supporting decision-making
- budgeting, forecasting, and accounting for financial resources
- financial management for consumption based costs such as cloud-based services
- implementing financial management practices to support iterative/agile working
- developing service, projects and component cost models
- defining charging models for the provision of services
- applying accounting standards and policies and ensuring compliance with governance, legal and regulatory requirements.

Level 4

Monitors and maintains financial records to agreed requirements for compliance and audit.

Assists with identifying and calculating process, service, project and component costs for financial planning and budgeting.

Collates required financial data and reports for analysis and to facilitate decision-making.

Level 5

Advises on financial planning, budgeting, costing, accounting and charging using recognised accounting practices and standards.

Develops financial plans and forecasts. Monitors and manages expenditure and examines areas where budgets and expenditure exceed agreed tolerances.

Contributes to the definition and operation of effective financial control and decision-making.

Analyses actual expenditure, examines variances, and advises on options in the use of available budget.

Level 6

Develops organisational policies, standards, and guidelines for financial management to support the execution of business strategy.

Promotes commercial awareness and drives adoption of and adherence to financial management policies and standards.

Sets, negotiates, agrees and manages all financial budgets and targets, ensuring adequate funding.

Leads activities to analyse financial performance and instigates required improvements in the use of available budget to meet real needs.

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Measurement MEAS

Developing and operating a measurement capability to support agreed organisational information needs.

Guidance notes

- Measurement can be applied to organisations, projects, processes, and work products.

Activities may include — but are not limited to:

- planning, implementation, and control of activities to measure attributes of processes, products, and services
- using measures to assess performance, progress, and provide indications and insights to actual or potential problems, issues, and risks
- identifying requirements for measurement
- implementing measurement to support iterative/agile working practices
- selecting measures and measurement scales, setting target values and thresholds
- establishing data collection and analysis methods — including automation.

Level 3

Applies standard techniques to support the specification of measures and the collection and maintenance of data for measurement.

Generates, produces and distributes reports.

Uses measurement tools for routine analysis of data.

Identifies and implements improvements to data collection methods.

Level 4

Identifies and prioritises appropriate measures, scales, and targets.

Supports projects, functions or teams in the development of measurement methods.

Specifies base and derived measures which support agreed information needs. Specifies how to collect and store the data for each required measure. Provides guidance on collection of data.

Designs reports and reporting formats.

Level 5

Establishes measurement objectives and the scope of measurement for functions, teams and projects.

Plans and implements improvements to measurement capability. Provides advice and guidance for effective use of measures and measurement.

Selects measures appropriate to the context and organisational objectives. Reviews data collection and storage mechanisms to support measurement.

Contributes to organisational policies, standards, and guidelines for measurement.

Level 6

Leads the development of organisational capabilities for measurement (including automation).

Creates the measurement framework and aligns measurement objectives with business objectives.

Develops organisational policies, standards, guidelines for measurement.

Provides resources to ensure adoption and adherence to policies and standards.

Sustainability SUST

Providing advice, assistance and leadership to enable the organisation to minimise negative environmental impact.

Guidance notes

Activities may include — but are not limited to:

- developing policies, standards and guidelines to minimise the negative environmental impact of factors such as — but not limited to — hardware, software, networks, storage, power supply, care, maintenance and disposal of assets, paper, packaging or transport
- advising on regulations and standards
- benchmarking and establishing metrics and dashboards
- communicating and promoting sustainability policies and programmes.

Level 4

Assesses and reports on how different tactical decisions affect sustainability.

Evaluates factors and risks (political, legislative, technological, economic, social) that impact on operational processes and strategic direction.

Evaluates and reports on the implementation of sustainability measures in specific areas.

Level 5

Provides expert advice and guidance on planning, designing and implementing sustainability solutions.

Evaluates and selects sustainability methods, tools, and practices to be used in line with agreed policies and standards.

Identifies and recommends improvements to the organisation’s approach to sustainability.

Level 6

Develops and promotes organisational strategies, policies, standards, and guidelines for sustainability.

Leads the introduction and use of sustainability techniques, methodologies and tools.

Continuity management COPL

Developing, implementing and testing a business continuity framework.

Guidance notes

Activities may include — but are not limited to:

- identifying potential threats and assessing their business impact
- developing plans and procedures to respond to an incident
- ensuring critical business functions can continue with a planned level of disruption
- ensuring an acceptable level of service can be restored after a disruption
- developing organisational resilience
- assuring that continuity is being designed into systems, processes and ways of working
- implementing continuity management practices for cloud-based services
- enabling continuous delivery, deployment and integration of applications and infrastructure without adverse impact or disruption to service.

Incidents have a variety of causes, including — but not limited to — cyber-attacks, data breaches, organised crime, fires, floods, natural disasters, pandemics, health emergencies and supply chain failure.

Level 2

Maintains records of all related testing and training and ensures the availability of all documentation.

Records the actions taken and the consequences following an incident or live testing of a continuity plan for a lessons-learned report.

Level 3

Applies a structured approach to develop and document the detail for a continuity plan.

Maintains documentation of business continuity and disaster recovery plans.

Supports the development of a test plan and implementation of continuity management exercises.

Level 4

Contributes to the development of continuity management plans.

Identifies information and communication systems that support critical business processes.

Coordinates the business impact analysis and the assessment of risks.

Coordinates the planning, designing, and testing of contingency plans

SFIA 8: The framework reference | Skills

Level 5

Manages the development, implementation and testing of continuity management plans.

Manages the relationship with individuals and teams who have authority for critical business processes and supporting systems.

Evaluates the critical risks and identifies priority areas for improvement.

Tests continuity management plans and procedures to ensure they address exposure to risk and that agreed levels of continuity can be maintained.

Level 6

Sets the strategy for continuity management across the organisation.

Secures organisational commitment, funding and resources for continuity management.

Leads continuity management exercises.

Communicates the policy, governance, scope, and roles involved in continuity management. Has defined authority and accountability for the actions and decisions for continuity management.

Information security SCTY

Defining and operating a framework of security controls and security management strategies.

Guidance notes

The purpose of security controls and management strategies is to:

- maintain the security, confidentiality, integrity, availability, accountability of information systems
- ensure information systems comply with legislation, regulation and relevant standards.

Activities may include — but are not limited to:

- selecting, adopting and adapting security control frameworks
- designing, justifying and implementing security management strategies
- identifying risks with technical solution architectures
- ensuring security principles are applied during design and development to reduce risk.

Examples of types of security controls include — but are not limited to:

- physical controls
- procedural or administrative controls
- technical or logical controls
- legal and regulatory or compliance controls.

These activities are typically performed in collaboration with specialists in other areas including — but not limited to — legal, technical infrastructure, audit, architecture, software engineering.

Level 3

Applies and maintains specific security controls as required by organisational policy and local risk assessments.

Communicates security risks and issues to business managers and others. Performs basic risk assessments for small information systems.

Contributes to the identification of risks that arise from potential technical solution architectures. Suggests alternate solutions or countermeasures to mitigate risks. Defines secure systems configurations in compliance with intended architectures.

Supports investigation of suspected attacks and security breaches.

Level 4

Provides guidance on the application and operation of elementary physical, procedural and technical security controls.

Explains the purpose of security controls and performs security risk and business impact analysis for medium complexity information systems.

Identifies risks that arise from potential technical solution architectures. Designs alternate solutions or countermeasures and ensures they mitigate identified risks.

Investigates suspected attacks and supports security incident management.

Level 5

Provides advice and guidance on security strategies to manage identified risks and ensure adoption and adherence to standards.

Contributes to development of information security policy, standards and guidelines.

Obtains and acts on vulnerability information and conducts security risk assessments, business impact analysis and accreditation on complex information systems. Investigates major breaches of security, and recommends appropriate control improvements.

Develops new architectures that mitigate the risks posed by new technologies and business practices.

Level 6

Develops and communicates corporate information security policy, standards and guidelines.

Ensures architectural principles are applied during design to reduce risk. Drives adoption and adherence to policy, standards and guidelines.

Contributes to the development of organisational strategies that address information control requirements. Identifies and monitors environmental and market trends and proactively assesses impact on business strategies, benefits and risks.

Leads the provision of authoritative advice and guidance on the requirements for security controls in collaboration with subject matter experts.

Level 7

Directs the development, implementation, delivery and support of an enterprise information security strategy aligned with the business strategy.

Ensures compliance between business strategies and information security.

Leads the provision of information security expertise, guidance and systems needed to execute strategic and operational plans.

Secures organisational resources to execute the information security strategy

Information assurance INAS

Protecting against and managing risks related to the use, storage and transmission of data and information systems.

Guidance notes

Activities may include — but are not limited to:

- management of risk in a pragmatic and cost-effective manner to ensure stakeholder confidence
- formal system certification and accreditation
- technical assessment and evaluation to determine control effectiveness.

Information and data are typically protected by following five principles:

- availability — ensuring that authorised users can easily access the information they need
- integrity — protecting information from unauthorised modification, retrieval or deletion
- authenticity — validating the identity of users and devices
- confidentiality — restricting access to authorised users only
- non-repudiation — preventing possible denial that an action occurred by ensuring data is true to its origin.

Level 3

Follows standard approaches for the technical assessment of information systems against information assurance policies and business objectives.

Makes routine accreditation decisions. Recognises decisions that are beyond their scope and responsibility level and escalates according.

Reviews and performs risk assessments and risk treatment plans. Identifies typical risk indicators and explains prevention measures.

Maintains integrity of records to support and justify decisions.

Level 4

Performs technical assessments and/or accreditation of complex or higher-risk information systems.

Identifies risk mitigation measures required in addition to the standard organisation or domain measures.

Establishes the requirement for accreditation evidence from delivery partners and communicates accreditation requirements to stakeholders.

Contributes to planning and organisation of information assurance and accreditation activities. Contributes to development of and implementation of information assurance processes.

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Level 5

Interprets information assurance and security policies and applies these to manage risks.

Provides advice and guidance to ensure adoption of and adherence to information assurance architectures, strategies, policies, standards and guidelines.

Plans, organises and conducts information assurance and accreditation of complex domains areas, cross-functional areas, and across the supply chain.

Contributes to the development of policies, standards and guidelines.

Level 6

Develops information assurance policy, standards and guidelines.

Contributes to the development of organisational strategies that address the evolving business risk and information control requirements.

Drives adoption of and adherence to policies and standards. Ensures that architectural principles are followed, requirements are defined and rigorous security testing is applied. Ensures that accreditation processes support and enable organisational objectives.

Monitors environmental and market trends and assesses any impact on organisational strategies, benefits and risks.

Level 7

Directs the creation and review of an enterprise information assurance strategy to support the strategic requirements of the business.

Ensures compliance between business strategies and information assurance by setting strategies, policies, standards and practices.

Leads the provision of information assurance expertise, advice and guidance across all of the organisation’s information and information systems.

Personal data protection PEDP

Implementing and operating a framework of controls and management strategies to promote compliance with personal data legislation.

Guidance notes

Activities may include — but are not limited to:

- providing expert advice on policies, procedures and governance
- designing privacy-friendly products, services and systems that respect customer privacy and embed data protection
- performing impact assessments, identify risks whilst enabling prudent use of data and addressing issues with products and services
- responding to incidents
- following legislative developments
- creating privacy risk models and frameworks
- working with subject matter experts in areas such as — but not limited to — legal, public relations, learning and development, procurement, security, data management, architecture.

Level 5

Contributes to the development of policy, standards and guidelines related to personal data legislation.

Provides expert advice and guidance on implementing personal data legislation controls in products, services and systems. Investigates major data breaches and recommends appropriate control improvements.

Creates and maintains an inventory of data that are subject to personal data legislation. Conducts risk assessments, business impact analysis for complex information systems and specifies any required changes.

Ensures that formal requests and complaints are dealt with according to approved procedures. Prepares and submits reports and registrations to relevant authorities.

Level 6

Develops strategies for compliance with personal data legislation.

Ensures that the policy and standards for compliance with personal data legislation are fit for purpose, current and correctly implemented.

Acts as the organisation’s contact for the regulatory authorities.

Operates as a focus for personal data legislation for the organisation, working with specialists to provide authoritative advice and guidance.

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Vulnerability research VURE

Conducting applied research to discover, evaluate and mitigate new or unknown security vulnerabilities and weaknesses.

Guidance notes

A security vulnerability is a weakness, flaw or error found within a security system that has the potential to be leveraged by an external agent to compromise a secure system.

Activities may include — but are not limited to:

- researching new threats, attack vectors, risks and potential solutions
- reverse engineering hardware or software
- applying tools such as disassemblers, debuggers and fuzzers
- analysing embedded devices
- developing techniques and tools to analyse and expose vulnerabilities
- designing new vulnerability discovery techniques
- sharing mitigation techniques with relevant stakeholders.

Level 3

Applies standard techniques and tools for vulnerability research.

Uses available resources to update knowledge of relevant specialism.

Participates in research communities.

Analyses and reports on activities and results.

Level 4

Designs and executes complex vulnerability research activities.

Specifies requirements for environment, data, resources and tools to perform assessments.

Reviews test results and modifies tests if necessary. Creates reports to communicate methodology, findings and conclusions. Advises on deception methods by exploiting identified patterns.

Makes an active contribution to research communities.

Level 5

Plans and manages vulnerability research activities.

Maintains a strong external network in the area of vulnerability research. Gathers information on new and emerging threats and vulnerabilities.

Assesses and documents the impacts and threats to the organisation. Creates reports and shares knowledge and insights with stakeholders.

Providing expert advice and guidance to support the adoption of tools and techniques for vulnerability research. Contributes to the development of organisational policies, standards, and guidelines for vulnerability research and assessment.

Level 6

Plans and leads the organisation's approach to vulnerability research.

Identifies new and emerging threats and vulnerabilities. Maintains a strong external network. Takes a leading part in external-facing professional activities to facilitate information gathering and set the scope of research work.

Engages with, and influences, relevant stakeholders to communicate results of research and the required response.

Develops organisational policies and guidelines for monitoring emerging threats and vulnerabilities.

Threat intelligence THIN

Developing and sharing actionable insights on current and potential security threats to the success or integrity of an organisation.

Guidance notes

Activities may include — but are not limited to:

- gathering data from a variety of open or proprietary intelligence sources
- processing and classifying threat data to make it useful and actionable by others
- packaging the data for use by consumers of the information
- enabling the use of the data automatically by security tools
- providing threat intelligence to help others mitigate vulnerabilities or to respond to security incidents.

Level 2

Contributes to routine threat intelligence gathering tasks.

Monitors and detects potential security threats and escalates in accordance with relevant procedures and standards.

Level 3

Performs routine threat intelligence gathering tasks.

Transforms collected information into a data format that can be used for operational security activities.

Cleans and converts quantitative information into consistent formats.

Level 4

Collates and analyses information for threat intelligence requirements from a variety of sources.

Contributes to reviewing, ranking and categorising qualitative threat intelligence information.

Creates threat intelligence reports.

Evaluates the value, usefulness and impact of sources of threat intelligence sources.

Level 5

Plans and manages threat intelligence activities.

Identifies which are the most impactful threat categories and what types of information can help defend against them. Reviews, ranks and categorises qualitative threat intelligence information.

Provides expert advice on threat intelligence activities.

Leads the production and editing of threat intelligence reports that enhance the intelligence production workflow. Distributes information and obtains feedback about the value, usefulness and impact of the data.

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Level 6

Sets direction, plans and leads the organisation's approach to threat intelligence, including the use of suppliers.

Identifies requirements for threat intelligence based on the assets to be protected and the types of intelligence that can help protect those assets.

Engages with, and influences, relevant stakeholders to communicate results of research and the required response.

Ensures quality and accuracy of threat intelligence information. Reviews threat intelligence capabilities.

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Governance GOVN

Defining and operating a framework for making decisions, managing stakeholder relationships, and identifying legitimate authority.

Guidance notes

Governance can be applied to specific activities or may be a single integrated framework across an organisation.

Specialisms include — but are not limited to — security, information, technology, architectures, enterprise IT, service management.

An organisation's obligations may be external or internal including — but not limited to — legislative, regulatory, contractual and adherence to agreed standards/policies or ethical frameworks.

Activities may include — but are not limited to:

- defining and operating the system of rules, practices, and processes by which an organisation makes decisions, manages stakeholders' relationships, and identifies legitimate authority
- determining how to direct, evaluate and monitor an organisation's activities
- developing and operating strategic and operational frameworks, policies, decision-making, business processes and plans to meet stakeholder requirements.

Governance is explicitly referenced in many SFIA skills. Professionals may contribute specialist knowledge to governance processes, reviews and developments — but that does not imply they need the SFIA skill of Governance.

Level 6

Implements the governance framework to enable governance activity to be conducted.

Within a defined area of accountability, determines the requirements for appropriate governance reflecting the organisation's values, ethics and wider governance frameworks. Communicates delegated authority, benefits, opportunities, costs, and risks.

Leads reviews of governance practices with appropriate and sufficient independence from management activity.

Acts as the organisation's contact for relevant regulatory authorities and ensures proper relationships between the organisation and external stakeholders.

Level 7

Directs the definition, implementation, and monitoring of the governance framework to meet the organisation's obligations under regulation, law, or contracts.

Provides leadership, direction, and oversight for an organisation's governance activities.

Secures resources required to execute activities to achieve the organisation's governance goals with effective transparency.

Provides assurance to stakeholders that the organisation can deliver its obligations with an agreed balance of benefits, opportunities, costs, and risks.

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Risk management BURM

Planning and implementing organisation-wide processes and procedures for the management of risk to the success or integrity of the enterprise.

Guidance notes

Risk management can be applied to many enterprise functions as well as technical and engineering specialisms — such as, but not limited to, information and technology systems, operations, environmental, information and cyber-security, safety, energy supply. Risk is also explicitly referenced in many SFIA skills.

Activities may include — but are not limited to:

- identifying risks
- classifying and prioritising risks — their impact and probability, and mitigation actions
- planning, developing, and implementing organisational approaches to risk management to ensure the integrity of the business, its products and services, and the end-users
- communicating and reporting on risks and mitigation actions to key stakeholders.

Level 3

Undertakes basic risk management activities.

Maintains documentation of risks, threats, vulnerabilities and mitigation actions.

Level 4

Carries out risk management activities within a specific function, technical area or project of medium complexity.

Identifies risks and vulnerabilities, assesses their impact and probability, develops mitigation strategies and reports to the business.

Involves specialists and domain experts as necessary.

Level 5

Plans and implements complex and substantial risk management activities within a specific function, technical area, project or programme.

Implements consistent and reliable risk management processes and reporting to key stakeholders.

Engages specialists and domain experts as necessary.

Advises on the organisation's approach to risk management.

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Level 6

Plans and manages the implementation of organisation-wide processes and procedures, tools and techniques for risk management.

Considers organisation-wide risk and mitigation activities within the context of business risk as a whole and the organisation's appetite for risk.

Provides leadership on risk management at the organisational and business levels.

Level 7

Establishes organisational strategy for risk management.

Defines and communicates the organisation's appetite for risk.

Provides resources to implement the organisation's risk strategy.

Delegates authority for detailed planning and execution of risk management activities across the organisation.

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Audit AUDT

Delivering independent, risk-based assessments of the effectiveness of processes, the controls, and the compliance environment of an organisation.

Guidance notes

Audit activity is conducted with appropriate independence from the organisation's management and may be conducted internally or for a third-party client organisation.

Audit includes the structured analysis of the risks to the achievement of business objectives.

Level 3

Adopts a structured approach to executing and documenting audit fieldwork, following agreed standards.

Maintains integrity of records to support and satisfy audit trails.

Identifies typical risk indicators and explains prevention measures.

Level 4

Contributes to planning and executing of risk-based audit of existing and planned processes, products, systems and services.

Identifies and documents risks in detail.

Identifies the root cause of issues during an audit, and communicates these effectively as risk insights.

Collates evidence regarding the interpretation and implementation of control measures. Prepares and communicates reports to stakeholders, providing a factual basis for findings.

Level 5

Plans, organises and conducts audits of complex domains areas, cross-functional areas, and across the supply chain.

Confirms the scope and objectives of specific audit activity with management. Aligns with the scope of the audit program and organisational policies.

Determines appropriate methods of investigation to achieve the audit objectives. Presents audit findings to management describing the effectiveness and efficiency of control mechanisms.

Provides general and specific audit advice. Collaborates with professionals in related specialisms to develop and integrate findings.

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Level 6

Leads and manages complex audits and programs of audit activity.

Obtains and manages appropriate specialist expertise to contribute highly specialised technical knowledge and experience.

Develops organisational policies, standards and guidelines for the conduct of audits. Ensures the objectivity and impartiality of the audit process.

Identifies areas of risk and specifies audit programs. Ensures audit coverage is sufficient to provide the business with assurance of adequacy and integrity. Authorises the issue of formal reports to management on the effectiveness and efficiency of control mechanisms.

Level 7

Leads the definition, implementation, and communication of the organisation's audit function.

Defines audit strategy, plans audit cycles and ensures appropriate audit coverage across the organisation. Ensures that the audit function adds value to the organisation. Liaises with internal and external stakeholders to ensure audit coverage is relevant and understood.

Directs use of risk analysis to identify areas for in-depth review. Ensures appropriate resources are available to deliver organisational requirements for audits.

Reports at the most senior level on the findings, relevance and recommendations for improvement for audit activity.

Quality management QUMG

Defining and operating a management framework of processes and working practices to deliver the organisation's quality objectives.

Guidance notes

Activities may include — but are not limited to:

- establishing a quality management system and a quality culture
- applying techniques for the monitoring and improving the quality of any aspect of a function, processes, products, services or data
- providing advice on the application of appropriate quality management techniques
- achieving and maintaining compliance to, national and international standards and to internal policies.

Internal or external standards are typically related to areas such as — but not limited to — quality, service, sustainability and security.

Level 3

Uses appropriate methods and a systematic approach to developing, maintaining, controlling and distributing quality and environmental standards.

Makes technical changes to and controls the updates and distribution of quality standards.

Distributes new and revised standards.

Level 4

Assists in the development of new or improved practices and organisational processes or standards.

Assists projects, functions or teams in planning the quality management for their area of responsibility.

Facilitates localised improvements to the quality system or services.

Level 5

Ensures that projects, teams and functions have appropriate practices in place and are meeting required organisational quality levels.

Advises on the application of appropriate quality management techniques and standards.

Determines areas where existing processes should change from analysing audit findings. Facilitates improvements to processes by changing approaches and working practices, typically using recognised models.

Takes responsibility for controlling updating and distributing organisational standards.

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Level 6

Achieves and maintains compliance against national and international standards, as appropriate.

Prioritises areas for quality improvement by considering strategy, business objectives and results from internal and external audits. Initiates the application of appropriate quality management techniques in these areas.

Initiates improvements to processes by changing approaches and working practices, typically using recognised models.

Identifies and plans systematic corrective action to reduce errors and improve the quality of the systems and services.

Level 7

Determines the quality strategy and secures commitment to it from executive leadership.

Develops policies for approval and adoption by organisational management. Ensures that adequate technology, procedures and resources are in place to support the quality system.

Plans and monitors the performance of the quality management system and the internal quality audit schedule.

Determines the extent to which quality policies and quality systems meet organisational needs and reviews as necessary.

Quality assurance QUAS

Assuring, through ongoing and periodic assessments and reviews, that the organisation's quality objectives are being met.

Guidance notes

Quality assurance provides confidence to internal and external stakeholders that quality requirements will be fulfilled.

Quality assurance may relate to any area where quality standards are applied including — but not limited to — products, data, services and business processes.

Quality assurance findings and reports may provide evidence and recommendations for quality improvement programmes.

Level 3

Contributes to the collection of evidence and the conduct of formal audits or reviews of activities.

Examines records for evidence that appropriate testing and other quality control activities have taken place.

Determines compliance with organisational directives, standards and procedures and identifies non-compliances, non-conformances and abnormal occurrences.

Level 4

Plans, organises and conducts assessment activity and determines whether appropriate quality control has been applied.

Conducts formal assessments or reviews for given domain areas, suppliers, or parts of the supply chain. Collates, collects and examines records, analyses the evidence and drafts all or part of formal compliance reports.

Determines the risks associated with findings and non-compliance and proposes corrective actions.

Provides advice and guidance in the use of organisational standards.

Level 5

Plans, organises and conducts formal reviews and assessments of complex domains areas, cross-functional areas, and across the supply chain.

Evaluates, appraises and identifies non-compliances with organisational standards and determines the underlying reasons for non-compliance.

Prepares and reports on assessment findings and associated risks. Ensures that appropriate owners for corrective actions are identified. Identifies opportunities to improve organisational control mechanisms.

Oversees the assurance activities of others, providing advice and expertise to support assurance activity.

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Level 6

Leads, develops and is accountable for an organisational approach and commitment to quality assurance.

Ensures that quality assurance processes and activities are robust and reliable, and appropriately tailored to the organisation's quality objectives. Plans and resources the organisational quality assurance activities, using internal or third-party resources.

Considers the implications of emerging technology, approaches, trends, regulations and legislation.

Monitors and reports on quality assurance activities, levels of compliance, and improvement opportunities.

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Consultancy CNSL

Providing advice and recommendations, based on expertise and experience, to address client needs.

Guidance notes

Consultancy may deal with one specialist subject area, or be wide ranging and address strategic business issues. May also include support for the implementation of any agreed solutions.

Activities include — but are not limited to:

- leading and managing a consultancy practice
- leading and managing consultancy teams and/or consultancy assignments
- delivering consultancy assignments.

The Consultancy skill defined in SFIA applies to the delivery of consultancy as part of formal or informal consultancy agreements.

SFIA describes the general provision of advice, guidance or problem solving related to an individual's responsibilities by:

- the responsibilities described by the SFIA generic attributes
- the SFIA professional skill descriptions which make reference to providing advice and guidance.

Level 4

Takes responsibility for elements of a larger consulting engagement.

Collaborates with clients as part of formal or informal consultancy engagements. Understands client requirements by collecting data and delivering analysis.

Works collaboratively to develop and implement solutions. Seeks to address client needs within the defined scope of responsibility.

Ensures that proposed solutions are properly understood and appropriately exploited.

Level 5

Takes responsibility for understanding client requirements, collecting data, delivering analysis and problem resolution.

Identifies, evaluates and recommends options.

Collaborates with, and facilitates stakeholder groups, as part of formal or informal consultancy agreements. Seeks to fully address client needs and implements solutions if required.

Enhances the capabilities and effectiveness of clients, by ensuring that proposed solutions are fully understood and appropriately exploited.

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Level 6

Manages the provision of consultancy services and/or a team of consultants.

In own areas of expertise, provides advice and guidance to consultants and/or the client when delivering consultancy services.

Engages with clients and maintains client relationships.

Establishes consultancy agreements/contracts and manages completion and disengagement.

Level 7

Directs the strategy and operations for a significant consultancy practice.

Oversees practice development, proposals, sales, account management and the delivery of consultancy services over a wide range of topics.

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Specialist advice TECH

Providing authoritative advice and direction in a specialist area.

Guidance notes

The skill includes developing and exploiting specialist knowledge.

The expertise and specialist knowledge may relate to a specific area of information or communications technology, digital working, techniques, methodologies, products or application areas.

It may also include the application of professional knowledge in other disciplines to information and technology topics. These include disciplines such as — but not limited to — legal, finance, public relations, communications, ethics, human resources management.

Level 4

Provides detailed and specific advice regarding the application of their specialism to the organisation's planning and operations.

Actively maintains knowledge in one or more identifiable specialisms.

Recognises and identifies the boundaries of their own specialist knowledge.

Where appropriate, collaborates with other specialists to ensure advice given is appropriate to the organisation's needs.

Level 5

Provides definitive and expert advice in their specialist area.

Actively maintains recognised expert level knowledge in one or more identifiable specialisms.

Oversees the provision of specialist advice by others. Consolidates expertise from multiple sources, including third-party experts, to provide coherent advice to further organisational objectives.

Supports and promotes the development and sharing of specialist knowledge within the organisation.

Level 6

Provides organisational leadership and guidelines to promote the development and exploitation of specialist knowledge in the organisation.

Maintains a network of recognised experts (inside and/or outside the organisation) who can deliver expert advice in relevant areas.

Provides input into professional development planning across a significant part of the organisation to further the development of appropriate expertise.

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Methods and tools METL

Ensuring methods and tools are adopted and used effectively throughout the organisation.

Guidance notes

There is a wide range of methods and tools supporting areas such as — but not limited to — planning, development, testing, operation, management and maintenance of systems.

Activities may include — but are not limited to:

- assessing, selecting and implementing methods and tools
- measuring, tailoring, improving and automating the use of methods and tools.

Level 3

Provides support on the use of existing methods and tools.

Configures methods and tools within a known context.

Creates and updates the documentation of methods and tools.

Level 4

Provides advice and guidance to support the adoption of methods and tools and adherence to policies and standards.

Tailors processes in line with agreed standards and evaluation of methods and tools.

Reviews and improves usage and application of methods and tools.

Level 5

Provides advice, guidance and expertise to promote adoption of methods and tools and adherence to policies and standards.

Evaluates and selects appropriate methods and tools in line with agreed policies and standards. Contributes to organisational policies, standards, and guidelines for methods and tools.

Implements methods and tools at programme, project and team levels including selection and tailoring in line with agreed standards.

Manages reviews of the benefits and value of methods and tools. Identifies and recommends improvements.

Level 6

Develops organisational policies, standards, and guidelines for methods and tools.

Sets direction and leads in the introduction and use of techniques, methodologies and tools, to meet business requirements.

Leads the development of organisational capabilities for methods and tools to ensure consistent adoption and adherence to policies and standards.

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Portfolio management POMG

Developing and applying a management framework to define and deliver a portfolio of programmes, projects and/or ongoing services.

Guidance notes

Activities include — but are not limited to:

- alignment of investment with specific business strategies and objectives
- a strategic investment appraisal and decision-making process
- assessment of cost, risk, inter-dependencies, and impact on existing business activities
- identifying issues with portfolio structure, cost, risk, inter-dependencies, impact on current business activities and the strategic benefits to be realised
- implementing portfolio management practices that support iterative/agile working
- measurement and objective evaluation of potential changes and the benefits to be realised
- prioritisation of resource utilisation and changes to be implemented
- regular review of portfolios
- management of the service pipeline (proposed or in development), service catalogue (live or available for deployment) and retired services.

Level 5

Ensures that programme/project leads and/or service owners adhere to the agreed portfolio management approach and timetable.

Explains what information is needed and ensures they provide this information to agreed targets of timelines and accuracy.

Produces reports as appropriate for portfolio governance, including making recommendations for changes to the portfolio.

Level 6

Engages and influences senior managers to ensure the portfolio will deliver the agreed business objectives.

Leads the definition of a portfolio of programmes, projects, and/or on-going service provision. Plans, schedules, monitors and reports on portfolio-related activities. Ensures that each part of the portfolio contributes to the overall achievement of the portfolio.

Identifies portfolio-related issues. Notifies projects/programmes/change initiatives of issues and recommends and monitors corrective action.

Collects, summarises and reports on portfolio measures. Reports on portfolio status as appropriate.

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Level 7

Authorises the structure of portfolios and aligns the portfolio with strategies, objectives and emerging opportunities.

Leads the definition, implementation and review of the organisation's portfolio management framework. Sets parameters for the prioritisation of resources and the changes to be implemented.

Recommends and implements corrective action by engaging and influencing senior management.

Leads the on-going monitoring and review of portfolios for impact on current business activities and the strategic benefits to be realised. Implements portfolio governance arrangements and effective reporting.

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Programme management PGMG

Identifying, planning and coordinating a set of related projects and activities in support of specific business strategies and objectives.

Guidance notes

Activities include — but are not limited to:

- managing interdependencies in support of specific business strategies and objectives
- maintaining a strategic view over the set of projects
- providing the framework for implementing business initiatives, or large-scale change
- implementing programme management practices to support iterative/agile working
- conceiving, maintaining and communicating a vision of the programme's outcomes and associated benefits
- agreeing business requirements, and translation of requirements into operational plans
- determining, monitoring and reviewing programme scope, costs, schedule and expected benefits
- scheduling programme resources, inter-dependencies and programme risk.

Level 6

Plans, directs and co-ordinates activities to manage and implement a programme from initiation to final transition into operational, business-as-usual management.

Plans, schedules, monitors, and reports on programme-related activities. Ensures appropriate and effective governance arrangements and comprehensive reporting and communication policies are in place and followed.

Maintains an awareness of current technical developments that may provide opportunities to the programmes.

Ensures that programmes are managed to realise agreed business benefits within agreed timescales.

Level 7

Sets organisational strategy governing the direction and conduct of programme management, including the application of appropriate methodologies.

Plans, directs, and co-ordinates activities to manage and implement complex programmes from initiation to full integration with operational, business-as-usual management. Aligns the programme objectives with business objectives, and authorises the selection and planning of all related projects and activities.

Plans, schedules, monitors, and reports on programme-related activities.

Ensures alignment with and adherence to appropriate and effective governance arrangements supported by comprehensive reporting and communication strategies.

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Project management PRMG

Delivering agreed outcomes from projects using appropriate management techniques, collaboration, leadership and governance.

Guidance notes

This skill is applicable to all project management techniques and life cycles — which can be on a continuum from predictive (plan-driven) approaches to adaptive (iterative/agile) approaches.

Activities may include — but are not limited to:

- selecting techniques and life cycle models based on the context of the project
- establishing team structures and a collaborative working environment
- communicating with stakeholders and maintaining awareness of business needs and priorities
- using visual techniques for project tracking and reporting
- timeboxing and incremental deliveries
- defining deliverables, milestones and dependencies
- applying change control and risk management processes
- acquiring the necessary resources and skills
- agreeing constraints of cost, timescales, quality and scope
- reviewing experiences and learning from current and previous projects
- ensuring that projects are formally closed and reviewed.

An understanding of project size and complexity is helpful when applying the project management skill. Typical factors that influence project complexity include the complexity of resourcing, scale of organisational impact, use of new technologies, number of interdependences, stability of requirements, business implications, and risks.

Level 4

Defines, documents and executes small projects or sub-projects.

Works alone or with a small team actively participating in all phases of the project. Applies appropriate project management methods and tools. Identifies, assesses and manages risks effectively.

Agrees project approach with stakeholders and prepares realistic project plans (including scope, schedule, quality, risk and communication plans). Tracks activities against the project schedule, managing stakeholder involvement as appropriate.

Monitors costs, times, quality and resources used takes action where these exceed agreed tolerances.

Level 5

Takes full responsibility for the definition, approach, facilitation and satisfactory completion of medium-scale projects.

Provides effective leadership to the project team. Adopts appropriate project management methods and tools. Manages the change control process and assesses and manages risks. Ensures that realistic project plans are maintained and delivers regular and accurate communication to stakeholders.

Ensures project and product quality reviews occur on schedule and according to procedure. Ensures that project deliverables are completed within agreed cost, timescale and resource budgets, and are formally accepted, by appropriate stakeholders.

Monitors costs, times, quality and resources used and takes action where performance deviates from agreed tolerances.

SFIA 8: The framework reference | Skills

Level 6

Takes full responsibility for the definition, documentation and successful completion of complex projects.

Adopts and adapts project management methods and tools. Ensures that effective project monitoring and control processes, change control, risk management and quality processes are employed and maintained.

Monitors and controls resources, revenue and capital expenditures against the project budget.

Manages the expectations of key project stakeholders.

Level 7

Sets organisational strategy governing the direction and conduct of project management, including selection and application of methodologies.

Authorises the management of large-scale projects.

Leads project planning, scheduling, controlling and reporting activities for strategic, high impact, high risk projects.

Directs the risk management approach for projects and ensures that risks and issues are managed in line with policy

Portfolio, programme and project support PROF

Providing support and guidance on portfolio, programme and project management processes, procedures, tools and techniques.

Guidance notes

Activities may include — but are not limited to:

- defining portfolios, programmes, and projects
- cultivating and applying new or changed working practices across a portfolio
- managing the rate at which new projects are started to fit the available capacity
- advising on the development, production and maintenance of business cases time, resource, cost and exception plans
- advising on the use of software tools
- tracking and reporting progress and performance
- facilitating portfolio/programme/project meetings and workshops
- advising and sharing knowledge on standards and how to comply.

Level 2

Assists with the compilation of portfolio, programme and project management reports.

Maintains programme and project files from supplied actual and forecast data.

Level 3

Provides administrative services to project boards, project assurance teams and quality review meetings.

Uses recommended portfolio, programme and project control solutions for planning, scheduling and tracking.

Sets up project files, compiles and distributes reports.

Provides guidance on project management software, procedures, processes, tools and techniques.

Level 4

Supports programme or project control boards, project assurance teams and quality review meetings.

Takes responsibility for the provision of support services to projects. Uses and recommends project control solutions for planning, scheduling and tracking projects.

Sets up and provides detailed guidance on project management software, procedures, processes, tools and techniques.

Provides basic guidance on individual project proposals. May provide a cross programme view on risk, change, quality, finance or configuration management.

SFIA 8: The framework reference | Skills

Level 5

Takes responsibility for the provision of portfolio, programme and project support.

Advises on the available standards, procedures, methods, tools and techniques.

Evaluates project and/or programme performance and recommends changes where necessary.

Contributes to reviews and audits of project and programme management to ensure conformance to standards.

Level 6

Leads implementation and delivery of portfolio, programme and project office services.

Defines the approach/policy and sets standards for the support provided for managing and monitoring portfolios, programmes, and projects.

Manages resources to ensure delivery of effective services/resources in line with current and planned demand.

Reviews and improves the delivery portfolio, programme and project office services.

Business situation analysis BUSA

Investigating business situations to define recommendations for improvement action.

Guidance notes

Activities may include — but are not limited to:

- planning for business situation analysis
- establishing the investigative approach
- engaging with relevant stakeholders
- reviewing the strategic context, including the organisation's vision, mission, objectives, strategy and tactics and external business environment
- defining problems and analysing root causes
- identifying potential changes to address problems or to take advantage of opportunities
- gaining agreement to conclusions and recommendations.

Level 3

Investigates straightforward business situations to identify and analyse problems and opportunities.

Contributes to the recommendation of improvements.

Follows agreed standards and techniques to investigate, analyse and document business situations.

Engages with stakeholders under direction.

Level 4

Investigates business situations where there is some complexity and ambiguity.

Adopts holistic view to identify and analyse problems and opportunities.

Contributes to the selection of the approach and techniques to be used for business situation analysis.

Conducts root cause analysis and identifies recommendations for improvements. Engages and collaborates with operational stakeholders.

Level 5

Plans, manages and investigates business situation analysis where there is significant ambiguity and complexity.

Advises on the approach and techniques to be used for business situation analysis. Ensures holistic view adopted to identify and analyse wide-ranging problems and opportunities.

Engages and collaborates with a wide range of stakeholders, including those at the management level. Gains agreement from stakeholders to conclusions and recommendations.

Contributes to definition of organisational standards and guidelines for business situation analysis.

SFIA 8: The framework reference | Skills

Level 6

Initiates and leads business situation analysis where there is extensive ambiguity, complexity and potentially significant organisational impacts.

Establishes and promotes the need for holistic business situation analysis prior to change programme initiation.

Engages with stakeholders at executive level and advises on recommended change initiatives.

Defines organisational policies, standards and techniques for business situation analysis.

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Feasibility assessment FEAS

Defining, evaluating and describing business change options for financial, technical and business feasibility, and strategic alignment.

Guidance notes

Activities may include — but are not limited to:

- generating and defining options
- ensuring options align with the organisation's vision, mission, objectives, strategy and tactics
- engaging with relevant stakeholders and specialists
- evaluating options for financial, technical and business feasibility.

Feasibility assessment is multi-dimensional. Options for change must be evaluated from several dimensions including — but not limited to — financial, technical, organisational capability and culture, strategic context, economic and/or commercial environment.

Feasibility assessment typically results in a documented business case used to support organisational decision-making about proposed investments. This skill is focused on the generation, analysis and documentation of investment options.

Level 3

Supports option identification and feasibility assessment.

Selects and employs standard techniques to get the information required for feasibility assessment.

Supports identification of tangible costs and benefits, and development of business cases.

Level 4

Selects relevant feasibility assessment approaches and techniques.

Identifies the range of possible options. Undertakes short-listing of options and feasibility assessment.

Engages with internal and external stakeholders to get the information required for feasibility assessment.

Supports preparation of business cases including cost/benefit, impact and risk analysis for each option.

Level 5

Manages investigative work to enable feasibility assessments.

Collaborates with stakeholders and specialists to get the information required for feasibility assessment.

Advises on the selection of feasibility assessment approaches and techniques relevant to the business situation and options.

Prepares business cases, including cost/benefit, impact and risk analysis for each option.

SFIA 8: The framework reference | Skills

Level 6

Establishes an organisational framework and standards for feasibility assessment and business case development.

Directs and leads feasibility assessments for initiatives that will have a significant impact on the organisation.

Engages with senior stakeholders to clarify the strategic context for investment options. Directs and leads the selection of feasibility assessment approaches and techniques that are relevant to the business situation and options.

Presents feasibility assessments and business cases to senior stakeholders and supports decision-making regarding investment options.

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Requirements definition and management REQM

Managing requirements through the entire delivery and operational life cycle.

Guidance notes

Requirements may be related to software, systems, data, processes, products or services.

Activities may include — but are not limited to:

- eliciting and analysing requirements — both functional and non-functional
- ensuring that customer requirements and priorities are accurately reflected
- organising and prioritising requirements using techniques such as — but not limited to — product roadmaps, epics, user stories and backlogs
- specifying and validating requirements and constraints to a level that enables effective development and operations of new or changed software, systems, processes, products or services
- negotiating trade-offs that are acceptable to key stakeholders and within budgetary, technical, regulatory, and other constraints
- adopting and adapting requirements management life cycle models.

The requirements life cycle approach will be based on the context of the work and may be selected from predictive (plan-driven) or adaptive (iterative/agile) approaches.

Level 2

Uses standard techniques to elicit, specify, and document requirements for simple subject areas with clearly-defined boundaries.

Assists in the definition and management of requirements.

Assists in the creation of a requirements baseline.

Assists in investigating and applying authorised changes.

Level 3

Defines and manages scoping, requirements definition and prioritisation activities for small-scale changes and assists with more complex change initiatives.

Follows agreed standards and applies appropriate techniques to elicit and document detailed requirements. Provides constructive challenge to stakeholders as required. Reviews requirements for errors and omissions.

Prioritises requirements and documents traceability to source.

Provides input to the requirements base-line. Investigates, manages and applies authorised requests for changes to base-lined requirements, in line with change management policy.

Level 4

Defines and manages scoping, requirements definition and prioritisation activities for initiatives of medium size and complexity.

Contributes to selecting the requirements approach.

Facilitates input from stakeholders, provides constructive challenge and enables effective prioritisation of requirements.

Establishes requirements base-lines, obtains formal agreement to requirements, and ensures traceability to source.

SFIA 8: The framework reference | Skills

Level 5

Plans and drives scoping, requirements definition and prioritisation activities for large, complex initiatives.

Selects, adopts and adapts appropriate requirements definition and management methods, tools and techniques. Contributes to the development of organisational methods and standards for requirements management.

Obtains input from, and agreement to requirements from a diverse range of stakeholders. Negotiates with stakeholders to manage competing priorities and conflicts.

Establishes requirements baselines. Ensures changes to requirements are investigated and managed.

Level 6

Champions the importance and value of requirements management principles and selecting effective requirements management life cycle models.

Develops organisational policies, standards, and guidelines for requirements definition and management.

Plans and leads scoping, requirements definition and priority setting for complex, strategic programmes.

Drives adoption of, and adherence to, policies and standards. Develops new methods and organisational capabilities for requirements management.

Business modelling BSMO

Producing abstract or distilled representations of real-world, business or gaming situations.

Guidance notes

Predominantly focused on the representation of processes, roles, data, organisation and time. Models may be used to represent a subject at varying levels of detail and decomposition.

Business models are typically created to communicate and provide insights about existing, conceptual or proposed scenarios. As such, they are likely to be working models that allow comparisons of alternative outcomes based on changing inputs and parameters.

This skill shouldn't be applied to the creation of all diagrams related to describing and explaining business concepts. Refer to other SFIA skills, including — but not limited to — Business situation analysis, Data design and modelling, Enterprise and business architecture, Organisation design.

Level 2

Understands the purpose and benefits of modelling.

Uses established techniques, as directed, to model simple subject areas with clearly-defined boundaries.

May assist in more complex modelling activities.

Develops models under the guidance of subject matter experts.

Level 3

Conversant with techniques covering the full range of modelling situations.

Models current and desired scenarios as directed. Selects appropriate modelling techniques for meeting assigned objectives.

Gains agreement from subject matter experts on models produced.

Reviews resulting models with stakeholders and resolves identified issues.

Level 4

Conducts advanced modelling activities for significant change programmes and across multiple business functions.

Has in-depth knowledge of organisation-specific techniques.

Plans own modelling activities, selecting appropriate techniques and the correct level of detail for meeting assigned objectives. May contribute to discussions about the choice of modelling approach.

Obtains input from and communicates modelling results to senior managers for agreement.

Level 5

Produces models in support of the business strategy.

Has in-depth knowledge of a broad range of industry-wide modelling techniques. Advises on the choice of techniques and approaches and influences customers accordingly.

Develops bespoke models for unusual contexts.

Responsible for planning and coordinating team modelling activities and for ensuring the quality of their work.

SFIA 8: The framework reference | Skills

Level 6

Defines modelling standards and quality targets for an organisation.

Has continuing responsibility for the maintenance of models for a designated function.

Initiates organisation-wide modelling improvement activities and obtains customer buy-in to general changes.

May represent own organisation as a modelling expert in industry initiatives.

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Acceptance testing BPTS

Validating systems, products, business processes or services to determine whether the acceptance criteria have been satisfied.

Guidance notes

Activities include — but are not limited to:

- setting and applying standards for acceptance testing
- planning, identifying, designing, managing, executing and reporting on the outcomes of acceptance tests
- encouraging effective and efficient collaboration with a range of relevant stakeholders
- requesting and enabling formal acceptance of systems, products or services
- creating measurable acceptance criteria related to functional and non-functional requirements, features, business processes, user stories and business rules
- devising acceptance test cases and scenarios from acceptance criteria
- enabling exploratory testing by stakeholders to discover unexpected behaviours
- deploying model office testing to simulate real-world working practices and system usage.

The acceptance testing approach will be based on the context of the work and may be selected from predictive (plan-driven) or adaptive (iterative/agile) approaches.

Level 2

Assists in planning, preparing and executing acceptance tests for systems, products, business processes or services.

Assists in collecting feedback from acceptance testing.

Level 3

Follows agreed standards and techniques to devise and execute test cases and scenarios based on pre-defined acceptance criteria.

Analyses and reports on test activities, results, issues and risks.

Level 4

Develops acceptance criteria related to functional and non-functional requirements, business processes, features, user stories and business rules.

Designs, specifies and executes test cases and scenarios to test that systems, products and services fulfil the acceptance criteria and deliver the predicted business benefits.

Collaborates with project colleagues and stakeholders involved in the analysis, development and operation of products, systems or services to ensure accuracy and comprehensive test coverage.

Analyses and reports on test activities, results, issues and risks including the work of others.

SFIA 8: The framework reference | Skills

Level 5

Plans and manages acceptance testing activity.

Specifies the acceptance testing environment for systems, products, business processes and services. Manages the creation of acceptance test cases and scenarios. Ensures that defined tests reflect realistic operational conditions and required level of coverage.

Ensure tests and results are documented, analysed and reported to stakeholders, and required actions taken. Highlights issues and risks identified during testing to stakeholders.

Provides authoritative advice and guidance on planning and execution of acceptance tests.

Level 6

Leads the implementation and delivery of the organisation's approach to acceptance testing.

Engages with senior stakeholders to secure organisational commitment and resources needed for effective acceptance testing.

Reports on any significant risks or issues related to acceptance testing and recommends required actions.

Develops organisational policies, standards, and guidelines for acceptance testing. Develops acceptance testing capabilities and methods for the organisation.

Business process improvement BPRE

Creating new and potentially disruptive approaches to performing business activities.

Guidance notes

Activities include — but are not limited to:

- analysing and designing business processes to improve business performance, create business opportunities, deliver new or improved products/services, or improve product/service value chains. Including the adoption and exploitation of data, information, new or existing technologies and cloud-based services
- identifying and implementing improvements to business models, business operations and services with improved processes
- assessing the costs and potential benefits of new approaches to the organisation and all stakeholders
- developing enterprise business process management capabilities to increase organisational agility and responsiveness to change.

Level 5

Manages the execution of business process improvements.

Analyses and designs business processes to identify alternative solutions to improve efficiency, effectiveness and exploit new technologies and automation.

Develops graphical models of business processes to facilitate understanding and decision-making. Assesses the feasibility of business process changes and recommends alternative approaches.

Selects, tailors and implements methods and tools for improving business processes at programme, project or team level. Contributes to the definition of organisational policies, standards, and guidelines for business process improvement.

Level 6

Plans and leads strategic, large and complex business process improvement activities aligned with automation, or exploiting existing or new technologies.

Develops organisational policies, standards, and guidelines for business process improvement.

Leads the introduction of techniques, methodologies and tools to meet business requirements, ensuring consistency across all user groups.

Leads the development of organisational capabilities for business process improvement and ensures adoption and adherence to policies and standards.

Level 7

Directs the identification, evaluation and adoption of new or existing technologies to improve business processes.

Aligns business strategies, enterprise transformation, and technology strategies.

Embeds strategic business process improvement into the governance and leadership of the organisation.

Directs the creation and review of a cross-functional, enterprise-wide approach and culture for embracing business process management.

Organisational capability development OCDV

Providing leadership, advice and implementation support to assess organisational capabilities and to identify, prioritise and implement improvements.

Guidance notes

Activities include — but are not limited to:

- selecting, adopting and integrating appropriate industry frameworks and models to guide improvements
- using capability maturity assessments, metrics, process definition, process management
- building repeatable and reliable capabilities through a process of trial, feedback, learning and continual evolution
- developing appropriate techniques, tools and enhanced skills
- designing and delivering integrated people, process and technology solutions to deliver improved organisational performance in line with strategic plans and objectives
- identifying organisational priorities for enhancing performance, satisfying new business opportunities or responding to external drivers.

The scope of improvement is typically organisation-wide but may also be highly focused on areas such as — but not limited to — business agility, software development, systems development, project delivery, service integration and management, service delivery, information and cyber-security.

Level 5

Contributes to identifying new areas of capability improvement within the organisation which may be enhancements to skills, technology or processes.

Develops and maintains a detailed knowledge of capability improvement approaches and techniques and selects appropriate approaches for the organisation.

Carries out capability improvement assignments, such as maturity or performance assessments to identify strengths and weaknesses. Selects and prioritises improvement opportunities, generates buy-in and plans improvement activities justified by measurable organisational benefits.

Offers support, guidance, advice and suggestions to help continual improvement activities.

SFIA 8: The framework reference | Skills

Level 6

Seeks out, identifies, proposes, and initiates capability improvement activities within the organisation.

Leads substantial improvement programmes. Plans and manages the evaluation or assessment of organisational capabilities. Selects frameworks, approaches and techniques for use.

Takes action to exploit opportunities to deliver measurable, beneficial impacts upon operational effectiveness. Devises solutions and leads change initiatives, including communication, transition and implementation activities.

Monitors international, national, and sector trends in order to establish the needed capability.

Level 7

Represents and leads organisational capability improvement at the highest level.

Determines the need for strategic organisation-level capability improvement to satisfy the organisation's strategic goals and long-term objectives.

Liaises with the organisation's functions to establish requirements and identifies, proposes, initiates and leads significant organisational capability improvement programmes.

Manages the quality and appropriateness of the work performed and delivers measurable business benefits. Adopts and/or modifies existing capability improvement approaches as necessary.

Organisation design and implementation ORDI

Planning, designing and implementing an integrated organisation structure and culture.

Guidance notes

Activities include — but are not limited to:

- facilitating changes needed to adapt to changes in technologies, society, new operating models and business processes
- identifying key attributes of the required culture and how these can be implemented and reinforced to bring about improved organisational performance.

The scope of organisation design can be wide — including the workplace environment, location strategy and number of locations required, role profiles, performance measurements, competencies and skills.

Level 4

Assists with the development of organisational structures such as creating role descriptions and career paths.

Level 5

Implements organisational structure and culture change activities.

Conducts impact assessments to ensure organisational structure and cultures are aligned to changes in processes, systems, technology and tools.

Develops graphical representations of organisation models and structures to facilitate understanding and decision-making. Identifies and evaluates alternative solutions.

Aligns existing organisational structures, roles, jobs, and career paths to new processes. Advises on implications of introducing new workplace models and tools.

Level 6

Champions the value of new ways of working to address internal and external opportunities and threats.

Sets direction and leads in selecting and using organisation design techniques, methodologies and tools.

Plans and leads organisation design activities — identifies alternatives, assesses feasibility, and recommends solutions. Identifies major changes affecting the organisation, and mobilises resources to implement changes.

Initiates the definition of new organisation boundaries and creates future organisation design. Outlines performance measurement objectives and the high-level implementation approach.

SFIA 8: The framework reference | Skills

Level 7

Establishes and communicates the need and rationale for organisational structure and culture change.

Secures organisational commitment and resources needed for organisational and culture change.

Leads organisational change by removing obstacles, advocating and lobbying for change at the highest levels.

Puts in place mechanisms to reinforce and embed organisational and culture change. Acts as a role model for desired behaviours and sets consistent standards and expectations.

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Organisational change management CIPM

Planning, designing and implementing activities to transition the organisation and people to the required future state.

Guidance notes

Activities include — but are not limited to:

- developing a business change implementation plan to identify required changes to processes, procedures, systems, structures, ways of working
- using a structured process and set of tools for leading the people side of change
- implementing organisational change management practices to support iterative/agile working
- assessing change readiness and capacity including — but not limited to — planning around key business cycles, selecting appropriate customers for migration
- assessing and developing change management capabilities
- engagement and tailored communication with stakeholders and everyone impacted by the change
- monitoring the impact of the change management plan and sustaining and embedding change
- coaching change sponsors.

Level 3

Follows standard techniques to investigate and analyse the size, nature and impact of changes to operational activities.

Contributes to the recommendations for change management plans and actions.

Supports implementation and engages with stakeholders under direction.

Level 4

Conducts readiness assessments to assess the size, nature and impact of organisational change.

Defines tactics to use considering the challenges to be addressed. Provides guidance and makes suggestions to support individuals responsible for operational implementation of change management activities.

Gathers feedback to analyse the impact and effectiveness of the change management activities being deployed. Takes corrective action as required.

Develops and communicates tailored change management plans. Establishes and builds relationships with the project sponsors and key stakeholders.

Level 5

Develops the change management approach and a change management plan in collaboration with sponsors, users and project teams.

Creates and implements action plans to ensure everything is ready for the change before going live. Acquires change management resources and develops their capabilities to deliver the required changes.

Gathers feedback to allow timely improvements to the change management plan and approach. Assesses risks and takes preventative action.

Develops and communicates tailored change management plans for senior stakeholder groups. Provides guidance and makes suggestions to support change sponsors.

Level 6

Defines and communicates the approach for change management for a significant part of the organisation.

Initiates, plans and leads strategic, large and complex change management initiatives. Provides guidance and raises awareness to help change leaders demonstrate effective behaviours to deliver organisational change.

Establishes feedback processes and leads analyses of change management successes.

Enables continual improvements to change management methodology, tools and training necessary to enhance the maturity across the organisation.

Benefits management BENM

Forecasting, planning and monitoring the emergence and effective realisation of anticipated benefits from projects and programmes.

Guidance notes

Activities include — but are not limited to:

- implementing a benefits management framework and approach
- identifying and implementing the actions needed to optimise the business impact of individual and combined benefits
- confirming the achievement of expected benefits.

Level 5

Leads activities required in the realisation of the benefits of each part of the change programme.

Identifies specific metrics and mechanisms to measure benefits and plans to activate these mechanisms at the required time. Monitors benefits against what was predicted in the business case.

Ensures that all participants are engaged throughout the change programme and fully prepared to exploit the new operational business environment.

Supports operational managers to ensure that all plans, work packages and deliverables are aligned with the expected benefits.

Level 6

Works with operational managers to ensure maximum improvements are made as groups of projects deliver their products into operational use.

Communicates the change programme vision to staff at all levels of the business and keeps a focus on business objectives.

Maintains the business case for funding the programme and confirms continuing business viability of the programme at regular intervals.

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Product management PROD

Managing and developing products or services through their full life cycle from inception, growth, maturity, decline to retirement.

Guidance notes

Product management can be applied to either internal or external products.

Externally — the focus will usually be on measures such as, but not limited, to customer needs, revenue and profit.

Internally — the focus will usually be on measures such as, but not limited to, user needs and business value.

A product life cycle typically moves from inception, growth, maturity, decline to retirement. The product development life cycle model used will be based on the context of the work and may be selected from predictive (plan-driven) or adaptive (iterative/agile) approaches.

Level 3

Creates and curates a range of media to support the promotion, marketing and sales of products or service.

Monitors results and feedback from product campaigns.

Applies standard techniques and tools to carry out analysis and performance monitoring activities for specified products.

Supports problem resolution, resolves issues and acts on feedback and usage of in-life products.

Level 4

Acts as product owner for one or more lower-value products or services.

Prioritises product requirements, develops product roadmaps and owns the product backlog. Manages elements of the product life cycle to meet customer/user needs and achieve financial or other targets.

Analyses market and/or user research, feedback, expert opinion and usage data to understand needs and opportunities.

Facilitates uptake of products by developing content, supporting and evaluating campaigns, and monitoring product performance. Rolls out product trials and product launches.

Level 5

Acts as product owner/champion for one or more products or services.

Manages the full product life cycle to ensure that customer/user needs are met and that financial and other targets are achieved. Selects, adopts and adapts appropriate product development methods, tools, and techniques.

Analyses market and/or user research, feedback, expert opinion and usage data to understand needs and opportunities. Develops product propositions and determines product positioning and variants for different customer and user segments. Prioritises product and service requirements, develops product roadmaps and owns the product backlog.

Coordinates customer testing and product launches and supports communications and training. Anticipates changes in customer/user needs. Adapts products, and creates product retirement and transitioning plans.

Level 6

Oversees the organisation's product and services portfolio and the delivery of customer value and/or user satisfaction over time.

Creates the product life cycle management framework for internal and external customers and users. Champions the importance and value of product management principles and appropriate product development models.

Aligns the product management objectives with business objectives and authorises the selection and planning of all product management activities.

Initiates the creation of new products and services. Identifies how developing new products or adapting existing products can new opportunities.

Systems development management DLMG

Planning, estimating and executing systems development work to time, budget and quality targets.

Guidance notes

Activities may include — but are not limited to:

- adopting and adapting systems development life cycle models based on the context of the work and selecting appropriately from predictive (plan-driven) approaches or adaptive (iterative/agile) approaches
- collaboration and open communication with stakeholders with a focus on delivering value from systems development
- managing risks and allowing for timely adjustment of plans and deliverables to continue to meet customer requirements and deliver value
- aligning systems development activity and deliverables with architectures and standards and ensuring quality, security and privacy are built in
- developing roadmaps to communicate systems development plans
- identifying the resources needed for all stages (planning, estimation, execution) of systems development projects and how demand will be met with a supply capacity.

Level 5

Plans and drives systems development projects which support the organisation's objectives and plans.

Selects, adopts and adapts appropriate systems development methods, tools and techniques. Ensures that stakeholders are aware of required resources and that they are made available. Facilitates availability and optimum utilisation of resources.

Monitors and reports on the progress of development projects. Ensures projects are carried out in accordance with agreed architectures, standards, methods and tools and addresses security and privacy requirements.

Develops road maps to communicate future development activity.

Level 6

Sets policy and drives adherence to standards for systems development.

Leads activities to make security and privacy integral to systems development.

Identifies and manages the resources necessary for all stages of systems development projects.

Ensures that technical, financial and quality targets are met.

Level 7

Directs the definition, implementation and continual improvement of the organisation's systems development management framework.

Aligns systems development to business strategies and objectives and with emerging technology and digital opportunities. Maintains an overview of the contribution of systems development programmes to organisational success.

Authorises the structure of systems development functions and platforms.

Sets strategy for resource management within systems development and authorises the allocation of resources for systems development programmes.

Systems and software life cycle engineering SLEN

Establishing and deploying an environment for developing, continually improving, and securely operating software and systems products and services.

Guidance notes

This skill is associated with interdisciplinary approaches to developing and operating software and systems products and services across the full life cycle. Typically — but not exclusively — labelled with terms such as DevOps, DevSecOps, site reliability engineering, developer productivity engineering.

Activities include — but are not limited to:

- establishing secure and reliable software lifecycle principles and practices
- developing a supporting framework of methods, procedures, techniques, tools, and people with required skills, knowledge and competencies
- deploying and using this environment with the people and teams that are responsible for all systems and software life cycle engineering
- building repeatable and reliable capabilities through a process of trial, feedback, learning and continual evolution
- adapting working practices to the needs of specific products and services
- defining, controlling and improving software life cycle processes
- building in risk management, quality, security, privacy and safety
- maximising the automation of activities
- establishing software architecture and design principles to enable the desired life cycle processes
- focusing on mission, value and customers
- establishing a culture of collaboration, learning, knowledge management, adaptation and resilience
- adopting and integrating appropriate industry frameworks to guide improvements.

Level 4

Elicits requirements for systems and software life cycle working practices and automation.

Prepares design options for the working environment of methods, procedures, techniques, tools, and people.

Selects systems and software life cycle working practices for software components and micro-services.

Deploys automation to achieve well-engineered and secure outcomes.

Level 5

Collaborates with those responsible for ongoing systems and software life cycle management to select, adopt and adapt working practices.

Supports deployment of the working environment for systems and software life cycle working practices.

Provides effective feedback to encourage development of the individuals and teams responsible for systems and software life cycle working practices. Provides guidance and makes suggestions to support continual improvement and learning approach.

Contributes to identifying new domains within the organisation where systems and software life cycle working practices can be deployed.

SFIA 8: The framework reference | Skills

Level 6

Obtains organisational commitment to strategies to deliver systems and software life cycle working practices to achieve business objectives.

Works with others to integrate organisational policies, standards and techniques across the full software and systems life cycle.

Develops and deploys the working environment supporting systems and software life cycle practices for strategic, large and complex products and services.

Leads activities to manage risks associated with systems and software life cycle working practices. Plans and manages the evaluation or assessment of systems and software life cycle working practices

Level 7

Represents and leads systems and software life cycle working practices at the highest level in the organisation.

Identifies opportunities for innovation in systems and software life cycle working practices to achieve organisational goals and objectives.

Leads the essential cultural and environmental changes and communicates the benefits to all stakeholders.

Oversees the quality of the work performed and delivers measurable business benefits.

Systems design DESN

Designing systems to meet specified requirements and agreed systems architectures.

Guidance notes

Activities include — but are not limited to:

- using design concepts to develop system design and provide the basis for systems construction and verification
- designing or selecting system components
- designing systems compatible with cloud computing architectures and selection of components such as infrastructure as a service, platform as a service and software as a service
- developing a complete set of detailed models, properties, and/or characteristics described in a form suitable for implementation
- adopting and adapting of system design life cycle models based on the context of the work using predictive (plan-driven) approaches or adaptive (iterative/agile) approaches for system design
- adhering to regulatory requirements and organisational standards including security.

Level 3

Follows standard approaches and established design patterns to create new designs for simple systems or system components.

Identifies and resolves minor design issues.

Identifies alternative design options and seeks guidance when deviating from established design patterns.

Level 4

Designs system components using appropriate modelling techniques following agreed architectures, design standards, patterns and methodology.

Identifies and evaluates alternative design options and trade-offs. Creates multiple design views to address the concerns of the different stakeholders and to handle functional and non-functional requirements.

Models, simulates or prototypes the behaviour of proposed system components to enable approval by stakeholders.

Produces detailed design specifications to form the basis for the construction of systems. Reviews, verifies and improves own designs against specifications.

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Level 5

Designs large or complex systems and undertakes impact analysis on major design options and trade-offs.

Ensures that the system design balances functional and non-functional requirements.

Reviews systems designs and ensures that appropriate methods, tools and techniques are applied effectively. Makes recommendations and assesses and manages associated risks.

Adopts and adapts system design methods, tools and techniques. Contributes to development of system design policies, standards and selection of architecture components.

Level 6

Develops and drives adoption of and adherence to organisational policies, standards, guidelines, and methods for system design.

Champions the importance and value of system design principles and the selection of appropriate systems design life cycle models.

Leads system design activities for strategic, large and complex systems development programmes. Develops effective implementation strategies consistent with specified requirements, architectures and constraints of performance and feasibility.

Develops system design requiring the introduction of new technologies or new uses for existing technologies.

Software design SWDN

Specifying and designing software to meet defined requirements by following agreed design standards and principles.

Guidance notes

Activities include — but are not limited to:

- designing software applications, components, interfaces and related characteristics (including security)
- using design concepts and patterns to develop software design and provide the basis for software construction and verification
- evaluating alternative solutions and trade-offs to facilitate design decisions
- taking into account functional and non-functional requirements such as the target environment, performance, security and existing systems
- developing prototypes/simulations to enable informed decision-making
- adopting and adapting software design models, tools and techniques based on the context of the work.

Depending on requirements and project or work assigned characteristics, software design techniques can be predictive (plan-driven) or adaptive (iterative/agile) approaches.

Level 2

Creates and documents detailed designs for simple software applications or components.

Applies agreed modelling techniques, standards, patterns and tools.

Contributes to the design of components of larger software systems.

Reviews own work.

Level 3

Undertakes complete design of moderately complex software applications or components.

Applies agreed standards, guidelines, patterns and tools. Assists as part of a team in the design of components of larger software systems. Specifies user and/or system interfaces.

Creates multiple design views to address the different stakeholders' concerns and to handle functional and non-functional requirements. Assists in the evaluation of options and trade-offs.

Collaborates in reviews of work with others as appropriate.

Level 4

Designs complex software applications, components and modules.

Uses appropriate modelling techniques following agreed software design standards, guidelines, patterns and methodology. Creates and communicates multiple design views to balance stakeholders' concerns and to satisfy functional and non-functional requirements. Identifies, evaluates and recommends alternative design options and trade-offs.

Models, simulates or prototypes the behaviour of proposed software to enable approval by stakeholders, and effective construction of the software. Verifies software design by constructing and applying appropriate methods.

Reviews, verifies and improves own designs against specifications. Leads reviews of others' designs.

Level 5

Specifies and designs large or complex software applications, components and modules.

Adopts and adapts software design methods, tools and techniques. Undertakes impact analysis on major design options, makes recommendations and assesses and manages associated risks. Specifies prototypes/simulations to enable informed decision-making.

Evaluates software designs to ensure adherence to standards and identifies corrective action. Ensures that the software design balances functional, quality, security and systems management requirements.

Contributes to the development of organisational software design and architecture policies and standards.

Level 6

Leads the selection and development of software design methods, tools and techniques.

Develops organisational policies, standards, and guidelines for software design and software architectures.

Ensures adherence to technical strategies and systems architectures (including security).

Network design NTDS

Designing communication networks to support strategic and operational requirements and producing network strategies, architectures, policies and related documentation.

Guidance notes

Network design covers all aspects of the communications infrastructure including — but not limited to — networks that are wired or wireless, digital or analogue, virtual or physical, local area, wide area, mobile/cellular and any other defined protocols and scales of operation

Level 3

Specifies the technical configurations and components required for a small network or a network segment in a more complex infrastructure.

Follows organisational architectures and standards.

Level 4

Designs specific network components using agreed architectures, design standards, patterns and methodology.

Translates logical designs into physical designs that meet specified operational parameters for capacity and performance.

Reviews and verifies network designs against non-functional requirements, including validation and error correction procedures, access, security and audit controls.

Contributes to the development of recovery routines and contingency procedures. Contributes to alternative network architectures, networking topologies and design options.

Level 5

Produces, or approves network providers', network architectures, topologies and configuration databases for own area of responsibility.

Specifies design parameters for network connectivity, capacity, speed, interfacing, security and access, in line with business requirements.

Assesses network-related risks and specifies recovery routines and contingency procedures.

Creates multiple design views to address the different stakeholders' concerns and to handle both functional and non-functional requirements.

Level 6

Takes responsibility for major aspects of network specification, standards, technologies and overall network design models within the organisation.

Produces network design policies, principles and criteria covering connectivity, capacity, interfacing, security, resilience, recovery and access.

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Hardware design HWDE

Specifying a hardware design model for a defined system architecture.

Guidance notes

Examples of computing and communications equipment include — but are not limited to — semiconductor processors, high performance computing (HPC) architectures and digital signals processor (DSP) and graphics processor chips.

Activities may include — but are not limited to:

- defining how hardware components fit into the system and integrate with software if required
- selecting, designing, specifying, integrating and prototyping of hardware components
- adhering to industry standards including compatibility, safety, security, reliability and sustainability

This is typically related to the integration with, or connection to, an IT infrastructure or network.

Level 3

Follows selected standard approaches and design patterns to design simple hardware components.

Seeks guidance when deviating from established design patterns. Takes account of target environment, performance, security, safety, reliability and sustainability requirements.

Translates logical designs into physical designs. Tests the performance of prototypes and production output against specification.

Submits hardware designs for approval. Documents all work using required standards, methods and tools.

Level 4

Designs hardware components, taking account of target environment, performance, security, safety, reliability and sustainability requirements.

Translates logical designs into physical designs and delivers technical prototypes of proposed components for approval and production.

Designs the tests to measure the performance of prototypes and production output against specification and inform iterative development.

Level 5

Specifies and designs complex hardware components/systems.

Selects appropriate design standards, methods and tools, consistent with agreed enterprise policies and ensures they are applied effectively.

Undertakes impact analysis on major design options and assesses and manages associated risks. Ensures that hardware designs balance functional, quality, safety, security, systems management, reliability and sustainability requirements.

Reviews others' designs to ensure selection of appropriate technology, efficient use of resources, and effective integration of multiple systems and technology. Contributes to policy for selection of components.

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Level 6

Provides overall direction and leadership in the hardware design practice within an enterprise.

Influences industry-based models for the development of new technology and components.

Develops effective procurement strategies, consistent with business needs.

Drives adoption and ensures adherence to organisational policies, strategies and standards for hardware design.

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Programming/software development PROG

Developing software components to deliver value to stakeholders.

Guidance notes

- identifying, creating and applying software development and security standards and processes
- planning and designing software components
- estimating time and effort required for software development
- constructing, amending and verifying software components
- applying test-driven development and ensuring appropriate test coverage
- using peer review techniques — such as pair programming
- documenting software components
- understanding and obtaining agreement to the value of the software components to be developed
- selecting appropriate development methods and life cycles
- applying recovery techniques to ensure the software being developed is not lost
- implementing appropriate change control to software development practices
- resolving operational problems with software and fixing bugs

Depending on requirements and the characteristics of the project or assigned work — software development methods and life cycles can be predictive (plan-driven) approaches or adaptive (iterative/agile) approaches.

Level 2

Designs, codes, verifies, tests, documents, amends and refactors simple programs/scripts.

Applies agreed standards and tools to achieve a well-engineered result.

Reviews own work.

Level 3

Designs, codes, verifies, tests, documents, amends and refactors moderately complex programs/scripts.

Applies agreed standards and tools to achieve a well-engineered result.

Monitors and reports on progress. Identifies issues related to software development activities. Proposes practical solutions to resolve issues.

Collaborates in reviews of work with others as appropriate.

Level 4

Designs, codes, verifies, tests, documents, amends and refactors complex programs/scripts and integration software services.

Contributes to the selection of the software development methods, tools and techniques.

Applies agreed standards and tools to achieve well-engineered outcomes.

Participates in reviews of own work and leads reviews of colleagues' work.

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Level 5

Takes technical responsibility across all stages and iterations of software development.

Plans and drives software construction activities. Adopts and adapts appropriate software development methods, tools and techniques.

Measures and monitors applications of project/team standards for software construction, including software security.

Contributes to the development of organisational policies, standards, and guidelines for software development.

Level 6

Develops organisational policies, standards, and guidelines for software construction and refactoring.

Plans and leads software construction activities for strategic, large and complex development projects.

Adapts or develops new methods and organisational capabilities and drives adoption of, and adherence to policies and standards.

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Systems integration and build SINT

Planning, implementing and controlling activities to synthesise system components to create operational systems, products or services.

Guidance notes

The scope of integration includes system elements, subsystems and interfaces including computing, storage, networking and cloud services.

Systems integration is used to create systems for testing purposes as well as for operational use by customers and users.

Activities may include — but are not limited to:

- developing organisational capabilities, processes and procedures for automation and continuous integration of build, packaging, testing, security and deployment
- building and operating a continuous integration (CI) capability when required employing version control of source code and related artefacts
- ensuring security and privacy requirements are an essential part of systems integration and build
- testing, validation and sign off of integration to satisfy requirements, architectures and design
- monitoring and controlling integration activities and recording and reporting on the results of integration
- keeping stakeholders informed and providing feedback into risk management processes
- developing and testing disaster recovery plans and applying incident management processes for major systems integrations.

Level 2

Produces software builds from software source code.

Conducts tests as defined in an integration test specification and records the details of any failures.

Analyses and reports on integration test activities and results.

Identifies and reports issues and risks.

Level 3

Defines the software modules needed for an integration build and produces a build definition for each generation of the software.

Accepts completed software modules, ensuring that they meet defined criteria. Produces software builds from software source code for loading onto target hardware.

Configures the hardware and software environment as required by the system being integrated. Produces integration test specifications, conducts tests and records and reports on outcomes.

Diagnoses faults and records and reports on the results of tests. Produces system integration reports.

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Level 4

Provides technical expertise to enable the configuration of system components and equipment for systems testing.

Collaborates with technical teams to develop and agree system integration plans and report on progress. Defines complex/new integration builds. Ensures that integration test environments are correctly configured.

Designs, performs and reports results of tests of the integration build. Identifies and documents system integration components for recording in the configuration management system.

Recommends and implements improvements to processes and tools.

Level 5

Plans and drives activities to develop organisational systems integration and build capabilities including automation and continuous integration.

Identifies, evaluates and manages the adoption of tools, techniques and processes to create a robust integration framework. Provides authoritative advice and guidance on any aspect of systems integration.

Leads integration work in line with the agreed system and service design. Assesses risks and takes preventative action. Measures and monitors applications of standards.

Contributes to the development of organisational policies, standards, and guidelines for systems integration.

Level 6

Leads the development of organisational systems integration and build capabilities including automation and continuous integration.

Develops organisational policies, standards, and guidelines for systems integration and build.

Provides resources to ensure systems integration and build can operate effectively and ensures adoption and adherence to policies and standards.

Testing TEST

Investigating products, systems and services to assess behaviour and whether this meets specified or unspecified requirements and characteristics.

Guidance notes

The scope of testing includes technology, system components, configurations, packages and their interfaces. This skill is applicable to all testing methodologies — which can be delivered using predictive (plan-driven) approaches or adaptive (iterative/agile) approaches.

Activities may include — but are not limited to:

- planning, designing, managing, executing and reporting of tests
- functional testing of capabilities or features
- non-functional testing of qualities such as — but not limited to — performance, security, access, backup and recovery, archiving and retention, robustness, availability, capacity, scalability, reliability, performance, stress, volume, maintainability and portability
- static testing and static analysis
- managing risks associated with testing and taking preventative action when needed
- adopting and adapting testing methods including waterfall, incremental or agile approaches
- conforming to agreed process standards, industry-specific regulations and data protection legislation
- engineering, using and maintaining testware to measure and improve the quality of the software being tested
- promoting productivity through test automation, tools and best practices
- developing scalable and reliable automated tests and frameworks.

Level 1

Executes given manual test scripts under supervision.

Uses basic automated testing tools.

Records results and reports issues.

Develops an understanding of the role of testing as a tool for design improvement and a validation process.

Level 2

Designs test cases, creates test scripts and test data, and automates repeatable tasks working to the requirements or specifications provided.

Defines test conditions for given requirements.

Executes and records manual and automated testing in accordance with test plans.

Analyses and reports on test activities, results, issues and risks.

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Level 3

Designs test cases and test scripts under own direction, mapping back to pre-determined criteria, recording and reporting test outcomes.

Participates in requirement, design and specification reviews, and uses this information to design test plans and test conditions.

Applies agreed standards to specify and perform manual and automated testing. Automates testing tasks and builds test coverage through existing or new infrastructure.

Analyses and reports on test activities, results, issues and risks.

Level 4

Selects appropriate testing approach, including manual and automated testing.

Develops and executes test plans and test cases. Implements scalable and reliable automated tests and frameworks.

Collaborates across parties involved in product, systems or service design and development to enable comprehensive test coverage. Identifies improvements in requirements, design or specification processes to increase the effectiveness and efficiency of testing.

Analyses and reports on test activities, results, issues and risks, including the work of others.

Level 5

Plans and drives testing activities across all stages and iterations of product, systems and service development.

Provides authoritative advice and guidance on any aspect of test planning and execution. Adopts and adapts appropriate testing methods, automated tools and techniques to solve problems in tools and testing approaches.

Measures and monitors applications of standards for testing. Assesses risks and takes preventative action.

Identifies improvements and contributes to the development of organisational policies, standards, and guidelines for testing.

Level 6

Develops organisational policies, standards, and guidelines for testing.

Plans and leads strategic, large and complex testing activities. Leads activities to manage risks and opportunities associated with testing.

Adapts or develops organisational testing capabilities and methods to solve complex business and engineering problems in tools and testing.

Promotes a culture of quality throughout the organisation and drives adoption of and adherence to testing policies and standards.

Software configuration PORT

Designing and deploying software product configurations into software environments or platforms.

Guidance notes

This skill is typically applied to the design and deployment of configurations of large, complex software.

This includes — but is not limited to:

- software for enterprise resource planning (ERP) and customer relationship management
- server/mainframe operating systems
- software as a service (SaaS) solutions
- integration platforms/suites
- tools provided by infrastructure as a service (IaaS) and platform as a service (PaaS) providers.

Activities may include — but are not limited to:

- porting of software configuration across different environments or platforms
- refactoring of complex or overlapping configurations across different modules and capabilities within software solutions.

Depending on requirements and the characteristics of the project or assigned work — software configuration methods and life cycles can be predictive (plan-driven) approaches or adaptive (iterative/agile) approaches.

Level 3

Assists in designing, verifying, documenting, amending and refactoring moderately complex software configurations for deployment.

Applies agreed standards and tools, to achieve a well-engineered result.

Collaborates in reviews of work with others as appropriate.

Level 4

Designs, verifies, documents, amends and refactors complex software configurations for deployment.

Contributes to the selection of the software configuration methods, tools and techniques.

Applies agreed standards and tools, to achieve well-engineered outcomes.

Participates in reviews of own work and leads reviews of colleagues' work.

Level 5

Takes technical responsibility across all stages and iterations of configuration development and deployment.

Plans and drives software configuration activities. Adopts and adapts appropriate software configuration methods, tools and techniques.

Measures and monitors the application of standards for configuration design and deployment including software security.

Contributes to the development of organisational policies, standards, and guidelines for software configuration design and deployment.

Level 6

Develops organisational policies, standards, and guidelines for software configuration design, deployment and refactoring.

Plans and leads software configuration and deployment activities for strategic, large and complex deployment projects.

Develops new methods and organisational capabilities and drives adoption of, and adherence to policies and standards.

Real-time/embedded systems development RESD

Designing and developing reliable real-time software typically within embedded systems.

Guidance notes

Embedded systems provide a dedicated function within a more extensive mechanical or electronic system with real-time, safety, security, and reliability constraints. Typically, it involves interfacing with hardware, sensors, and actuators for monitoring and control in industrial, automotive, aerospace, medical or robotic equipment, including IoT (Internet of Things) devices and intelligent systems.

These systems typically perform critical functions and have demanding requirements including — but not limited to — integrity, reliability, safety, security or power consumption.

Activities may include — but are not limited to:

- defining non-functional system requirements such as performance, reliability, safety, and security, including requirements for power, cost, physical space or response time
- building in fail-safe/secure characteristics for graceful degradation
- using specialist techniques to define systems and to assure essential attributes are achieved
- applying comprehensive verification, validation and testing methods and techniques
- using specialised tools such as in-circuit emulators, logic analysers and digital oscilloscopes.

Level 2

Designs, builds and tests simple real-time/embedded components as part of an overall larger systems design.

Uses appropriate programming languages to drive simple sensors and actuators.

Learns to use specialised tools such as in-circuit emulators, logic analysers and digital oscilloscopes.

Level 3

Designs, builds and integrates medium-complexity real-time/embedded components as part of an overall larger systems design.

Follows agreed standards and uses specialist tools such as in-circuit emulators and logic analysers.

Drives specialist hardware, typically sensors and actuators, and optimises component code for performance.

Applies a range of approaches to the verification and testing of real-time components.

Level 4

Designs, builds and integrates complex real-time/embedded components and sub-systems often incorporating.

Designs physical layouts that reflect the connection between system components to test and optimise performance.

Builds system prototypes and simulations to aid development and enable debugging, testing and troubleshooting of embedded software.

Applies a range of approaches to the validation, verification and testing of real-time components and sub-systems. Is fully familiar with a range of specialist tools.

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Level 5

Designs and develops real-time/embedded architectures and systems to meet agreed system requirements.

Plans and manages the development of complex real-time/embedded systems and selects the approaches and techniques to be used.

Analyses design options and trade-offs between hardware and software, makes recommendations and assesses and manages associated risks. Ensures that effective validation, verification and testing is undertaken throughout development.

Oversees the integration of multiple sub-systems into the overall system.

Level 6

Provides overall direction and leadership in the development of real-time/embedded systems.

Develops organisational policies, standards and guidelines for real-time/embedded systems architectures and designs.

Plans and leads strategic, large and complex real-time/embedded system developments. Identifies opportunities to exploit new technologies and improve existing technologies and practices.

Drives adherence to technical strategies, systems architectures and the implementation of risk-based verification, validation and testing. Develops effective implementation and procurement strategies.

Safety engineering SFEN

Applying appropriate methods to assure safety during all life cycle phases of safety-related systems developments.

Guidance notes

Safety-critical systems are those in which a system failure could harm human life, other living things, physical structures, or the environment.

Activities may include — but are not limited to:

- safety hazard and risk analysis
- safety requirements specification
- safety-related systems architectural design
- formal method design
- safety validation and verification
- safety case preparation
- applying generic safety standards such as IEC 61508, IEC 61511 or industry-specific safety standards.

System safety is engineered and measured by safety levels based on hazard and risk analysis.

Level 3

Assists in hazard and risk analysis during system development and implementation using agreed methods and procedures.

Documents the results of hazard and risk analysis activities.

Assists with the collection of safety assurance evidence using appropriate methods and tools.

Undertakes all work in accordance with agreed safety, technical and quality standards.

Level 4

Contributes to identifying, analysing and documenting hazards and safety risks using agreed methods and procedures.

Contributes to the specification of safety requirements.

Analyses and documents safety validation results during system development and implementation.

Contributes to developing and maintaining project safety assurance plans, and gathers safety assurance evidence for safety case preparation.

Level 5

Identifies and analyses hazards and contributes to identifying and evaluating risk reduction measures, ensuring these are adequately documented.

Specifies safety-related systems architectures for defined safety levels.

Develops and maintains project safety assurance plans. Monitors implementation and compliance. Ensures that safety assurance evidence is gathered for safety case preparation.

Works with system architects, designers and developers to assure safety requirements implementation.

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Level 6

Takes full responsibility for hazard analysis and risk evaluation, safety-related systems architectural design and safety compliance planning.

Leads the definition and allocation of safety requirements for the system, according to the system's nature and required safety level.

Takes responsibility for the safety-related aspects of multiple complex or high safety integrity level projects.

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Safety assessment SFAS

Assessing safety-related software and hardware systems to determine compliance with standards and required levels of safety integrity.

Guidance notes

Activities may include — but are not limited to:

- making professional judgements on software and hardware engineering approaches
- assessing the suitability of design, testing, and validation and verification methods
- identifying and evaluating risks and how they can be reduced
- establishing, maintaining and managing a safety assessment framework and practices
- using techniques such as failure modes effects analysis, hazard and operability studies, component failure impact analysis, fault tree analysis, event tree analysis and criticality analysis.

Level 4

Collects safety assurance evidence using appropriate methods and tools.

Undertakes all work in accordance with agreed safety, technical and quality standards.

Level 5

Undertakes safety analyses using agreed techniques to verify or validate that safety requirements are implemented.

Participates in system safety assessments.

Creates safety assessment reports and recommends and defines how a system's safety requirements can be satisfied.

Level 6

Champions and promotes safety practices in the organisation.

Leads safety assessments according to organisational safety policies and standards.

Defines and implements organisational policies and standards for system safety assessment.

Assures compliance with defined standards and policies and oversees overall safety life cycle assessment activities.

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Radio frequency engineering RFEN

Designing, installing and maintaining radio frequency based devices and software.

Guidance notes

Activities may include — but are not limited to:

- evaluating and selecting devices and software
- integrating radio frequency (RF) sub-systems into larger systems
- calibrating, tuning and maintaining devices and software
- receiving, transmitting and converting data between analogue and digital devices, in accordance with industry and regulatory standards
- developing, integrating and configuring antennas, readers and transmitters in hardware or software forms, including software-defined radio (SDR), radio frequency identification (RFID), near field communication (NFC), Bluetooth and Wi-Fi
- adhering to established safety, security and quality standards.

Applications of this skill include — but are not limited to:

- wireless local area networks
- wireless communication systems for voice, data and image — cellular radio systems, global positioning systems and military communications networks
- navigation and sensor systems.

Level 2

Assists with setting up, tuning and functional checks of radio frequency devices and software.

Resolves faults down to line replaceable unit level or escalates according to given procedures.

Carries out user confidence checks and escalates faults according to given procedures.

Integrates RF devices with software applications using static configurations.

Level 3

Deploys, sets up, tunes and calibrates RF devices and software following maintenance schedules and using appropriate tools and test equipment.

Incorporates hardware/firmware modifications. Interprets automatic fault/performance indications and resolves faults down to discrete component level or escalates according to given procedures.

Implements communication protocols between system elements in accordance with defined standards.

Integrates RF devices with software applications, incorporating dynamic reconfiguration of elements under software control to optimise their operational performance.

Level 4

Investigates and resolves system-wide fault conditions using a wide range of diagnostic tools and techniques.

Reconfigures equipment to circumvent temporary outages. Specifies, selects and integrates RF devices in a system.

Defines internal communication protocols for transmission over the available frequencies.

Reconfigures devices and software to optimise performance.

Level 5

Monitors system performance, recommends equipment modifications and changes to operating procedures, servicing methods and schedules.

Develops maintenance schedules and procedures. Approves equipment upgrades and modifications.

Reviews industry and national standards on relevant RF protocols and regulations.

Measures and evaluates the effectiveness of RF devices and software.

Level 6

Provides overall direction and leadership for the use of RF based devices and software.

Specifies requirements for radio frequency equipment performance and sets maintenance policy.

Identifies opportunities to exploit new technologies and improve existing technologies and practices.

Develops effective implementation and procurement strategies.

Animation development ADEV

Designing and developing animated and interactive systems such as games and simulations

Guidance notes

Animation development includes using specialised tools and techniques such as — but not limited to — wireframes, interaction diagrams and boned rigs.

Level 3

Builds visual and audio components.

Uses design tools to evolve rapid prototypes of web pages.

Uses visual design tools and organic modelling techniques to create and animate virtual characters within a game or system design.

Level 4

Builds visual and audio components and integrates them into the system structure, typically using a games engine.

Uses design tools to evolve rapid prototypes of web pages, and assess the viability of design concepts.

Uses complex visual design tools and organic modelling techniques to create and animate virtual characters within a game or system design.

Level 5

Manages iterations of level design and storytelling, documenting the overall flow and architecture of a game or similar system.

Develops conceptual structures into design blueprints to create high-level structures and runtime architectures for websites.

Level 6

Provides overall creative direction in the conception and design of animation products such as games and simulations.

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Data management DATM

Developing and implementing plans, policies, and practices that control, protect and optimise the value of data assets.

Guidance notes

Activities may include — but are not limited to:

- managing data and information in all its forms
- analysing information structures including — but not limited to — logical analysis of taxonomies, data and metadata
- developing innovative ways of managing the information assets of the organisation
- developing plans, policies and practices related to areas including — but not limited to — classification, storage, security, quality, sharing, availability, retrieval, retention and publishing
- ensuring data is appropriately stored and archived, in line with relevant legislation
- implementing data management practices for cloud-based services
- applying ethical principles when handling data.

Level 4

Devises and implements master data management processes for specific subsets of data.

Assesses the integrity of data from multiple sources.

Provides advice on the transformation of data from one format/medium to another. Maintains and implements information handling procedures.

Enables the availability, integrity and searchability of information through the application of formal data and metadata structures and protection measures.

Level 5

Devises and implements master data management processes.

Derives data management structures and metadata to support consistency of information retrieval, combination, analysis, pattern recognition and interpretation, throughout the organisation.

Plans effective data storage, sharing and publishing within the organisation. Independently validates external information from multiple sources.

Assesses issues that might prevent the organisation from making maximum use of its information assets. Provides expert advice and guidance to enable the organisation to get maximum value from its data assets.

Level 6

Derives an overall strategy of master data management that supports the development and secure operation of information and digital services.

Develops organisational policies, standards, and guidelines for data management, aligned with ethical principles.

Plans, establishes and manages processes for regular and consistent access to external information from multiple sources and for independent validation of that information.

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Data modelling and design DTAN

Developing models and diagrams to represent and communicate data requirements and data assets.

Guidance notes

Data modelling supports activities such as — but not limited to:

- helping organisations understand their data assets, developing software systems, and the relationships between real-world entities
- data engineering, integration and interoperability
- data retrieval
- data governance and master data management.

There is a range of different types of data models. However they typically contain the same components — entities, relationships, attributes and domains.

Types of data models include — but are not limited to — relational, object-oriented, NoSQL, time-based.

Data models are used to communicate different levels of detail — conceptual, logical and physical.

Level 2

Establishes, modifies or maintains simple data structures and associated components.

Uses specific data modelling and design techniques under guidance.

Level 3

Applies standard data modelling and design techniques based upon a detailed understanding of requirements.

Establishes, modifies and maintains data structures and associated components.

Communicates the details of data structures and associated components to others using the data structures and associated components.

Level 4

Investigates enterprise data requirements where there is some complexity and ambiguity.

Plans own data modelling and design activities, selecting appropriate techniques and the correct level of detail for meeting assigned objectives.

Provides advice and guidance to others using the data structures and associated components.

Level 5

Sets standards for data modelling and design tools and techniques, advises on their application and ensures compliance.

Manages the investigation of enterprise data requirements based upon a detailed understanding of information requirements.

Coordinates the application of analysis, design and modelling techniques to establish, modify or maintain data structures and their associated components.

Manages the iteration, review and maintenance of data requirements and data models.

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Database design DBDS

Specifying, designing and maintaining mechanisms for storing and accessing data.

Guidance notes

Activities may include — but are not limited to:

- designing operational databases
- designing on-premise or cloud-based databases
- defining physical or virtual data warehouse structures required to support machine learning, business intelligence or data analytics services
- designing operational data stores to integrate data from multiple sources to support data pipelines and enable additional operations on the data.

Level 3

Interprets installation standards to meet project needs and produces database or data warehouse component specifications.

Develops appropriate physical database or data warehouse design elements, within set policies, to meet data requirements.

Level 4

Implements physical database designs to support transactional data requirements for performance and availability.

Develops and maintains specialist knowledge of database and data warehouse concepts, design principles, architectures, software and facilities.

Assesses proposed changes to object/data structures and evaluates alternative options.

Implements data warehouse designs that support demands for business intelligence and data analytics.

Level 5

Provides specialist expertise in the design characteristics of database management systems or data warehouse products/services.

Provides expert guidance in the selection, provision and use of database and data warehouse architectures, software and facilities.

Ensures that physical database design policy supports transactional data requirements for performance and availability.

Ensures that data warehouse design policy supports demands for business intelligence and data analytics.

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Data engineering DENG

Designing, building, operationalising, securing and monitoring data pipelines and data stores.

Guidance notes

Activities may include — but are not limited to:

- identifying data sources, data processing concepts and methods
- evaluating, designing and implementing on-premise, cloud-based and hybrid data engineering solutions
- structuring and storing data for uses including — but not limited to — analytics, machine learning, data mining, sharing with applications and organisations
- harvesting structured and unstructured data
- integrating, consolidating and cleansing data
- migrating and converting data
- applying ethical principles in handling data
- ensuring appropriate storage of data in line with relevant legislation
- building in security, compliance, scalability, efficiency, reliability, fidelity, flexibility and portability.

Level 2

Assist in developing and implementing data pipelines and data stores.

Performs administrative tasks to provide accessibility, retrievability, security and protection of data.

Level 3

Designs and implements data pipelines and data stores to acquire and prepare data.

Applies data engineering standards and tools to create and maintain data pipelines and extract, transform and load data.

Carries out routine data quality checks and remediation.

Level 4

Designs, implements, and maintains complex data engineering solutions to acquire and prepare data.

Creates and maintains data pipelines to connect data within and between data stores, applications and organisations.

Carries out complex data quality checking and remediation.

Level 5

Plans and drives the development of data engineering solutions ensuring that solutions balance functional and non-functional requirements.

Monitors application of data standards and architectures including security and compliance.

Contributes to organisational policies, standards, and guidelines for data engineering.

Level 6

Leads the selection and development of data engineering methods, tools and techniques.

Develops organisational policies, standards, and guidelines for the development and secure operation of data services and products.

Ensures adherence to technical strategies and architectures.

Plans and leads data engineering activities for strategic, large and complex programmes.

Database administration DBAD

Installing, configuring, monitoring, maintaining and improving the performance of databases and data stores.

Guidance notes

Database administration may support live operational databases in production use or internal/ interim databases used for iterative developments and testing.

Activities may include — but are not limited to:

- identifying and acting on automation opportunities to improve performance and value from databases, data stores and data pipelines
- using database management system software and tools
- applying knowledge of the logical database schema.

Level 2

Assists in database support activities.

Level 3

Performs standard database maintenance and administration tasks.

Uses database management system software and tools to collect performance statistics.

Level 4

Develops and configures tools to enable automation of database administration tasks.

Monitors performance statistics and create reports.

Identify and investigates complex problems and issues and recommends corrective actions.

Performs routine configuration, installation, and reconfiguration of database and related products.

Level 5

Identifies, evaluates and manages the adoption of database administration tools and processes, including automation.

Develops and maintains procedures and documentation for databases. Contributes to the setting of standards for definition, security and integrity of database objects and ensures conformance to these standards.

Manages database configuration including installing and upgrading software and maintaining relevant documentation.

Monitors database activity and resource usage. Optimises database performance and plans for forecast resource needs.

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Data science DATS

Applying mathematics, statistics, data mining and predictive modelling techniques to gain insights, predict behaviours and generate value from data.

Guidance notes

Data science is typically used for analysing high volume, high velocity and high variety data (numbers, symbols, text, sound and image).

Activities may include — but are not limited to:

- integrating methods from mathematics, statistics and probability modelling using specialised programming languages, tools and techniques
- sourcing and preparing data for analysis
- identifying, validating and exploiting internal and external data sets generated from a diverse range of processes
- developing forward-looking, predictive, real-time, model-based insights to create value and drive effective decision-making
- finding, selecting, acquiring and ingesting data sources,
- integrating and cleaning data to make it fit for purpose
- developing hypotheses and exploring data using models and analytics sandboxes
- refining requirements, validating, training and evolving models over time to discover deeper insights, make predictions, or generate recommendations.
- using advanced analytic techniques including — but not limited to — data/text mining, machine learning, pattern matching, forecasting, visualisation, semantic analysis, sentiment analysis, network and cluster analysis, multivariate statistics, graph analysis, simulation, complex event processing, neural networks.

Level 2

Under guidance, applies given data science techniques to data.

Analyses and reports findings and remediates simple issues, using algorithms implemented in standard software frameworks and tools.

Level 3

Applies existing data science techniques to new problems and datasets using specialised programming techniques.

Selects from existing data sources and prepares data to be used by data science models.

Evaluates the outcomes and performance of data science models. Identifies and implements opportunities to train and improve models and the data they use.

Publishes and reports on model outputs to meet customer needs and conforming to agreed standards.

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Level 4

Investigates the described problem and dataset to assess the usefulness of data science and analytics solutions.

Applies a range of data science techniques and uses specialised programming languages. Understands and applies rules and guidelines specific to the industry, and anticipates risks and other implications of modelling.

Selects, acquires and integrates data for analysis. Develops data hypotheses and methods and evaluates analytics models. Advises on the effectiveness of specific techniques based on project findings and comprehensive research.

Contributes to the development, evaluation, monitoring and deployment of data science solutions.

Level 5

Plans and drives all stages of the development of data science and analytics solutions.

Provides expert advice to evaluate the problems to be solved and the need for data science solutions. Identifies what data sources to use or acquire.

Specifies and applies appropriate data science techniques and specialised programming languages.

Reviews the benefits and value of data science techniques and tools and recommends improvements. Contributes to developing policy, standards and guidelines for developing, evaluating, monitoring and deploying data science solutions.

Level 6

Leads the introduction and use of data science and analytics to drive innovation and business value.

Develops organisational policies, standards, and guidelines for data science and analytics.

Sets direction and leads in the introduction and use of data science and analytics techniques, methodologies and tools. Leads the development of organisational capabilities for data science and analytics.

Plans and leads strategic, large and complex data science initiatives to generate insights, create value and drive decision-making.

Level 7

Directs the creation and review of a cross-functional, enterprise-wide approach and culture for generating value from data science and analytics.

Drives the identification, evaluation and adoption of data science and analytics capabilities to transform organisational performance. Leads the provision of the organisation's data science and analytics capabilities.

Ensures that the strategic application of data science and analytics is embedded in the governance and leadership of the organisation.

Aligns business strategies, enterprise transformation and data science and analytics strategies.

Machine learning MLNG

Developing systems that learn through experience and by the use of data.

Guidance notes

Activities may include — but are not limited to:

- evaluating trained models for their performance, robustness and bias
- selecting and using metrics to examine outcomes
- diagnosing and resolving issues before and after deployment
- anticipating the organisational implications of machine learning models regarding ethics, bias, privacy, and data protection
- establishing traceability for the outcomes produced by machine learning systems.

Level 2

Applies given machine learning techniques to data, under the guidance of technical leadership.

Analyses and reports findings and remediates simple issues using algorithms implemented in standard software frameworks and tools.

Level 3

Applies existing machine learning techniques to new problems and datasets.

Evaluates the outcomes and performance of machine learning systems.

Identifies issues and recommends improvements to machine learning systems and the data they use.

Level 4

Given a well-described problem and dataset, assesses whether machine learning is likely to provide an effective solution.

Implements algorithms developed by others. Advises on the effectiveness of specific techniques, based on project findings and wider research.

Contributes to the development, evaluation, monitoring and deployment of machine learning systems.

Understands and applies rules and guidelines specific to the industry, and anticipates risks and other implications of modelling.

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Level 5

Designs, implements, tests and improves machine learning architectures and systems.

Selects techniques based on a breadth of knowledge of the strengths, weaknesses and expected performance of different approaches.

Establishes good practice in the development, evaluation, monitoring and deployment of machine learning systems.

Level 6

Leads the development of new approaches and organisational capabilities to design, train, and evaluate machine learning systems.

Sets standards and guidelines for the application and traceability of machine learning systems to business problems, and oversees their implementation.

Designs and oversees organisational policies on the creation, training and use of machine learning systems.

Business intelligence BINT

Developing, producing and delivering regular and one-off management information to provide insights and aid decision-making.

Guidance notes

Typically applied in supporting operational needs through management and governance processes. May be one-off or regular activities aligned with the organisation's planning and reporting cycles.

Activities may include — but are not limited to:

- understanding business needs and objectives
- identifying and validating internal and external data sets generated from a diverse range of business and operational processes
- transforming the results of analysis into information that can be communicated to stakeholders using dashboards and reports
- interpreting and analysing data, comparative analysis, benchmarking, trend analysis
- bringing data together to communicate clear themes and trends
- focusing on data quality to provide confidence for making decisions on a single version of the truth.

Level 2

Assists with the creation of regular business intelligence reports using standard tools.

Supports data preparation from existing sources.

Level 3

Sources and prepares data for analysis and performs standard business intelligence analysis activities.

Creates and delivers standard reports in accordance with stakeholder needs and conforming to agreed standards.

Investigates the need for new or revised business intelligence analysis.

Contributes to the recommendation of improvements. Engages with stakeholders under direction.

Level 4

Supports business intelligence needs of specific management or governance processes or operational areas.

Investigates the need for business intelligence reporting and analysis where there is some complexity and ambiguity.

Selects and applies non-standard business intelligence tools and techniques to provide insights and aid decision-making. Selects, acquires and integrates data for analysis.

Identifies opportunities to digitise and streamline operational data handling and optimise business intelligence capabilities.

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Level 5

Plans and manages business intelligence activities.

Ensures that business intelligence processes are robust, efficient and fit for purpose, focusing on automation, key controls and data quality. Advises on the available standards, procedures, methods, tools and techniques.

Manages reviews of the benefits and value of business intelligence techniques and tools and recommends improvements.

Contributes to the development of analytics policy, standards and guidelines.

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Data visualisation VISL

Facilitating understanding of data by displaying concepts, ideas, and facts using graphical representations.

Guidance notes

Activities may include — but are not limited to:

- condensing and encapsulating data characteristics, making it easier to surface opportunities, identify risks, analyse trends, and drive effective decision-making
- presenting findings and data insights in creative ways to facilitate the understanding of data across a range of technical and non-technical audiences.

The skill is typically put into practice by using specialist analytics tools. Specialisation in this skill implies a requirement to use more than just standard office software to create graphical representations of simple data.

Level 3

Uses a visualisation product, as guided, to design and create data visuals.

Selects appropriate visualisation techniques from the options available.

Engages with the target user to prototype and refine specified visualisations.

Level 4

Applies a variety of visualisation techniques and designs the content and appearance of data visuals.

Operationalises and automates activities for efficient and timely production of data visuals.

Selects appropriate visualisation approaches from a range of applicable options.

Contributes to exploration and experimentation in data visualisation.

Level 5

Leads exploration of new approaches for data visualisation.

Establishes the purpose and parameters of the data visualisation. Provides overall control to ensure the appropriate use of data visualisation tools and techniques.

Formats and communicates results using textual, numeric, graphical and other visualisation methods appropriate to the target audience.

Advises on the appropriate use of data visualisation for different purposes and contexts to satisfy requirements. Develops plans showing how the identified user needs will be met.

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User research URCH

Identifying users' behaviours, needs and motivations using observational research methods.

Guidance notes

This skill is inclusive of a full range of user tasks not just digital tasks. The skill can be applied in various contexts — such as — but not limited to customer experience, products, services, applications, devices, learning experience and employee experience.

User research has a different set of responsibilities to academic research or user requirements elicitation. User research incorporates significant involvement of users to generate deep understanding and uncover new opportunities for systems, products, services or devices.

Activities may include — but are not limited to:

- using ethnography, observation techniques, task analysis, and other methodologies that incorporate both the social and technological context
- quantifying different user populations and their needs
- identifying target users and segments in order to maximise the chances of design success for systems, products, services, or devices
- including a range of users in research activities to capture the diversity of users' behaviours, needs and motivations.

Level 3

Applies standard methods to support user research initiatives.

Engages effectively with users and customer representatives to generate high-quality research.

Documents and shares the outcomes of user research.

Level 4

Conducts generative research for the development of systems, products, services or devices.

Plans own user research activities. Facilitates input from users and stakeholders.

Collects and analyses user research data. Supports synthesis of research and the creation of insights, reports and presentations.

Contributes to the selection of the user research approaches for projects and initiatives. Supports the adoption of agreed approaches.

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Level 5

Plans and drives user research activities providing expert advice and guidance to support the adoption of agreed approaches.

Determines the approaches to be used for including users in generative research.

Leads the collection and analysis of user research data. Synthesises research, develops insights and presents conclusions to inform decision-making and drive actions.

Contributes to the development of organisational methods and standards for user research.

Level 6

Champions user-centred design and secures organisational commitment to the significant involvement of users in research.

Develops organisational policies, standards, and guidelines for user research.

Develops or sources organisational resources and capabilities to facilitate the adoption and exploitation of user research.

Collaborates with internal and external partners to facilitate effective user research.

User experience analysis UNAN

Understanding the context of use for systems, products and services and specifying user experience requirements and design goals.

Guidance notes

This skill is inclusive of a full range of user tasks not just digital tasks. The skill can be applied in various contexts — such as — but not limited to customer experience, products, services, applications, devices, learning experience and employee experience.

Activities may include — but are not limited to:

- identifying, analysing, clarifying, and communicating the context of use
- describing users' goals, tasks and the environment within which the systems, products, services or devices will be used
- creating and describing personas to represent key user segments
- developing user stories or requirements to describe features or capabilities
- agreeing user experience design goals
- analysing and prioritising user experience needs with stakeholders
- understanding and specifying user experience and user accessibility requirements for all potential users.

Level 3

Applies standard techniques and tools for developing user stories and eliciting user experience requirements.

Organises and structures user experience analysis.

Works with stakeholders to prioritise requirements and resolve conflicts.

Level 4

Selects appropriate techniques and tools to develop user stories and elicit user experience requirements in complex situations.

Identifies and describes the design goals for systems, products, services and devices.

Identifies the roles of affected stakeholder groups. Resolves potential conflicts between differing user requirements.

Specifies measurable criteria for the required usability and accessibility of systems, products, services and devices.

Level 5

Determines the approaches to be used for user experience analysis.

Plans and manages user experience and accessibility analysis activities.

Provides expert advice and guidance to support the adoption and adaptation of agreed approaches.

Develops user experience tools, techniques and standards as part of the organisation's framework for user-centred design

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User experience design HCEV

Producing design concepts and prototypes for user interactions with and experiences of a product, system or service.

Guidance notes

This skill is inclusive of a full range of user tasks not just digital tasks. The skill can be applied in various contexts — such as — but not limited to customer experience, products, services, applications, devices, learning experience and employee experience.

Activities may include — but are not limited to:

- understanding and addressing design goals, usability and accessibility requirements
- using an iterative design process to enhance user satisfaction by improving usability and accessibility
- designing digital and offline tasks, interactions and interfaces
- refining designs in response to user experience evaluation
- communicating the design to those responsible for design, development and implementation of products, systems and services
- sketching, ideation, creating storyboards, static wireframes or dynamic prototypes
- developing alternative design and evaluating advantages, disadvantages, constraints and trade-offs.

Level 3

Applies standard techniques and tools for designing user interactions with and experiences of selected system, product or service components.

Reviews design goals and agreed security, usability and accessibility requirements. Creates storyboards, static wireframes and dynamic or workable prototypes.

Assists, as part of a team, with overall user experience design.

Assists in the evaluation of design options and trade-offs. Consistently applies visual design and branding guidelines.

Level 4

Selects appropriate tools, methods and design patterns to design user interactions with and experiences of a product, system or service.

Translates concepts into outputs and prototypes and captures user feedback or evaluation to improve designs.

Evaluates alternative design options and recommends designs taking into account performance, security, usability and accessibility requirements.

Interprets and follows visual design and branding guidelines to create a consistent and impactful user experience.

Level 5

Plans and drives user experience design activities, providing expert advice and guidance to support the adoption of agreed approaches.

Determines the approaches to be used to design user experiences.

Uses iterative approaches to incorporate user feedback or evaluation rapidly into designs.

Integrates required visual design and branding into the user experience design activities.

Level 6

Obtains organisational commitment to strategies to deliver required user experience, usability, accessibility and security.

Defines organisational policies, standards and techniques for user experience design.

Plans and leads user experience design activities for strategic, large or complex programmes.

User experience evaluation USEV

Validating systems, products or services against user experience goals, metrics and targets.

Guidance notes

This skill is inclusive of a full range of user tasks not just digital tasks. The skill can be applied in various contexts — such as — but not limited to customer experience, products, services, applications, devices, learning experience and employee experience.

Evaluation is typically part of an iterative user experience design process and contributes to the improvement of the product or service. An evaluation can also be the starting point if an existing system, product or service is to be replaced or improved. Methods include user trials, expert review, survey and analysis.

Activities may include — but are not limited to:

- providing assurance that user stories or requirements have been met and required practice has been followed to address accessibility, usability, security, health and safety
- applying a range of qualitative and quantitative evaluation techniques
- selecting from lightweight/rapid techniques or more thorough and resource-intensive approaches
- selecting appropriate use of formative or summative evaluations.
- facilitating both moderated and unmoderated tests.

Level 2

Assists in preparing and operating the environment, facilities and tools needed to evaluate systems, products, services or devices.

Assists in the collection of feedback on prototypes and designs from users and others.

Level 3

Evaluates design options and prototypes to obtain user feedback on requirements of developing systems, products, services or devices.

Tests the usability and accessibility of components and alternative designs. Administers a range of evaluations, recording data and feedback. Analyses evaluation data and recommends actions. Identifies areas for future user research.

Checks systems, products, services or devices for adherence to applicable standards, guidelines, style guides, and legislation.

Evaluates the usability of existing or competitor systems to provide benchmark values and as input to design.

Level 4

Selects appropriate tools and techniques to evaluate user experiences of systems, products, services or devices.

Validates that security, usability and accessibility requirements have been met.

Checks operational systems, products, services or devices for changes in usability and accessibility needs.

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Interprets and presents results of evaluations, prioritises issues and reports on remedial actions. Collates input for future user research.

Level 5

Manages user experience evaluation of systems, products, services or devices.

Assures that the security, usability and accessibility requirements have been met and that required practices have been followed.

Advises on what to evaluate, the type of evaluation to use and the extent of user involvement required.

Works iteratively with design teams to ensure that feedback from the evaluation is understood and acted upon by designers and developers. Advises on the achievement of required usability and accessibility levels of specific designs or prototypes. Prioritises input for future user research.

Level 6

Champions high standards in user interaction with the organisation's systems, products and services including involvement of users in evaluation activities.

Specifies standards and methods for security, usability and accessibility and ensure that this is addressed in future designs.

Develops or sources resources and capabilities to conduct effective user experience evaluation, including specialist user-centred facilities and communities of users. Leads the provision of input and resources for future user research.

Collaborates with internal and external partners to facilitate an effective evaluation of systems, products and services.

Content authoring INCA

Planning, designing and creating textual information, supported where necessary by graphical content.

Guidance notes

Content may be delivered via digital, print, or other media.

Activities may include — but are not limited to:

- understanding the requirements of the intended audience in collaboration with clients and/or representatives of the intended audience
- applying the principles of authoring, designing, controlling, and presenting textual information
- taking into consideration how information may be presented, identified, and searched for
- managing the authoring process and the interaction with editorial and publication processes
- gathering source information and creating draft content
- identifying appropriate illustrations or graphics
- understanding and applying copyright rules and related legal issues
- creating and using guidelines to present information clearly, concisely, and accurately
- designing collections of artefacts, spread across multiple media.

Level 1

Contributes, under instruction, to the generation of content, and the configuration of content items and files.

Executes pre-planned testing activities under supervision and records findings.

Level 2

Works with colleagues and clients to understand audience needs and to assimilate source material.

Creates draft content to meet the requirements of the audience as clearly, simply and quickly as possible.

Applies guidelines and standards to moderate content from others, escalating where appropriate.

Level 3

Produces information artefacts that are accurate, current, relevant and easily understood by the intended audience.

Clarifies detailed content requirements with clients and representatives of the intended audience.

Designs, creates, controls and evaluates moderately complex subject matter.

Makes informed decisions about the best way to present information to an audience. Applies moderation and editing processes to content supplied by others.

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Level 4

Designs the content and appearance of complex information deliverables.

Controls, monitors, and evaluates content to ensure quality, consistency and accessibility of messages and optimal use of chosen media. Understands and manages risks associated with publishing content.

Moderates content and ensures content can be re-purposed appropriately.

Reviews work of others and takes responsibility for ensuring appropriate publication.

Level 5

Provides overall editorial control across the team or teams of content designers and authors.

Advises on appropriate content formats and mediums.

Develops and maintains content plans showing how the identified audience needs will be met.

Oversees the review and approval of materials to enable requirements to be satisfied.

Level 6

Obtains organisational commitment to policies, standards, and strategies to create required content.

Specifies design standards and methods to meet organisational objectives for content creation.

Plans and leads content creation for strategic, large and complex programmes.

Content publishing ICPM

Managing and continually improving the processes that collect, assemble and publish content.

Guidance notes

Information content may be in structured, unstructured or semi-structured forms.

Activities may include — but are not limited to:

- understanding the requirements of the organisation and the desired audience
- evaluating different publishing methods and options, and their costs, features and benefits — including open source and proprietary options
- developing and implementing a framework for content publishing, including preferred media, overall information structure, and rules for formatting content
- converting content into a format suitable for publication
- delivering content to the user at the point of need
- managing copyright, data protection and other legal issues associated with publishing and re-using published information and data
- ensuring published material is in a form accessible to all potential users, including those with disabilities
- releasing or retiring content.

Level 1

Contributes, under instruction, to publication support activities.

Supports the collation of data.

Uses established publishing processes according to appropriate guidelines.

Level 2

Understands technical publication concepts, tools and methods and how to use them.

Uses agreed procedures to publish content.

Obtains and analyses usage data and presents it effectively.

Applies principles of usability and accessibility to published information.

Level 3

Coordinates content management processes to meet the needs of users.

Uses content publishing systems to manage published content across different channels.

Takes into account any legal issues related to publishing.

Level 4

Applies organisational guidelines and uses appropriate tools and techniques to provide publishing interfaces to new or existing platforms and applications.

Maintains and updates content management processes to meet the needs of users.

Selects appropriate channels through which content should be published. Provides advice to users and content authors to leverage the features of the relevant channels and tools used.

Identifies the legal implications associated with publishing.

Level 5

Plans and manages content publishing activities and assignments.

Develops standards and procedures to support content publishing across one or more platforms/channels. Advises on the approach and techniques to be used for content publishing.

Assures design of the overall content structure and style.

Ensures that publication processes comply with agreed policies and strategies and legal requirements.

Level 6

Obtains organisational commitment and resources to ensure the appropriate quality of material published by or on behalf of the organisation.

Defines organisational policies, standards and techniques for content publishing.

Plans and leads content publishing activities for strategic, large and complex programmes.

Ensures that policies are implemented, and any legal issues related to publishing are adequately managed.

Knowledge management KNOW

Managing vital knowledge to create value for the organisation.

Guidance notes

Knowledge management aims to improve performance, support decision-making and mitigate risks.

Activities may include — but are not limited to:

- systematically capturing, sharing, developing and exploiting the collective knowledge of the organisation
- tailoring knowledge management approaches
- developing a supportive and collaborative knowledge sharing culture to drive the successful adoption of technology solutions for knowledge management
- providing access to informal, tacit knowledge as well as formal, documented, explicit knowledge
- facilitating internal and external collaboration and communications
- establishing and supporting communities of practice
- capturing, organising and developing information, knowledge and stories from employees, customers and external partners
- external benchmarking.

Level 2

Maintains a knowledge management database.

Leverages knowledge of a specialism to capture and classify content, taking expert advice when required.

Level 3

Maintains knowledge management systems and content to meet business needs.

Supports others to enable them to complete knowledge management activities and form knowledge management habits. Supports changes to work practices to support capture and use of knowledge.

Reports on the progress of knowledge management activities.

Configures and develops knowledge management systems and standards.

Level 4

Organises knowledge assets and oversees the life cycle of identifying, capturing, classifying, storing, and maintaining assets.

Facilitates sharing, collaboration and communication of knowledge. Implements specific knowledge management initiatives.

Monitors the use and impact of knowledge.

Interrogates existing knowledge content to identify issues, risks, and opportunities.

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Level 5

Develops and implements knowledge management processes and behaviours.

Provides advice, guidance, and support to help people to adopt and embed knowledge management. Contributes to the definition of policies, standards, and guidelines for knowledge management.

Evaluates and selects knowledge management methods and tools. Promotes collaborative technologies, processes and behaviours to facilitate sharing of ideas and work-knowledge.

Shares ideas and examples of existing practices. Implements knowledge management at programme, project and team level.

Level 6

Develops organisational policies, standards, and guidelines for knowledge management.

Champions and leads in the development of an organisational knowledge management approach. Shares different approaches for knowledge sharing across communities of practice, business units, and networks.

Promotes knowledge-sharing through operational business processes and systems. Monitors and evaluates knowledge-sharing initiatives.

Manages reviews of the benefits and value of knowledge management. Identifies and recommends improvements.

Level 7

Develops an organisation-wide knowledge management strategy and leads the creation of a knowledge management culture.

Embeds knowledge management across business units and develops strategic knowledge management capabilities.

Reinforces the importance of knowledge sharing by aligning individual and organisational objectives and rewards.

Identifies opportunities for strategic relationships or partnerships with customers, suppliers, and partners.

Scientific modelling SCMO

Applying computer simulation and other forms of computation to solve real-world problems in scientific disciplines.

Guidance notes

Activities may include — but are not limited to:

- identifying relevant mathematical principles and scientific theory within a computational model
- creating, testing and tuning scientific models through the application of computing
- validating and interpreting computational models against the reality which the models attempt to represent.

Level 4

Analyses the real-world problem, then selects appropriate physical and mathematical models to approximate the phenomena under investigation.

Applies relevant mathematical techniques to simulate the problem.

Conducts quality and performance assessments on computational model outputs and makes improvements to the models.

Provides advice and guidance to the users of these models.

Level 5

Investigates real-world problems to assess whether existing scientific models provide effective solutions.

Creates new mathematical representations of the underlying science that can be implemented in a computational model. Applies advanced programming techniques to implement scientific models and apply these for problem-solving.

Analyses the functioning of existing computational models to improve accuracy and performance.

Communicates limitations such as uncertainty and systematic errors. Ensures appropriate usage of computational models.

Level 6

Initiates the creation, testing, improvement and application of mathematical model frameworks representing real-world systems and scientific theories.

Sets standards and approaches for the application of scientific modelling.

Oversees the representation of science and mathematics principles and theories in models to ensure appropriate, consistent and effective usage.

Develops or introduces new mathematical techniques where necessary.

Level 7

Directs the creation and review of a cross-functional, enterprise-wide approach and culture for scientific modelling.

Leads the development of the organisation's scientific modelling capabilities and champions its use in solving real-world problems.

Numerical analysis NUAN

Creating, analysing, implementing, testing and improving algorithms for numerically solving mathematical problems.

Guidance notes

Numerical analysis is the area of mathematics and computer science that creates, analyses, and implements algorithms for numerically solving mathematical problems. Numerical analysis is required for applications including — but not limited to:

- simulations of physical systems
- machine learning
- data analytics

Numerical analysis is concerned with:

- floating-point arithmetic and the resulting accumulation of rounding errors (integer arithmetic which has different considerations)
- consideration of the numerical stability, condition numbers, accuracy, computational complexity and usability of algorithms that solve mathematical problems.

Level 4

Creates moderately complex algorithms using a range of mathematical techniques and with sensitivity to the limitations of the techniques.

Uses sophisticated scientific computing and visualisation environments.

Assesses the stability, accuracy and efficiency of algorithms and makes or recommends improvements to them.

Iterates and improves models using feedback from experts as appropriate.

Level 5

Creates, tests and improves complex algorithms that numerically solve real-world problems.

Develops mathematical and computational techniques to assist with numerical analysis.

Communicates limitations such as uncertainty and systematic errors.

Reviews algorithms for their conformance to design and performance standards.

Level 6

Initiates the creation, testing, improvement and application of numerical algorithms that solve real-world mathematical problems.

Sets standards and strategies for the application of numerical analysis.

Leads the implementation of numerical analyses capabilities to ensure appropriate, consistent and effective usage across the organisation.

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Level 7

Directs the creation and review of a cross-functional, enterprise-wide approach and culture for numerical analysis.

Leads the development of the organisation's numerical analysis capabilities and champions its use in solving real-world problems.

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High-performance computing HPCC

Using advanced computer systems and special programming techniques to solve complex computational problems.

Guidance notes

High-performance computing (HPC) is the use of super computers and parallel processing techniques for solving complex computational problems. HPC technology focuses on developing parallel processing algorithms and systems.

High-performance computing is typically used for solving advanced problems and performing research activities through computer modelling, simulation and analysis.

HPC technology is implemented in a variety of disciplines including — but not limited to:

- biosciences and molecular modelling
- geographical data
- oil and gas exploration
- climate modelling and weather forecasting
- physical simulations
- cryptanalysis.

The terms high-performance computing and supercomputing are sometimes used interchangeably.

Level 4

Develops moderately complex solutions that use high-performance computing environments to address real-world problems.

Applies a range of high-performance computing techniques with sensitivity to the limitations of the techniques. Uses input and feedback from experts as appropriate.

Analyses the complexity, scalability and performance of algorithms, including massively parallel implementations, and makes or recommends improvements.

Level 5

Creates, tests and improves complex high-performance computing solutions to address real-world problems.

Collaborates with stakeholders to ensure high-performance computing solutions are effective at addressing their problems.

Guides development teams in the appropriate and effective use of high-performance computing resources

Level 6

Initiates the creation, testing, improvement and application of algorithms that solve real-world problems in high-performance computing environments.

Sets standards and strategies for the use of high-performance computing.

Leads the implementation of organisational capabilities to ensure appropriate, consistent and effective usage of high-performance computing.

Level 7

Directs the creation and review of a cross-functional, enterprise-wide approach and culture for high-performance computing.

Leads the development of the organisation’s high-performance computing capabilities and champions its use in solving real-world problems.

Technology service management ITMG

Managing the provision of technology-based services to meet defined organisational needs.

Guidance notes

Technology-based services may include — but are not limited to — IT infrastructure, audio-visual services, end-user computing, enterprise applications, facilities, communications services and industrial control systems.

Activities may include — but are not limited to:

- approving, preparing, planning and managing new or changed services
- managing the performance of systems and services in terms of their contribution to business outcomes, financial costs and sustainability
- end-to-end management of services, whether delivered internally or sourced externally
- integrating internal and external services as well as delivery options leveraging multiple service delivery capabilities
- developing and implementing continual service improvement plans to ensure the technology services adequately support changing needs.

Level 5

Takes responsibility for managing the design, procurement, installation, upgrading, operation, control, maintenance and effective use of specific technology services.

Leads the delivery of services, ensuring that agreed service levels, security requirements and other quality standards are met. Ensures adherence to relevant policies and procedures.

Ensures that processes and practices are aligned across teams and providers to operate effectively and efficiently.

Monitors the performance of technology services. Provides appropriate status and other reports to managers and senior users.

Level 6

Identifies and manages resources needed for budgeting, estimating, planning, developing and delivering a specified portfolio of technology services and systems.

Engages with and influences stakeholders to ensure that services are developed and managed to meet agreed service levels, security requirements and other quality standards. Plans and manages the implementation of processes and procedures, tools and techniques for monitoring and managing the performance of technology services.

Aligns the contribution of specified systems and services to clearly stated organisational and financial goals and performance targets. Recommends options for sourcing — whether in-house, outsourced, or a combination.

Monitors performance of delivery teams and takes corrective action where necessary and in line with policies.

Level 7

Sets strategy for the management of the portfolio of technology services.

Aligns technology service management with organisational strategies, objectives and emerging opportunities. Promotes the opportunities technology offers the organisation, including the feasibility of change and its likely impact.

Authorises the establishment of new or modified technology service delivery capabilities. Integrates in-house and outsourced options, as well as delivery options leveraging multiple service delivery capabilities.

Authorises allocation of resources for the planning, development and delivery of all technical services and products. Maintains an overview of the contribution of technology services to organisational success.

Application support ASUP

Delivering management, technical and administrative services to support and maintain live applications.

Guidance notes

Activities may include — but are not limited to:

- investigating and resolving issues
- implementing working practices to support iterative/agile development and/or cloud-based applications
- monitoring performance of applications
- providing guidance or training to users — including enhanced levels of support following new/updated software releases
- devising permanent or temporary corrections and workarounds for faults
- adhering to established safety, security and quality standards
- capturing user feedback for subsequent analysis to inform future application development
- implementing general or site-specific modifications
- updating documentation
- maintaining application data
- defining enhancements.

Support typically involves close collaboration with application developers and other specialist areas. Application maintenance and support services may be delivered directly to users of the systems or to service delivery functions.

Level 2

Assists with specified maintenance procedures.

Assists in the investigation and resolution of issues relating to applications.

Level 3

Follows agreed procedures to identify and resolve issues with applications.

Uses application management software and tools to collect agreed performance statistics.

Carries out agreed applications maintenance tasks.

Level 4

Maintains application support processes, and checks that all requests for support are dealt with according to agreed procedures.

Uses application management software and tools to investigate issues, collect performance statistics and create reports.

Level 5

Ensures that all requests for support are dealt with according to set standards and procedures.

Drafts and maintains procedures and documentation for applications support.

Manages application enhancements to improve business performance.

Advises on application security, licensing, upgrades, backups, and disaster recovery needs.

IT infrastructure ITOP

Deploying, configuring and operating IT Infrastructure.

Guidance notes

IT infrastructure components include, but are not limited to, physical devices, virtual resources, infrastructure-related software, middleware, network services and data storage. Infrastructure components may be on-premises, outsourced, or provisioned as cloud services.

Activities may include — but are not limited to:

- preparing for new or changed services to meet defined needs of organisational users or providers
- maintaining and enhancing the IT infrastructure and infrastructure components, including task automation via tools and coding
- managing and applying software updates
- building and managing systems and components in virtualised and cloud computing environments
- monitoring the performance of systems and services related to their contribution to organisation performance, security and sustainability.

Level 1

Contributes, under supervision, to routine infrastructure operation.

Gains understanding of infrastructure components and services by following the activities of experienced colleagues.

Level 2

Carries out routine operational procedures, including the execution of specified automation tools/scripts.

Amends existing automation tasks under supervision to gain a basic understanding of the scripting language/automation tools.

Contributes to maintenance and installation. Monitors and reports on infrastructure performance to enable service delivery. Resolves issues or refers to others for assistance.

Level 3

Provisions/installs, configures and maintains infrastructure services and components.

Monitors, measures and reports on infrastructure load, performance and security events. Identifies operational issues and contributes to their resolution.

Carries out agreed operational procedures, including backup/restore, using supplied infrastructure tools and scripts.

Carries out agreed system software maintenance tasks. Automates routine system administration tasks to specifications using standard tools and basic scripting.

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Level 4

Provides technical expertise to enable the correct application of operational procedures.

Contributes to the planning and implementation of infrastructure maintenance and updates. Implements agreed infrastructure changes and maintenance routines.

Uses infrastructure management tools to determine load and performance statistics. Configures tools and/or creates scripts to automate the provisioning, testing and deployment of new and changed infrastructure. Maintains operational procedures and checks that they are executed following agreed standards.

Investigates and enables the resolution of operational issues. Provides reports and proposals for improvement, to specialists, users and managers.

Level 5

Provides technical leadership to optimise the performance of IT infrastructure.

Investigates and manages the adoption of tools, techniques and processes (including automation) for the management of systems and services.

Oversees the planning, installation, maintenance and acceptance of new and updated infrastructure components and infrastructure-based services. Aligns to service expectations, security requirements and other quality standards.

Ensures that operational procedures and documentation are fit for purpose and kept up to date. Ensures that operational issues are identified, recorded, monitored and resolved. Provides appropriate status and other reports to specialists, users and managers.

System software SYSP

Installing, managing, controlling, deploying and maintaining infrastructure systems software, to meet operational needs and service levels.

Guidance notes

The term system software refers to operating systems, utilities and middleware that are essential elements of the IT Infrastructure and which enable applications to run.

System software may run in cloud, virtual or physical hardware environments and includes — but is not limited to — operating systems, hypervisors, function libraries and device drivers, networking, database and storage management products, and system utilities.

Activities may include — but are not limited to:

- monitoring and optimising the performance of system software
- resolving potential and actual service problems
- evaluating new system software
- reviewing system software updates
- provisioning and testing system software updates
- adhering to established safety, security and quality standards.

Level 3

Monitors operational systems for resource usage and failure rates, to inform and facilitate system software tuning.

Applies system software parameters to maximise throughput and efficiency.

Installs and tests new versions of system software.

Contributes to preparation of software implementation procedures with fall back contingency plans.

Level 4

Monitors system software metrics and adjusts configurations for optimum availability and performance.

Reviews system software updates and identifies those that merit action.

Configures system software for required functionality and performance.

Investigates and resolves system software problems, requesting action from supplier if required.

Level 5

Ensures that system software is provisioned and configured to facilitate the achievement of service objectives.

Evaluates new system software and recommends adoption if appropriate. Plans the provisioning and testing of new versions of system software.

Investigates and coordinates the resolution of potential and actual service problems.

Ensures that operational procedures and diagnostics for system software are current, accessible and well understood.

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Network support NTAS

Providing maintenance and support services for communications networks.

Guidance notes

Activities may include — but are not limited to:

- monitoring network performance
- investigating and resolving problems
- devising work-arounds and correcting faults
- making general or site-specific modifications
- operational configuration of network components
- testing networks, both routinely and after modification or fault/fix
- adhering to established safety, security and quality standards
- providing information, advice or training to users about networks functionality.

Support may be provided direct to users of the network or to service delivery functions.

Level 2

Contributes to the operational configuration of network components.

Assists in the investigation and resolution of network problems.

Assists with specified maintenance procedures.

Level 3

Carries out agreed network maintenance tasks and specified operational configuration of network components.

Establish and diagnose network problems/faults using the required troubleshooting methodology and tools.

Uses network management software and tools to collect agreed performance and traffic statistics.

Level 4

Maintains the network support process and checks that all requests for support are dealt with according to agreed procedures.

Ensures network configurations are applied to meet operational requirements in line with agreed procedures.

Uses network management software and tools to investigate and diagnose network problems, collect performance statistics and create reports.

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Level 5

Drafts and maintains procedures and documentation for network support and operation.

Makes a significant contribution to the investigation, diagnosis and resolution of network problems.

Ensures that all requests for support are dealt with according to set standards and procedures.

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Systems installation and removal HSIN

Installing and testing, or decommissioning and removing, systems or system components

Guidance notes

Systems or systems components may include — but are not limited to — hardware, software, cabling, wiring, and monitoring equipment.

Activities may include — but are not limited to:

- developing and following plans and instructions in accordance with agreed standards
- adhering to established safety, security and quality standards
- testing of hardware and software components, resolution of malfunctions, and recording of results
- documenting the details of hardware and software installed so that configuration management records can be updated
- safe disconnection, decommissioning and removal of systems or system components.

Level 1

Follows agreed procedures to perform simple installations, replace consumable items and check the correct working of installations.

Documents and reports on work done.

Level 2

Installs or removes system components using supplied installation instructions and tools.

Conducts standard tests and contributes to investigations of problems and faults.

Confirms the correct working of installations.

Documents results in accordance with agreed procedures.

Level 3

Installs or removes hardware and/or software, using supplied installation instructions and tools, including handover to the client.

Uses standard procedures and diagnostic tools to test installations, correct problems, and document results.

Records details of all components that have been installed and removed. Assists users and follows agreed procedures for further help or escalation.

Contributes to the development of installation procedures and standards.

Level 4

Undertakes or supervises complex installations and de-installations of systems or components, including handover to the client.

Develops procedures and standards for installation and handover to maintain and improve the installation service.

Schedules installation work around client priorities and resource availability.

Ensures adherence to established safety and quality procedures.

Level 5

Takes responsibility for installation and/or decommissioning projects.

Provides effective team leadership, including information flow to and from the customer during project work.

Develops and implements quality plans and method statements.

Monitors the effectiveness of installations and ensures that appropriate recommendations for change are made.

Configuration management CFMG

Planning, identifying, controlling, accounting for and auditing of configuration items (CIs) and their interrelationships.

Guidance notes

Configuration items (CIs) can include a wide variety of components (objects) such as — but not limited to — source code, software, products, systems, hardware, networks, buildings, suppliers, process definitions and documents. A coherent set of CIs forms a configuration.

Activities may include — but are not limited to:

- identifying and documenting the functional and physical characteristics of CIs
- identifying the relationships and maintain coherence between CIs for specific configurations
- identifying the associated configuration(s), status, version and other characteristics of CIs at distinct points in time
- controlling changes to CI characteristics, recording and reporting change processing and implementation status
- systematically controlling changes to a configuration and maintaining the integrity, coherence, and traceability of that configuration throughout the project, system and/or service life cycle
- adhering to established safety, security and quality standards
- verifying and auditing CI records for data quality and compliance with specified internal and external requirements.

Level 2

Applies tools, techniques and processes to administer, track, log, report on and correct configuration items, components and changes.

Assists with audits to check the accuracy of the information and undertakes any necessary corrective action under direction.

Level 3

Applies tools, techniques and processes to track, log and correct information related to configuration items.

Verifies and approves changes ensuring the protection of assets and components from unauthorised change, diversion and inappropriate use.

Ensures that users comply with identification standards for object types, environments, processes, life cycles, documentation, versions, formats, baselines, releases and templates.

Performs audits to check the accuracy of the information and undertakes any necessary corrective action under direction.

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Level 4

Proposes and agrees the configuration items (CIs) to be uniquely identified with naming conventions.

Puts in place operational processes for secure configuration, classification and management of CIs, and for verifying and auditing configuration records.

Develops, configures and maintains tools (including automation) to identify, track, log and maintain accurate, complete and current information.

Reports on the status of configuration management. Identifies problems and issues and recommend corrective actions.

Level 5

Plans the capture and management of CIs and related information.

Agrees scope of configuration management processes and the configuration items (CIs) and related information to be controlled.

Identifies, evaluates and manages the adoption of appropriate tools, techniques and processes (including automation) for configuration management.

Contributes to the development of configuration management strategies, policies, standards, and guidelines.

Level 6

Develops configuration management strategies, policies, standards, and guidelines.

Champions the importance and value of configuration management and develops new methods and organisational capabilities (including automation) for configuration management.

Provides resources to drive adoption of, and adherence to, policies and standards.

Measures and monitors adherence to standards and ensures consistent execution of the process across the organisation.

Release and deployment RELM

Applying the processes, systems and functions required to make new and changed services and features available for use.

Guidance notes

Activities may include — but are not limited to:

- packaging and deploying software changes and updates for release into a live environment
- managing continuous delivery/deployment using automation tools for containerisation and orchestration
- using package management tools or application lifecycle management tools for software dependency, version and library control
- combining changes to form a release that delivers a new service or updates an existing service
- adhering to established safety, security and quality standards
- enabling the controlled and effective handover to operational management and the user community.

Level 3

Uses approved tools and techniques for specific deployment activities.

Administers the recording of activities, logging of results and documents technical activities undertaken.

Level 4

Assesses and analyses release components for input to release scheduling.

Maintains and administers tools and methods for software delivery, deployment and configuration.

Maintains release processes and procedures.

Level 5

Leads the assessment, analysis, planning and design of release packages, including assessment of risk.

Liaises with business and technology teams on release scheduling and communication of progress. Conducts post-release reviews.

Ensures that release processes and procedures are applied and that releases can be rolled back as needed.

Identifies, evaluates and manages the adoption of appropriate release and deployment techniques, processes and automation tools.

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Level 6

Sets the release policy for the organisation in the context of both development and production/ operations.

Implements processes, tools, and resources to ensure that the transition of services, service components and packages are planned and compliant.

Ensures that test, validation and configuration management are included in all release and deployment activities.

Provides authorisation for critical release activity and point of escalation.

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Storage management STMG

Planning, implementing and optimising the technologies and processes used for data storage.

Guidance notes

Storage management includes managing local or external storage such as direct access storage (DAS), network access storage (NAS), storage area networks (SAN) and cloud-based storage.

Storage management technologies and processes includes — but are not limited to — virtualisation, replication, mirroring, security, compression, traffic analysis, process automation, storage provisioning and related techniques.

Activities may include — but are not limited to:

- backup, archiving and recovery of data
- ensuring compliance with regulatory and security requirements
- addressing business goals based on information value, data classification, recovery point and recovery time objectives.

Level 3

Performs regular high-performance, scalable backups and restores on a schedule and tracks offsite storage.

Implements documented configurations for allocation of storage, installation and maintenance of secure storage systems using the agreed operational procedures.

Identifies operational problems and contributes to their resolution.

Uses standard management and reporting tools to collect and report on storage utilisation, performance and backup statistics.

Level 4

Prepares and maintains operational procedures for storage management.

Monitors capacity, performance, availability and other operational metrics. Takes appropriate action to ensure corrective and proactive maintenance of storage and backup systems to protect and secure business information.

Creates reports and proposals for improvement.

Contributes to the planning and implementation of new installations and scheduled maintenance and changes of existing systems.

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Level 5

Develops standards and guidelines for implementing data protection and disaster recovery functionality for all business applications and business data.

Provides expert advice and guidance to implement and improve storage management.

Manages storage and backup systems to provide agreed service levels.

Creates, improves and supports storage management services with optimal utilisation of storage resources, ensuring security, availability and integrity of data.

Level 6

Develops strategies for managing storage and data based on the level of criticality of the information.

Ensures compliance with regulatory and security requirements.

Aligns investments in storage management with business goals and data management policies.

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Facilities management DCMA

Planning, designing and managing the buildings, space and facilities which, collectively, make up the IT estate.

Guidance notes

Activities may include — but are not limited to:

- using data centre management tools
- provisioning and managing the physical environment, including power, space, and cooling
- adhering to established safety, security and quality standards
- monitoring the environment and providing statistics on energy usage
- controlling physical access
- adhering to mandatory policies and regulations concerning health and safety at work.

Level 3

Monitors compliance against agreed processes and investigates, assesses and resolves incidents of non-compliance, escalating where necessary.

Grants users required physical accesses and monitors and reports on overall access control.

Level 4

Uses data centre management tools to produce management information on power, cooling and space and investigate issues where necessary.

Carries out routine audit and checks to ensure adherence to policies and procedures.

Facilitates the implementation of mandatory electrical safety testing.

Level 5

Develops and maintains the standards, processes and documentation for data centres.

Optimises efficiency in the population of data centre space. Ensures adherence to all relevant policies and processes.

Uses data centre management tools to plan, record and manage installed infrastructure, power, space and cooling capabilities.

Monitors usage and actions to meet sustainability targets.

Level 6

Sets the organisational policy for managing the IT estate and ensures that policy reflects best practice.

Develops strategies to ensure future requirements for data centre space can be forecast and fulfilled.

Takes overall responsibility for adherence to health & safety regulations and electrical safety policy.

Seeks out and ensures use of industry best practice to ensure future plans are aligned to meet corporate sustainability targets.

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Service level management SLMO

Agreeing targets for service levels and assessing, monitoring, and managing the delivery of services against the targets.

Guidance notes

Activities may include — but are not limited to:

- planning, implementation, control, review and audit of service provision, to meet customer business requirements
- negotiating, implementing and monitoring service level agreements
- managing operational facilities to provide the agreed levels of service
- identifying opportunities to improve service delivery
- implementing service level management practices to support cloud-based services
- identifying future trends and their impact on service delivery — for example — technical, market, industrial, socioeconomic, legislative or sustainability targets.

Level 2

Monitors and logs the actual service provided, compared to that required by service level agreements.

Level 3

Monitors service delivery performance metrics.

Liaises with stakeholders to help them plan for a deterioration in service and/or breaches of service level agreements.

Level 4

Performs defined tasks to monitor service delivery against service level agreements and maintains records of relevant information.

Analyses service delivery performance to identify actions required to maintain or improve levels of service.

Initiates and reports on actions to maintain or improve levels of service.

Level 5

Ensures that service delivery meets agreed service levels.

Negotiates service level requirements and agreed service levels with customers.

Diagnoses service delivery problems and initiates actions to maintain or improve levels of service.

Establishes and maintains operational methods, procedures and facilities and reviews them regularly for effectiveness and efficiency.

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Level 6

Ensures that service delivery is monitored effectively and that identified actions to maintain or improve levels of service are implemented.

Ensures that service level agreements are complete and cost-effective across the catalogue of available services. Ensures that operational methods, procedures, facilities and tools are established, reviewed and maintained. Prepares proposals to meet forecast changes in the levels or types of services.

Reviews service delivery to ensure that agreed targets are met.

Negotiates with relevant parties in respect of disruptions and major amendments to the provision of services.

Level 7

Sets strategies for service delivery that support the strategic needs of the client organisation.

Authorises allocation of resources for monitoring service delivery arrangements.

Develops relationships with customers at the highest level to identify potential areas of mutual commercial interest for future development.

Maintains an overview of the contribution of service delivery arrangements to organisational success. Provides leadership within the industry on the identification of future trends.

Service catalogue management SCMG

Providing a source of consistent information about available services and products to customers and users.

Guidance notes

Activities may include — but are not limited to:

- publishing and maintaining information about available services
- tracking the list of available services as new services are introduced and current services are amended or retired
- making the catalogue useful and easy to use
- customising the information published according to the needs of specific audiences — such as for users — for customers, for service providers
- supporting discussion of standard and non-standard service offerings
- enabling automation of service requests and service fulfilment where appropriate.

The information documented in the service catalogue includes — but is not limited to — service names and descriptions, features, value propositions, costs, service support levels and availability

Level 3

Collates information needed to populate the service catalogue.

Edits and maintains service and product descriptions and keeps the list of available services up to date.

Acts as a contact point, receiving and handling routine updates to the service catalogue.

Identifies opportunities to improve service catalogue management processes.

Level 4

Contributes to the design and implementation of a service catalogue.

Enables automation of service requests and order fulfilment.

Provides advice and guidance on the information to be included in the service catalogue.

Contributes to reviews and improvement of the catalogue and of service catalogue management processes.

Level 5

Manages the creation and maintenance of a catalogue of services.

Ensures that the service catalogue is complete and current. Works with service owners to ensure consistency and accuracy of the service catalogue entries.

Completes regular reviews of the catalogue with stakeholders to ensure relevance to business needs and requirements.

Manages the service catalogue management processes.

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Availability management AVMT

Ensuring that services deliver agreed levels of availability to meet the current and future needs of the business.

Guidance notes

Activities may include — but are not limited to:

- defining and agreeing availability targets
- disaster recovery planning
- ensuring services can collect data required to measure availability
- monitoring, analysing and reporting on service availability
- implementing availability management practices to support cloud-based services
- maintaining and improving the availability of services
- controlling and managing service availability to deliver agreed levels of availability in a cost-effective manner.

Level 4

Analyses service and component availability, reliability, maintainability and serviceability.

Contributes to the availability management process and its operation. Performs defined availability management tasks.

Ensures that services and components meet and continue to meet all of their agreed performance targets and service levels.

Implements arrangements for disaster recovery and documents recovery procedures. Conducts testing of recovery procedures.

Level 5

Provides advice and guidance on the planning, design and improvement of service and component availability.

Investigates all breaches of availability targets and service non-availability and initiates remedial activities.

Develops plans for disaster recovery together with supporting processes.

Manages the testing of disaster recovery plans.

Level 6

Sets policy and develops strategies, plans and processes to ensure services deliver agreed levels of availability.

Develops and implements new availability tools and techniques.

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Capacity management CPMG

Ensuring that service components have the capacity and performance to meet current and planned business needs.

Guidance notes

Service components include — but are not limited to — hardware, software, network resources and software/infrastructure as a service.

Activities may include — but are not limited to:

- planning, design and management of the capability, performance, functionality and sustainability of service components to meet business needs
- modelling long-term changes and short-term variations in the level of capacity required to execute the service
- implementing capacity management practices to support cloud-based services
- deployment of techniques to control the demand and add/reduce capacity in a cost-effective, timely manner to meet changes in demand.

Level 4

Monitors service component capacity and initiates actions to resolve any shortfalls according to agreed procedures.

Applies techniques to control the demand upon a particular resource or service.

Contributes to capacity modelling and planning.

Supports the design of service component capacity.

Level 5

Manages capacity modelling and forecasting activities.

Proactively reviews information in conjunction with service level agreements to identify any capacity issues and specifies any required changes. Provides advice to support the design of service components, including designing in flexible and scalable capacity.

Works with business representatives to agree and implement short- and medium-term modifications to capacity.

Drafts and maintains standards and procedures for service component capacity management. Ensures the correct implementation of standards and procedures.

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Level 6

Leads the development and implementation of policy and strategies for capacity and performance management to meet business needs.

Leads capacity modelling and forecasting over the organisation's planning or budgeting cycle.

Ensures that the policies and standards for capacity management are fit for purpose, current and correctly implemented.

Reviews new business proposals and provides specialist advice on capacity issues.

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Incident management USUP

Coordinating responses to incident reports, minimising negative impacts and restoring service as quickly as possible.

Guidance notes

Activities may include — but are not limited to:

- designing and implementing different processes and procedures for different categories of incidents including — but not limited to — major incidents, information or cybersecurity incidents, complex incidents, low impact incidents
- establishing incident response teams or security incident response teams
- routing requests for help to appropriate functions for resolution
- monitoring resolution activity
- informing users, customers and key stakeholders of progress towards service restoration.

Incidents can impact many areas — such as but not limited to — business operations, information security, IT systems, services, employees, customers, or other vital business functions.

Different roles/groups may be needed to diagnose and resolve incidents — such as — users, subject matter experts, service desk, support teams, suppliers, partners. Although they play a part in the incident management process, they do not necessarily need incident management skills.

Level 2

Follows agreed procedures to identify, register and categorise incidents.

Gathers information to enable incident resolution and allocates incidents as appropriate.

Level 3

Provides first line investigation and gathers information to enable incident resolution and allocate incidents.

Advises relevant persons of actions taken.

Level 4

Ensures that incidents are handled according to agreed procedures.

Prioritises and diagnoses incidents. Investigates causes of incidents and seeks resolution. Escalates unresolved incidents.

Facilitates recovery, following resolution of incidents. Documents and closes resolved incidents.

Contributes to testing and improving incident management procedures.

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Level 5

Develops, maintains and tests incident management procedures in agreement with service owners.

Investigates escalated, non-routine and high-impact incidents to responsible service owners and seeks resolution.

Facilitates recovery, following resolution of incidents. Ensures that resolved incidents are properly documented and closed.

Analyses causes of incidents, and informs service owners to minimise probability of recurrence, and contributes to service improvement. Analyses metrics and reports on the performance of the incident management process.

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Problem management PBMG

Managing the life cycle of all problems that have occurred or could occur in delivering a service.

Guidance notes

The primary objectives of problem management are to:

- proactively prevent problems and resulting incidents from happening
- reactively resolve problems that have already happened
- eliminate recurring incidents
- minimise the impact of incidents that cannot be prevented.

Activities may include — but are not limited to:

- detecting and logging problems
- classifying and prioritising problems
- initiating actions to resolve problems
- investigating and diagnosing problems
- implementing remedies to prevent future incidents
- reporting on problems.

Level 3

Investigates problems in systems, processes and services.

Assists with the implementation of agreed remedies and preventative measures.

Level 4

Initiates and monitors actions to investigate and resolve problems in systems, processes and services.

Determines problem fixes and remedies.

Collaborates with others to implemented agreed remedies and preventative measures.

Supports analysis of patterns and trends to improve problem management processes.

Level 5

Ensures that appropriate action is taken to anticipate, investigate and resolve problems in systems and services.

Ensures that such problems are fully documented within the relevant reporting systems.

Enables development of problem solutions. Coordinates the implementation of agreed remedies and preventative measures.

Analyses patterns and trends and improves problem management processes.

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Change control CHMG

Assessing risks associated with proposed changes and ensuring changes to products, services or systems are controlled and coordinated.

Guidance notes

Change control is applied to anything that impacts live products, services or systems. This typically includes — applications, infrastructure, documentation, processes, configuration items, suppliers.

Activities may include — but are not limited to:

- managing the lifecycle of change requests — registering, assessing, authorising, planning, deploying
- assessing risks and reducing risks to the availability, performance, security and compliance of the products and services impacted by the change
- developing processes for standard, normal or emergency changes
- developing methods and tools to automate change control processes to enable continuous integration.

Level 2

Applies tools, techniques and processes to administer, track, log, report on change requests.

Applies change control procedures for standard, low-risk changes.

Level 3

Develops, documents and implements changes based on requests for change.

Applies change control procedures.

Applies tools, techniques and processes to manage and report on change requests.

Level 4

Assesses, analyses, develops, documents and implements changes based on requests for change.

Ensures that operational processes are in place for effective change control.

Develops, configures and maintains tools to manage and report on the lifecycle of change requests.

Identifies problems and issues and recommend corrective actions.

Level 5

Leads the assessment, analysis, development, documentation and implementation of changes.

Develops implementation plans for complex requests for change.

Reviews proposed implementations and evaluates the risks to the integrity of the product and service environment. Ensures appropriate change approval is applied to changes.

Reviews the effectiveness of change implementation. Identifies, evaluates and manages the adoption of appropriate tools, techniques and processes for change control.

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Level 6

Sets the organisation's policy for the management of change in live services and test environments.

Ensures effective control and treatment of risk.

Leads the development of new methods and tools for change control.

Measures and monitors adherence to standards and ensures consistent execution of the process across the organisation.

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Asset management ASMG

Managing the full life cycle of assets from acquisition, operation, maintenance to disposal.

Guidance notes

Assets to be managed include components such as — but not limited to — hardware, software, data, networking, cloud services, devices, intellectual property, licences and agreements, warranties.

The full life cycle includes acquisition, storage, distribution, movement and disposal of assets.

Asset management requires knowledge of financial, legal and technical processes, tools and techniques.

Activities may include — but are not limited to:

- providing information and advice to optimise value, control costs, manage risks, support decision-making and meet regulatory or contractual requirements
- providing advice on asset management includes areas such as — but not limited to — the maintenance of hardware assets, licensing of software, protection of intellectual property, and legal obligations
- using international standards for asset management
- integrating with security, change, and configuration management
- resolving issues and risks with unauthorised assets such as — but not limited to — unlicensed copies of software, cloud services, devices.

Level 2

Uses agreed procedures to create and maintain an accurate register of assets.

Performs activities related to the administration of assets.

Produces routine reports to assist asset management activities and decision-making.

Level 3

Applies tools, techniques and processes to create and maintain an accurate asset register.

Produces reports and analysis to support asset management activities and aid decision-making.

Level 4

Controls assets in one or more significant areas ensuring that administration of full life cycle of assets is carried out.

Produces and analyses registers and histories of authorised assets and verifies that all these assets are in a known state and location.

Acts to highlight and resolve potential instances of unauthorised assets.

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Level 5

Manages and maintains the service compliance of IT and service assets in line with business and regulatory requirements.

Identifies, assesses and communicates associated risks.

Ensures asset controllers, infrastructure teams and the business co-ordinate and optimise value, maintain control and maintain appropriate legal compliance.

Level 6

Sets the strategy for asset management across the organisation.

Communicates the policy, governance, scope, and roles involved in asset management.

Promotes awareness of and commitment to the role of asset management in the continuing economic and effective provision of services. Provides information and advice on complex asset management issues.

Initiates impact assessment arising from decisions to obtain, change or continue the possession or use of an asset, system or service.

Service acceptance SEAC

Managing the process to obtain formal confirmation that service acceptance criteria have been met.

Guidance notes

Service acceptance criteria are used to ensure that a service meets the defined service requirements, including functionality, operational support, performance, safety, security and quality requirements. Acceptance criteria include both utility/functional and warranty/non-functional tests.

Activities may include — but are not limited to:

- engaging with a variety of stakeholders and delivery life-cycle activities such as — but not limited to — external service providers, technical design, software development and project management
- implementing service acceptance practices to support iterative/agile working
- ensuring the service provider is ready to operate the new service when it has been deployed.

Level 4

Engages with delivery teams to confirm that products developed meet the service acceptance criteria and are to the required standard.

Provides input into change control processes.

Level 5

Engages with delivery teams to ensure correct products are produced in a timely fashion.

Evaluates the quality of project outputs against agreed service acceptance criteria.

Level 6

Develops the organisation's approach for service acceptance, owns the transition process and defines the acceptance criteria for service transitions.

Promotes and monitors project quality outputs to ensure they are fit for purpose and fit for use within operational services.

Actively engages with stakeholders to promote awareness and compliance with service transition quality plans and processes.

Agrees the service acceptance criteria with delivery teams.

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Security operations SCAD

Delivering management, technical and administrative services to implement security controls and security management strategies.

Guidance notes

Activities may include — but are not limited to:

- providing advice and guidance on the implementation of security controls
- defining and reviewing access rights and privileges
- authorising and monitoring of access to IT facilities or infrastructure
- investigating unauthorised access
- routine vulnerability assessments
- monitoring violations of security policies
- ensuring compliance with relevant legislation
- monitoring and analysing relevant logs, alerts and events
- responding to incidents submitted via tickets or phone
- implementing standard security operating procedures
- maintaining security records and documentation
- administering cryptographic and certificate management activities.

Level 1

Performs simple security administration tasks. Maintains relevant records and documentation.

Level 2

Receives and responds to routine requests for security support. Maintains records and advises relevant persons of actions taken.

Assists in the investigation and resolution of issues relating to access controls and security systems.

Documents incident and event information and produces incident, exception, and management reports.

Level 3

Investigates minor security breaches in accordance with established procedures.

Assists users in defining their access rights and privileges. Performs non-standard operational security tasks.

Resolves security events and operational security issues.

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Level 4

Maintains operational security processes and checks that all requests for support are dealt with according to agreed procedures.

Provides advice on defining access rights and the application and operation of elementary physical, procedural and technical security controls.

Investigates security breaches in accordance with established procedures and recommends required actions. Provides support and checks that corrective actions are implemented.

Level 5

Monitors the application and compliance of security operations procedures.

Reviews actual or potential security breaches and vulnerabilities and ensures that they are promptly and thoroughly investigated. Recommends actions and appropriate control improvements.

Ensures that security records are accurate and complete and that requests for support are dealt with according to agreed procedures.

Contributes to the creation and maintenance of policy, standards, procedures and documentation for security.

Level 6

Develops policies, standards, processes, guidelines for ensuring the physical and electronic security of automated systems.

Ensures that the policy and standards for security operations are fit for purpose, current and are correctly implemented.

Reviews new business proposals and provides specialist advice on security issues and implications.

Vulnerability assessment VUAS

Identifying and classifying security vulnerabilities in networks, systems and applications and mitigating or eliminating their impact.

Guidance notes

Activities may include — but are not limited to:

- cataloguing and classifying information and technology resources (assets and capabilities) to support vulnerability assessment
- assigning quantifiable value, rank order and importance to information and technology resources
- identifying and analysing the vulnerabilities of each resource — manually or using automated tools and information sources
- prioritising, scoring and ranking the risk associated with vulnerabilities
- business impact assessment
- mitigating or eliminating the vulnerabilities.

Vulnerability assessment tools include web application scanners, protocol scanners and network scanners.

Level 2

Undertakes low-complexity routine vulnerability assessments using automated and semi-automated tools.

Escalates issues where appropriate.

Contributes to documenting the scope and evaluating the results of vulnerability assessments.

Level 3

Follows standard approaches to performs basic vulnerability assessments for small information systems.

Supports creation of catalogues of information and technology assets for vulnerability assessment.

Level 4

Collates and analyses catalogues of information and technology assets for vulnerability assessment.

Performs vulnerability assessments and business impact analysis for medium complexity information systems.

Contributes to selection and deployment of vulnerability assessment tools and techniques.

Level 5

Plans and manages vulnerability assessment activities within the organisation.

Evaluates and selects, reviews vulnerability assessment tools and techniques.

Provides expert advice and guidance to support the adoption of agreed approaches.

Obtains and acts on vulnerability information and conducts security risk assessments, business impact analysis and accreditation on complex information systems.

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Digital forensics DGFS

Recovering and investigating material found in digital devices.

Guidance notes

Activities may include — but are not limited to:

- collecting, processing, preserving and analysing material
- presenting forensic evidence based on the totality of findings.

The scope of digital forensics includes finding evidence on computers and any device capable of storing digital data. The evidence may be used in support of security vulnerability mitigation, criminal, fraud, counterintelligence, or law enforcement investigations.

Level 3

Supports digital forensic investigations by applying standard tools and techniques to investigate devices.

Recovers damaged, deleted or hidden data from devices.

Maintains integrity of records and collects information and evidence in a legally admissible way.

Level 4

Designs and executes complex digital forensic investigations on devices.

Specifies requirements for resources and tools to perform investigations.

Processes and analyses evidence in line with policy, standards and guidelines and supports the production of forensics findings and reports.

Level 5

Conducts investigations to correctly gather, analyse and present findings, including digital evidence, to both business and legal audiences.

Collates conclusions and recommendations and presents forensics findings to stakeholders.

Plans and manages digital forensics activities within the organisation. Provides expert advice on digital forensics.

Contributes to the development of digital forensics policies, standards and guidelines. Evaluates and selects digital forensics tools and techniques.

Level 6

Plans and leads the organisation’s approach to digital forensics.

Sets policies, standards and guidelines for how the organisation conducts digital forensic investigations.

Leads and manages high risk, large or wide-ranging digital forensics investigations engaging additional specialists if required.

Authorises the release of formal forensics reports.

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Penetration testing PENT

Testing the effectiveness of security controls by emulating the tools and techniques of likely attackers.

Guidance notes

Penetration testing may be a stand-alone activity or an aspect of acceptance testing prior to an approval to operate.

Activities include — but are not limited to:

- ethical hacking — using the same tools and techniques as an adversary to safely exploit security weaknesses
- demonstrating how an adversary can subvert security goals or achieve specific adversarial objectives
- evaluating the effectiveness of current/planned defences or mitigation controls
- assuring the security of networks, systems, and applications
- identifying insights into the business risks of various vulnerabilities
- testing network, infrastructure, web and mobile applications for weaknesses
- checking patch levels and configurations
- social engineering.

Level 3

Follows standard approaches to design and execute penetration testing activities.

Researches and investigates attack techniques and recommend ways to defend against them.

Analyses and reports on penetration testing activities, results, issues and risks.

Level 4

Selects appropriate testing approach using in-depth technical analysis of risks and typical vulnerabilities.

Produces test scripts, materials and test packs and tests new and existing networks, systems or applications. Provides advice on penetration testing to support others.

Records and analyses actions and results and modifies tests if necessary.

Provides reports on progress, anomalies, risks and issues associated with the overall project.

Level 5

Plans and drives penetration testing within a defined area of business activity.

Delivers objective insights into the existence of vulnerabilities, the effectiveness of defences and mitigating controls.

Takes responsibility for the integrity of testing activities and coordinates the execution of these activities. Provides authoritative advice and guidance on all aspects of penetration testing.

Identifies needs and implements new approaches for penetration testing. Contributes to security testing standards.

Level 6

Determines penetration testing policy, and owns the supporting processes.

Manages all penetration testing activities within the organisation. Assesses and advises on the practicality of testing process alternatives.

Establishes capability for continual improvement and invention in penetration testing and leads the implementation of new approaches.

Assesses suppliers' development and testing capabilities. Manages client relationships with respect to penetration testing.

Performance management PEMT

Improving organisational performance by developing the performance of individuals and workgroups to meet agreed objectives with measurable results.

Guidance notes

The term workgroup is used to be inclusive of different organisational structures. A workgroup is a collection of people working together on interdependent tasks to achieve shared objectives. This includes — but is not limited to — permanent/business-as-usual teams, cross-functional teams, squads or workgroups formed to deliver a specific outcome.

Activities may include — but are not limited to:

- setting workgroup objectives aligned to organisational drivers
- supporting individual growth to achieve objectives
- forming effective teams
- developing effective working relations within the workgroup
- developing effective working relations with other workgroups, partners and individuals who they collaborate with to achieve workgroup objectives.

Level 4

Provides operational direction, support and guidance to assigned colleagues.

Allocates routine tasks or project work, in line with team objectives and individual capabilities. Monitors quality and performance against agreed criteria to make learning recommendations or to escalate concerns.

Coaches colleagues in developing target skills and capabilities in line with team and personal goals.

Facilitates effective working relationships between team members.

Level 5

Forms, maintains and leads workgroups and individuals to achieve organisational objectives.

Determines and delegates objectives and task responsibilities to individuals or teams — including people management responsibilities as appropriate. Sets the quality, performance and capability targets in line with organisational goals. Monitors performance and working relationships and provides effective feedback to address individual issues.

Encourages individual development of skills and capabilities in line with team and personal goals. Facilitates the development of individuals by adjusting workload, targets, and team capacity.

Plays an active role in formal organisational processes such recruitment, reward, promotion and disciplinary procedures.

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Level 6

Determines and delegates people management and functional management objectives and responsibilities.

Creates and sets the direction for multiple workgroups to achieve strategic organisational objectives. Sets strategy for quality and performance measurement in line with organisational goals.

Provides a work environment and resources that allow individuals and workgroups to perform their tasks efficiently.

Leads the implementation of formal organisational processes such as recruitment, reward, promotion and disciplinary procedures.

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Employee experience EEXP

Enhancing employee engagement and ways of working, empowering employees and supporting their health and wellbeing.

Guidance notes

Activities may include — but are not limited to:

- providing opportunities for personal growth and learning
- providing sufficient personal freedom to decide how to achieve work objectives, with support available when needed
- supporting different views, working styles and behaviours within the work environment
- providing a safe and secure working environment with the resources needed to do the job
- providing transparent communications and building trust in leadership
- providing a holistic approach in support of mental and physical well being.

Note that the term employee is not limited to specific terms of employment. Depending on the employer it may include temporary and contract staff as well as salaried employees.

Level 4

Supports assigned co-workers in areas of uncertainty, such as, organisational contacts, communication channels, processes, job expectations and manager relations.

Level 5

Implements working practices that motivate employees and support their health and wellbeing.

Provides guidance to individuals on long-term development goals and career opportunities, considering an individual's strengths and preferences.

Communicates business direction, policy and purpose where these may drive or affect employee engagement. Ensures clear communication of delegated tasks and provides sufficient autonomy to motivate and empower individuals.

Maintains awareness of the physical and emotional welfare of employees, and provides counselling when required.

Level 6

Leads on the implementation of organisational strategies for employee engagement.

Ensures that managers provide a productive working environment that motivates employees and supports their health and wellbeing.

Initiates productive working practices for remote, virtual and onsite working and ensures the availability of support for employees.

Communicates and promotes policies for employee health and wellbeing.

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Organisational facilitation OFCL

Supporting workgroups to implement principles and practices for effective teamwork across organisational boundaries and professional specialisms.

Guidance notes

Activities may include — but are not limited to:

- developing and implementing team principles and practices for decision-making, prioritisation, problem-solving
- helping teams adopt new/contemporary working practices and behaviours including — but not limited to — specific agile methodologies, processes, tools and ceremonies
- helping teams plan and prioritise their workload based on their capacity and track record of working
- removing barriers or impediments to teams achieving their mission and objectives
- providing guidance and suggestions to support team members in adopting self-management and cross-functional working
- reviewing team effectiveness — identifying what went well, what could be improved, and what might be added or removed from their working practices.

Workgroups may be focused on project, product or process management or may be focused on a specific problems or deliverables.

Workshop facilitation tools and techniques form part of applying this skill — but are not sufficient. This skill describes a broader set of responsibilities.

Level 4

Facilitates a series of group activities or workshops in situations of complexity and ambiguity and competing stakeholder needs.

Designs a structured sequence of meetings, events or workshops to solve complex problems.

Understands required outcomes and outputs from teams and facilitates the team to deliver these.

Helps to improve team processes and performance in workshops or meetings, events or workshops.

Level 5

Facilitates workgroups to deliver defined goals and outcomes.

Provides support, guidance and suggestions to workgroups and teams to learn collaborative problem solving and improve their team performance. Creates shared responsibilities and sustainable agreements with the team.

Implements and improves agreed team principles, practices, processes & ceremonies.

Recognises and works with the strengths and constraints of team dynamics.

Level 6

Facilitates cross-functional leadership teams to deliver organisational goals and outcomes.

Designs repeatable, systematic or ad hoc team processes for decision-making, prioritisation, and problem-solving at the highest level. Guides leadership teams in developing shared responsibilities and making decisions that enable sustainable agreements.

Asks questions and raises awareness of leadership team performance. Provides suggestions to encourage teams to learn and improve how they work together.

Champions the development of self-organising workgroups across the organisation.

Professional development PDSV

Facilitating the professional development of individuals in line with their career goals and organisational requirements.

Guidance notes

Activities may include — but are not limited to:

- negotiating, reviewing, monitoring and validating each individual's professional development plans
- providing professional development advice and support for individuals
- identifying appropriate learning and development or career-enhancing activities
- liaising with internal and external providers of learning and development
- adopting a suitable framework for skills, knowledge and competencies such as SFIA
- adopting or defining professional career pathways
- creating accreditation and qualification approaches or adopting industry frameworks
- evaluating the benefits of continual professional development activities.

Level 4

Assists practitioners with creating personal development plans.

Advises on suitable development activities such as specific learning or experience to be gained.

Monitors practitioners' continuing professional development records.

Ensures achievements and enhanced capabilities are recorded and referenced to personal and organisational objectives.

Level 5

Determines development needs for a professional practice area.

Aligns development activities with organisational priorities, learning and development strategies and career pathways.

Assists practitioners with the creation of development plans. Advises and supports assigned practitioners, ensuring alignment with professional development plans and career opportunities.

Ensures that practitioners record evidence of continuing professional development. May contribute to practitioners' performance appraisals.

Level 6

Develops and defines a professional development framework for one or more professional disciplines.

Determines and maintains organisational development needs in line with business needs and strategic direction. Generates development strategies to achieve required change.

Develops and leads communities of practice, including defining career pathways.

Defines the approach to identifying suitable individuals to provide career advice and support. Monitors progress and evaluates business benefits achieved from continual professional development.

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Workforce planning WFPL

Estimating the demand for people and skills and planning the supply needed to meet that demand.

Guidance notes

Activities may include — but are not limited to:

- assessing the current state of the workforce
- identifying the workforce required for current and future activities
- adopting or developing a skills and capabilities framework
- developing plans to close gaps between current state and future state using actions such as — but not limited to — external recruitment, internal development, re-skilling, sourcing external partners, organisational design, outplacement
- influencing organisational policies and practices to align recruitment, learning, promotion and recognition and reward to support the development of an inclusive and diverse workforce
- ensuring compliance with relevant statutory or external regulations and codes of practice.

Level 4

Gathers, maintains and analyses workforce capability data.

Performs gap analysis to identify workforce strengths and shortfalls with reference to business strategy and specific future needs.

Contributes to the development of workforce plans to meet current and future demand.

Coordinates and schedules ongoing workforce planning activities. Assists in maintaining a skills and capability inventory.

Level 5

Leads the development of workforce plans to ensure the availability of appropriately skilled resources to meet organisational objectives and commitments.

Contributes to the development of the workforce planning approach. Oversees and reviews the implementation of workforce plans.

Develops current-state assessment of workforce skills, capabilities and potential. Forecasts future workforce demand for skills based on business plans and external factors.

Maintains a skills and capability inventory and identifies options for closing gaps.

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Level 6

Defines the workforce planning approach for a significant part of the organisation in line with strategic business goals.

Communicates the workforce planning approach and obtains organisational commitment. Selects frameworks to be used for the organisation's skills and capability inventory.

Interprets business strategy to direct workforce demand forecasting (skills and numbers) for the organisation. Monitors the external environment in relation to supply and emerging trends.

Influences people management policies and practices to align with workforce plans. Integrates with resourcing strategies and plans. Monitors execution of workforce plans

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Resourcing RESC

Acquiring, deploying and onboarding resources.

Guidance notes

Resources include — but are not limited to — salaried employees, temporary staff, consultants and contractors. Resourcing may be undertaken for departments, teams, projects, or individual roles.

Activities may include — but are not limited to:

- recruiting, selecting, deploying, onboarding and transitioning resources
- assessing candidates using methods such as — but not limited to — interviews, assessment centres, CV/resume review, tests, exercises
- ensuring compliance with relevant statutory or external regulations and codes of good practice
- measuring the effectiveness of resourcing approaches using methods such as — but not limited to — retention analysis, media and supplier assessment, customer satisfaction and validation of selection methods.

Level 3

Supports managers and teams in resourcing and recruitment activities.

Uses recommended tools for planning, scheduling and tracking resourcing activity.

Provides guidance on resource management and recruitment software, procedures, processes, tools and techniques.

Level 4

Facilitates and supports the execution of resourcing activities in collaboration with managers and teams.

Analyses resource requests to determine tasks, skills and effort required. Creates and communicates open positions internally and externally. Conducts interviews and assessments using a planned format and structure.

Implements internal resource allocation matching skills to tasks. Contributes to transitioning of resources, complying with relevant statutory or external regulations and codes of practice.

Level 5

Plans and manages the acquisition and deployment of resources to meet specific needs and ongoing demand.

Defines and manages the implementation of resourcing processes and tools. Advises on available options and customises resourcing approach to meet requirements. Adheres to standards, statutory or external regulations and codes of practice and ensures compliance.

Engages with external parties in support of resourcing plans.

Measures effectiveness of resourcing processes and implements improvements.

Level 6

Defines the resourcing approach for a significant part of the organisation in line with workforce plans and strategic business goals.

Communicates the resourcing approach and obtains organisational commitment. Advises on standards, statutory or external regulations and codes of practice and ensures compliance.

Maintains a strong external network and supplier framework to support sourcing and acquiring resources.

Leads the development of plans and budget to ensure that the organisation has appropriately skilled resources to meet organisational objectives and commitments. Reviews the ongoing success and effectiveness of resource management processes.

Learning and development management ETMG

Delivering management, advisory and administrative services to support the development of knowledge, skills and competencies.

Guidance notes

Activities may include — but are not limited to:

- developing the full range of professional, business or technical capabilities required by the organisation
- developing learning and development strategies and policies
- identifying appropriate learning and development solutions, accreditations and qualifications
- selecting, tailoring and adopting skills and competency frameworks
- selecting and operating learning management systems
- administering, documenting, tracking, reporting on learning and development activities.

Level 3

Contributes to the maintenance of training records and the catalogue of learning and development resources.

Level 4

Contributes to the development and maintenance of a catalogue of learning and development resources.

Uses data to analyse and evaluate the effectiveness of learning/educational activities.

Books and organises learning events.

Updates and controls training records, including attainment of certificates and accreditations.

Level 5

Manages the provision of learning and development, ensuring optimum use of resources.

Maintains, publicises and promotes a catalogue of learning and development activities. Ensures that courses are up to date and accredited (when required).

Arranges facilities and schedules with learning and development providers as appropriate.

Uses data to assess and improve the effectiveness of learning or educational activities.

Level 6

Determines the learning and development programme and delivery mechanisms needed to grow staff skills in line with business needs.

Identifies appropriate accreditation and qualification paths applicable to individuals within the organisation.

Evaluates learning outcomes.

Manages the development and provision of all learning, taking account of the strategic aims of the employing organisation.

Level 7

Directs the development and implementation of a learning and development strategy for the organisation aligned to business needs.

Leads the provision of learning and development expertise, guidance and systems needed to execute strategic and operational plans.

Secures organisational resources to execute the learning and development strategy.

Identifies opportunities for strategic relationships with suppliers and partners.

Learning design and development TMCR

Designing and developing resources to transfer knowledge, develop skills and change behaviours.

Guidance notes

Includes instructional design, content development, configuration and testing of learning environments, and use of appropriate current technologies such as audio, video, simulation and assessment.

Scope includes learning and development activities for the workplace, for all levels of education and blended models such as apprenticeships and work placements.

Activities may include — but are not limited to:

- specifying, designing, creating, packaging and maintaining materials and resources
- assimilating information from existing sources
- selecting and presenting material in a form suitable to the intended purpose and audience
- securing third-party accreditation
- creating simulated data, replicating external systems, interfaces and assessment systems for simulated learning environments.

Level 3

Designs, creates, customises and maintains learning materials and resources to deliver agreed outcomes, and meet accreditation requirements when appropriate.

Contributes to the design, configuration and testing of learning environments.

Level 4

Specifies the content and structure of learning and development materials.

Takes responsibility for design, creation, packaging and maintenance and manages development to deliver agreed outcomes.

Where required, designs, configures and tests learning environments.

Secures external accreditations as appropriate.

Level 5

Specifies solutions for use in learning and development programs in the workplace or in compulsory, further or higher education.

Commissions the development of learning materials, allocates resources to learning teams, defines learning outcomes.

Leads learning programs, recommends and specifies learning interventions for design, development and deployment according to agreed learning outcomes.

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Learning delivery ETDL

Transferring knowledge, developing skills and changing behaviours using a range of techniques, resources and media.

Guidance notes

Learning delivery uses a range of techniques, resources and media including — but not limited to — face-to-face learning, e-learning, on-line virtual environments, field-work and projects, self-assessment, peer-assisted learning, simulation.

Typically a blend of techniques will be used which can incorporate both formal and informal learning activities.

Learning delivery includes promoting professional attitudes in order to facilitate learning and development.

Level 2

Performs a range of learning activities under direction to support the delivery of learning objectives.

Assists in the preparation of learning environments.

Observes learners performing practical activities and work, providing assistance within routine enquiries and escalating where needed.

Level 3

Delivers learning activities to a variety of audiences using prepared materials to meet established learning objectives.

Uses established guidelines for the preparation of the environment. Assists with the development and maintenance of examples and case study materials.

Appropriately uses a range of learning delivery techniques to enable learners to develop skills, capability, techniques and required knowledge.

Observes learners performing practical activities and work. Advises and assists where necessary. Provides detailed instruction where necessary and responds to questions, seeking advice in exceptional conditions beyond own experience.

Level 4

Prepares and delivers learning activities for a variety of audiences to meet learning objectives.

Contributes to the design and selection of appropriate environments. Effectively uses a broad range of learning delivery techniques to enable learners to develop skills, capability, techniques and required knowledge. Develops and updates examples and case study materials.

Observes and evaluates learners performing practical activities and work. Advises and assists learners to enable the delivery of learning objectives. Tailors the approach to learning delivery to enhance the experience of learners.

Provides detailed instruction as necessary and responds to detailed questions in own area of specialisation. Adapts materials to meet the needs of learners.

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Level 5

Manages the delivery of programmes of learning to ensure learning objectives are met.

Plans and schedules the delivery of learning activities. Leads the design and selection of appropriate environments to support and enhance the learning experience. Customises learning activities incorporating relevant scenarios and case studies.

Delivers learning activities to specialist audiences requiring the application of advanced technical and professional principles to unpredictable situations. Advises others in learning delivery techniques and options.

Evaluates and monitors the performance of learning delivery activities.

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Competency assessment LEDA

Assessing knowledge, skills, competency and behaviours by any means, whether formal or informal, against frameworks such as SFIA.

Guidance notes

Assessments may be performed in many contexts such as — but not limited to — recruitment, career progression, professional development planning or accreditation/certification.

Activities may include — but are not limited to:

- evaluating and selecting assessment options
- adopting or adapting assessment methods, tools, and techniques
- taking into account the context of the assessment and how the results of the assessment will be used
- aligning assessments with ethical, legal and regulatory requirements.

Ethical, legal and regulatory requirements are necessary to ensure the integrity of assessments and when handling personal data.

Level 3

Performs routine assessments of knowledge, skill, competency or behaviour using specified methods.

Level 4

Performs routine and non-routine assessments of knowledge, skill, competency or behaviour using specified methods.

Provides advice and guidance to support the adoption of assessment methods and tools.

Moderates assessments conducted by other assessors.

Reviews and improves usage and application of assessment methods and tools.

Level 5

Provides advice and guidance on the selecting, adopting and adapting assessment methods, tools and techniques.

Plans assessments based on the context of the assessment and how assessment results will be used.

Manages execution of assessments to ensure they deliver the required outcomes with acceptable quality. Monitors and moderates reviews performed by other assessors.

Manages reviews of the benefits and value of assessment methods and tools. Identifies and recommends improvements to assessment methods and tools.

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Level 6

Champions the importance and value of assessment and appropriate assessment methods, tools and techniques.

Develops organisational policies, standards, and guidelines for assessments.

Leads in the introduction and use of assessment methodologies and tools. Establishes an assessment practice and pool of assessors within the organisation.

Establishes quality assurance to ensure internal and/or external consistency and reliability of assessment outcomes. Ensures the quality of assessments across different user groups.

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Certification scheme operation CSOP

Designing, developing and operating certification schemes, accreditations and credentials, including digital credentials or badges.

Guidance notes

The overall purpose of certification of persons is to recognise an individual's competence to perform a task or job or determine whether they have met some knowledge criteria.

Knowledge and competence are different and the two terms should not be confused. A certification body has the responsibility to ensure that only people who demonstrate competence are awarded competence certification.

Certification of people provides value through public confidence and trust. Public confidence relies on a valid assessment of competence by a third party, reconfirmed at defined intervals. The certification body should act responsibly to provide confidence to interested parties in its competence, impartiality and integrity.

Activities may include — but are not limited to:

- verifying on request whether an individual holds a currently valid certificate and the scope of that certification, except where the law prevents the information from being disclosed
- documenting security policies and procedures, including non-disclosure or other agreements not to release confidential examination materials or participate in fraudulent practices
- implementing arrangements for certified persons to inform the certification body of anything affecting capability to continue meeting certification requirements.

Level 2

Processes applications for certification. Logs complaints.

Level 3

Issues certifications or credentials and maintains and retains certification records.

Maintains information on the certification scheme and a general description of the certification process.

Designs, creates, develops, customises and maintains credentials or certificates.

Responds to public information requests. Analyses and takes action on complaints or issues.

Level 4

Documents instructions for all personnel involved in certification, including legally enforceable agreements with any third parties involved in the process.

Identifies threats to impartiality by analysing, mitigating or eliminating potential conflict of interests arising from certification activities.

Implements the procedures for certification of individuals for the delivery of training.

Determines the merits of complaints and any remedial actions required.

Level 5

Defines a certification or accreditation scheme, including organisation structure, duties, responsibilities and authorities.

Determines necessary competence to perform certification functions. Designs and implements the examiner or assessor selection and approval process.

Monitors performance and judgements, and agrees corrective actions. Plans and provides adequate premises, equipment and resources.

Documents policies and procedures for maintenance and release of information, including consideration of any legal agreements for confidentiality.

Level 6

Sets policies and standards for the operation of a certification scheme, including segregation of duties and addressing impartiality.

Develops and maintains a description of the code of ethics and professional practices required.

Aligns certification schemes with relevant external standards, frameworks such as SFIA and best practices.

Obtains approval from accreditation scheme owners or governance bodies.

Teaching TEAC

Delivering and assessing curricula in a structured and systematic education environment.

Guidance notes

Teaching focuses on:

- developing an understanding of the principles, approaches and practices that underpin a specified topic or knowledge area
- the methods, techniques and practice of teaching (pedagogy).

This skill is generic and can be applied to the teaching of any topic or knowledge area. In the context of the SFIA framework — this includes:

- the topics and knowledge areas supporting any of the skills described in the SFIA framework
- and the application of these topics and knowledge areas to other disciplines and practices.

In the context of computing and IT curricula – the topics addressed are typically:

- common digital skills needed to safely benefit from, participate in and contribute to the digital world for everyday life and work
- fundamental and more advanced aspects of specific topics and knowledge areas including emerging technologies and new applications for existing technologies
- the ideas of computational thinking and the application of computational concepts to everyday life and professional working practices.

Level 2

Contributes to the delivery of aspects of computing and IT curricula in a formal educational context.

Applies good practice in learning content design, development and delivery.

Assesses student performance in aspects of a curriculum area, providing support to enhance student understanding as needed.

Level 3

Delivers the majority of a curriculum.

Applies good practice in learning content design, development and delivery. Maintains awareness of relevant pedagogical and domain research.

Assesses student performance across a curriculum. Provides feedback and support to help students improve their understanding.

Level 4

Delivers a curriculum.

Applies good practice supported by pedagogical research to learning content design, development and delivery.

Assesses student performance and reviews cohort performance. Advises and assists students to enable the achievement of learning objectives.

SFIA 8: The framework reference | Skills

Level 5

Leads the teaching and assessment of a curriculum or learning pathway.

Implements enhancement strategies for teaching and assessment. Reviews pedagogical research and practices relevant to topics in the curricula. Applies good teaching practices in learning content design, development and delivery.

Contributes to the development and implementation of specialist teaching practices needed by the curriculum.

Evaluates and monitors student achievements and the effectiveness of teaching activities across the curriculum. Advises on the use of appropriate pedagogies and assessment approaches.

Level 6

Leads the teaching, assessment and enhancement of a range of curricula or learning pathways.

Reviews and critically evaluates pedagogical research and practices relevant to the curricula. Develops and leads the introduction of advanced or specialist teaching practices.

Leads and supports others in the development of good practice in learning content design, development and delivery.

Monitors, evaluates and reports the performance of teaching and assessment activities within their areas of responsibility.

Level 7

Authorises teaching, assessment and enhancement strategies for a broad range of curricula or learning pathways.

Directs the definition, implementation, and monitoring of teaching to satisfy relevant statutory and professional benchmarks and frameworks.

Secures resources to deliver the organisation’s teaching commitments.

Monitors and evaluates relevant domain and pedagogical research to identify and implement improvements to the delivery of the curricula.

Subject formation SUBF

Specifying, designing and developing curricula within a structured and systematic education environment.

Guidance notes

Subject formation focuses on:

- developing curricula to support the development of understanding of the principles, approaches and practices that underpin specific topics and knowledge areas
- incorporating significant emerging technologies and techniques for which current students need to be prepared.

The scope may include curricula for formal education or for independent examination bodies.

This skill is generic and can be applied to curriculum design and development for any topic or knowledge area. In the context of the SFIA framework — this includes:

- the topics and knowledge areas that support any skills described in the SFIA framework
- and the application of these topics and knowledge areas to other disciplines and practices.

In the context of computing and IT curricula — the topics addressed are typically:

- common digital skills needed to safely benefit from, participate in and contribute to the digital world for everyday life and for work
- fundamental and more advanced aspects of specific topics and knowledge areas including emerging technologies and new applications for existing technologies
- the ideas of computational thinking and the application of computational concepts to everyday life and professional working practices.

Level 4

Contributes to curriculum development by selecting or specifying curriculum content or assessment approaches for one or more specialist areas.

Level 5

Contributes to the specification and development of curricula and assessment in an educational context or for an independent examination body.

Level 6

Leads the specification and development of curricula and assessment in an educational context or for an independent examination body.

Contributes to the development of a strategy for curriculum evolution.

Ensures that relevant current domain research is represented in the curricula.

Level 7

Authorises the curriculum and assessment strategies for a broad range of curricula or learning pathways.

Directs the definition, implementation, and monitoring of curricula to satisfy relevant statutory and professional benchmarks and frameworks.

Develops strategies for the evolution of curricula over time. Incorporates emerging domain and pedagogical themes into plans for future curricula.

Sourcing SORC

Managing, or providing advice on, the procurement or commissioning of products and services.

Guidance notes

Activities may include — but are not limited to:

- providing policies and standards for procurement
- commercial governance, compliance to legislation and assurance of information security
- implementing compliant procurement processes, taking full account of the issues and imperatives of both the commissioning and supplier sides
- clarifying requirements for products and services
- identifying, evaluating and selecting suppliers
- evaluating tenders
- developing “build or buy” criteria
- evaluating and purchasing cloud-based services
- benchmarking supplier performance
- placing, monitoring and terminating contracts.

Level 2

Assists in the preparation of pre-qualification questionnaires and tender invitations in response to business cases.

Assembles relevant information for tenders.

Produces detailed evaluation criteria for simple tender criteria.

Assists in the evaluation of tenders.

Level 3

Prepares pre-qualification questionnaires and tender invitations in response to business cases.

Recognises the difference between open source and proprietary systems options.

Applies standard procedures and tools to produce detailed evaluation criteria for complex tenders and to evaluate tenders.

Level 4

Reviews business cases (requirements, potential benefits and options) and determines appropriate procurement routes.

Using market knowledge to inform specifications, ensures detailed pre-qualification questionnaires and tender invitations are prepared.

Collects and collates data to support collaboration and negotiates terms and conditions to reflect the scale of requirements and encourage good performance.

Evaluates tenders based on specification and evaluation criteria, prepares acceptance documentation and advises on contracts and service level agreements.

SFIA 8: The framework reference | Skills

Level 5

Plans and manages procurement activities.

Manages tender, evaluation and acquisition processes. Researches suppliers and markets, and maintains a broad understanding of the commercial environment, to inform and develop commercial strategies and sourcing plans.

Advises on the business case for alternative sourcing models. Advises on policy and procedures covering tendering, the selection of suppliers and procurement.

Negotiates with potential partners and suppliers, developing acceptance criteria and procedures. Drafts and places contracts.

Level 6

Develops policy and procedures for sourcing and procurement activities.

Establishes procurement strategies, standards, methods, processes and good practices that ensure compliance with legislation, regulation and third-party information security.

Leads the procurement process, from clarifying requirements through to placing, monitoring and terminating contracts.

Identifies external partners, engaging with professionals in related disciplines as appropriate. Ensures that terms and conditions are aligned with current legislation and policy.

Level 7

Determines overall strategies for managing supplier relationships, embracing effective operational relationships at all levels.

Takes overall responsibility for sourcing and procurement activities.

Develops, deploys and reviews acquisition processes.

Negotiates major contracts.

Supplier management SUPP

Aligning the organisation's supplier performance objectives and activities with sourcing strategies and plans, balancing costs, efficiencies and service quality.

Guidance notes

Activities may include — but are not limited to:

- establishing working relationships based on collaboration, trust, and open communication
- encouraging co-innovation and service improvement with suppliers
- proactively engaging suppliers for mutual benefit to resolve operational incidents, problems, poor performance and other sources of conflict
- implementing supplier management practices to support cloud-based services
- implementing clear escalation paths for discussing and resolving issues
- managing performance and risks across multiple suppliers (internal and external) using a set of agreed metrics
- ensuring compliance to legislation
- commercial governance and supply chain management
- managing risks associated with security, continuity and integrity of supply
- implementing policies for selection of suppliers and bench-marking supplier performance.

Level 2

Assists in the collection and reporting of supplier performance data.

Assists with the routine day-to-day communication between the organisation and suppliers.

Level 3

Acts as the routine contact point between the organisation and suppliers.

Supports resolution of supplier-related incidents, problems, or unsatisfactory performance.

Collects and reports on supplier performance data.

Level 4

Collects supplier performance data and investigates problems.

Monitors and reports on supplier performance, customer satisfaction, adherence to security requirements and market intelligence. Validates that suppliers' performance is in accordance with contract terms.

Engages proactively and collaboratively with suppliers to resolve incidents, problems, or unsatisfactory performance.

Implements supplier management-related service improvement initiatives and programmes.

SFIA 8: The framework reference | Skills

Level 5

Manages suppliers to meet key performance indicators and agreed targets.

Manages the operational relationships between suppliers and ensures potential disputes or conflicts are raised and resolved.

Performs bench-marking and makes use of supplier performance data to ensure that performance is adequately monitored and regularly reviewed. Use suppliers' expertise to support and inform development roadmaps.

Manages implementation of supplier service improvement actions. Identifies constraints and opportunities when negotiating or renegotiating contracts.

Level 6

Develops organisational policies, standards, and guidelines to ensure effective supplier management across the integrated supply chain.

Defines the approach for commercial communications and the management of relationships with suppliers. Establishes a positive and effective working environment with suppliers for mutual benefit.

Ensures that resources and tools are in place to conduct bench-marking. Reviews supplier analysis and assesses effectiveness across the supply chain.

Manages risks and assures the quality of the services delivered by suppliers.

Level 7

Determines overall supplier management strategy, embracing effective management and operational relationships at all levels.

Leads collaborative supplier partnerships.

Aligns supplier performance objectives and relationship management activities with business and commercial objectives and sourcing strategies.

Establishes a framework for supplier governance and to monitor the service provided and deliver commercial value from contracts. Represents the organisation in commercially significant disputes involving suppliers.

Contract management ITCM

Managing and controlling the operation of formal contracts for the supply of products and services.

Guidance notes

Activities may include — but are not limited to:

- managing contract creation, execution, and analysis
- recommending actions to optimise financial and operational performance and minimise risk
- contract management for cloud-based services.

Level 3

Acts as a routine contact point between the organisation and suppliers concerning contract management.

Supports the collection of contract performance data. Creates standard reports on contract performance.

Level 4

Sources and collects contract performance data (such as pricing and supply chain costs), and monitors performance against key performance indicators.

Monitors progress against business objectives specified in the business case. Proactively manages risk and reward mechanisms in the contract.

Identifies and reports under-performance and develops opportunities for improvement. Monitors compliance with terms and conditions and takes appropriate steps to address non-compliance.

Identifies where change is required, and plans for variations. Ensures, in consultation with stakeholders, that change management protocols are implemented.

Level 5

Oversees and measures the fulfilment of contractual obligations.

Uses key performance indicators to monitor and challenge performance and identify opportunities for continual improvement. Develops strategies to address under-performance and compliance failures, including the application of contract terms.

Identifies where changes are required, evaluates the impact, and advises stakeholders about the implications and consequences. Negotiates variations and seeks appropriate authorisation.

Actively supports and engages with experts and stakeholders to ensure continual improvements are identified through review and benchmarking processes. Develops and implements change management protocols.

Level 6

Negotiates and resolves contractual issues, including failure to meet contractual obligations.

Promotes change control processes and leads variation negotiations when necessary. Champions continual improvement programmes, jointly developing strategies and incentives to enhance performance. Undertakes comprehensive financial evaluations.

Ensures non-discriminatory behaviour and legal compliance. Ensures that lessons learned from reviews are documented and promoted to all stakeholders.

Develops broad industry/category credentials as best practice champion.

Stakeholder relationship management RLMT

Influencing stakeholder attitudes, decisions, and actions for mutual benefit.

Guidance notes

Activities may include — but are not limited to:

- identifying stakeholders and analysing the relationships
- agreeing on mutually beneficial outcomes
- managing, monitoring and improving stakeholder relationships
- determining the relationship management approach to take — including roles and responsibilities, governance, policies, processes, tools and support mechanisms
- getting commitment to action through consultation and consideration of impacts.
- combining formal and informal communication channels to achieve the desired result
- operational management of stakeholder relationships and communications.

The focus of this skill is a systematic and planned approach. This skill is not intended for general communication and developing productive working relationships. Those factors are described in SFIA's generic attributes and levels of responsibility.

Level 4

Deals with problems and issues, managing resolutions, corrective actions, lessons learned, and the collection and dissemination of relevant information.

Implements stakeholder engagement/communications plan. Collects and uses feedback from customers and stakeholders to help measure the effectiveness of stakeholder management.

Helps develop and enhance customer and stakeholder relationships.

Level 5

Identifies the communications and relationship needs of stakeholder groups. Translates communications/stakeholder engagement strategies into specific activities and deliverables.

Facilitates open communication and discussion between stakeholders.

Acts as a single point of contact by developing, maintaining and working to stakeholder engagement strategies and plans. Provides informed feedback to assess and promote understanding.

Facilitates business decision-making processes. Captures and disseminates technical and business information.

SFIA 8: The framework reference | Skills

Level 6

Leads the development of comprehensive stakeholder management strategies and plans.

Builds long-term, strategic relationships with senior stakeholders (internal and external). Facilitates the engagement of stakeholders in support of the delivery of services and change projects. Acts as a single point of contact for senior stakeholders, facilitating relationships between them.

Negotiates to ensure that stakeholders understand and agree on what will meet their needs, and that appropriate agreements are defined.

Oversees monitoring of relationships including lessons learned and appropriate feedback. Leads actions to improve relations and open communications with and between stakeholders.

Level 7

Determines the strategic approach to understanding stakeholder objectives and requirements.

Works with all interested parties to identify stakeholders and establish effective relationships. Establishes and promotes the overall vision for how stakeholder objectives are met and determines organisational roles and alignment.

Actively manages relationships with the most senior stakeholders, and is the ultimate escalation point for issue resolution.

Customer service support CSMG

Managing and operating customer service or service desk functions.

Guidance notes

Customer service support can be managed and delivered through various channels including — but not limited to — teams of people in a single location, virtual teams of people in many locations, automated technology and service bots.

Activities may include — but are not limited to:

- managing customer service functions and teams
- acting as a point of contact for users and customers
- responding to reported issues
- handling requests for information
- handling requests for access to applications, systems, services
- responding to service requests.

Level 1

Receives and handles requests for service, following agreed procedures.

Promptly allocates calls as appropriate.

Logs incidents and service requests and maintains relevant records.

Level 2

Responds to common requests for service by providing information to enable fulfilment.

Promptly allocates unresolved calls as appropriate.

Maintains records, informs users about the process and advises relevant persons of actions taken.

Level 3

Acts as the routine contact point, receiving and handling requests for support.

Responds to a broad range of service requests for support by providing information to fulfil requests or enable resolution.

Provides first line investigation and diagnosis and promptly allocates unresolved issues as appropriate.

Assists with the development of standards, and applies these to track, monitor, report, resolve or escalate issues. Contributes to creation of support documentation.

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Level 4

Monitors service delivery channels and collects performance data.

Assists with the specification, development, research and evaluation of service standards.

Applies these standards to resolve or escalate issues and gives technical briefings to staff members.

Level 5

Responsible for day-to-day management, resource planning and work allocation to meet agreed service levels.

Specifies, agrees and applies standards. Ensures that service delivery is tracked and monitored, metrics and reports are analysed, and issues are resolved.

Drafts and maintains policy, standards and procedures for the customer service or service desk functions.

Ensures that the catalogue of services that can be requested and that are supported is complete and up-to-date.

Level 6

Influences the strategic direction and takes responsibility for the full range of customer service functions.

Defines service channels, service levels, standards and the monitoring process for customer service or service desk staff. Champions the service culture required to deliver organisational outcomes.

Leads the development and implementation of organisational frameworks for complaints, service standards and operational agreements.

Takes responsibility for business continuity and legal, regulatory and contractual compliance.

Business administration ADMN

Managing and performing administrative services and tasks to enable individuals, teams and organisations to succeed in their objectives.

Guidance notes

Basic administration tasks may include — but are not limited to — answering telephones, dealing with business correspondence, calling clients, customers and colleagues, greeting visitors, e-mail, filing, using digital tools to organise team meetings, making arrangements for travel and meetings, dealing with relevant suppliers.

Management-level business administration tasks focus on planning, managing and coordinating the activities of individuals and teams to enable them to achieve their objectives.

Level 1

Performs routine administration activities in a structured environment.

Follows clear procedures and uses standard digital tools.

Stores and files information following agreed procedures.

Makes simple travel and meeting arrangements.

Level 2

Assists with administrative tasks for a team.

Organises meetings and travel within standard guidelines.

Maintains team filing and administration systems.

Acts as a touchpoint for internal and external contacts.

Level 3

Provides administrative support function to teams and meetings.

Takes an active part in team meetings.

Sets up files, software systems, onboarding new starters, compiles and distributes reports. Provides guidance on administration software, procedures, processes, tools and techniques.

Level 4

Assists the team/manager in ensuring they have the information needed to support ongoing team processes.

Assists in planning for meetings.

Sets up and provides detailed guidance on software, procedures, processes, tools and techniques for administration and workplace productivity.

Liaises and organises across functions. Updates and maintains office policies and procedures

SFIA 8: The framework reference | Skills

Level 5

Manages the delivery of business administration services.

Manages time and diary for individual senior managers and leadership teams. Filters and prioritises meeting requests.

Handles sensitive, confidential information.

Ensures managers have the information and resources needed to support ongoing processes and changes in processes.

Level 6

Leads and coordinates strategic initiatives working across departmental or functional boundaries.

Designs the timetable of executive-level meetings and forums. Sets agenda, format and desired outcomes for meetings.

Provides direction and receives progress updates from members of an executive team. Meets collectively or individually with members of a leadership management team to follow up on action points, issues and risks. Reports on progress and resolves issues.

Manages highly sensitive and confidential issues and information.

Marketing MKTG

Researching, analysing and stimulating potential or existing markets for products and services.

Guidance notes

Activities may include — but are not limited to:

- supporting business development
- generating a satisfactory flow of customer enquiries
- developing and managing marketing strategies, campaigns and day-to-day marketing activity delivered through appropriate channels
- market segmentation
- approaches for developing and supporting customer loyalty.

Level 2

Collects and monitors results of marketing activities.

Assists in market research and data collection providing summary reports of their findings.

Understands the basic principles of marketing, and tools used by the organisation for planning, implementing and monitoring marketing activities.

Level 3

Leverages market research materials, customer and employee insights and other sources, to identify industry trends, needs and opportunities.

Selects from and uses marketing tools appropriate to the allocated assignment.

Conducts market research. Maintains relevant information, including lessons learned from previous campaigns, and effectiveness measures for current and previous activities.

Contributes to marketing plans, identifying and articulating unique selling points and key messages for marketing material. Presents and communicates at marketing events.

Level 4

Plans and conducts market research to investigate and understand customer and competitor dynamics.

Uses appropriate channels and tools to engage with the desired audience. Uses research and lessons learned to inform marketing plans. Creates unique selling points, and key messages for marketing material.

Makes creative use of elements relevant to both digital and traditional environments, and drafts appropriate support materials.

Analyses the effectiveness of campaigns and services and their impact on audience behaviour and business outcomes. Organises and participates actively in marketing events.

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Level 5

Manages and monitors market research, analysis and the marketing planning process.

Devises and manages marketing campaigns within specified budgets to meet specified objectives. Advises on brand management and promotion of corporate reputation.

Plays an active role in promoting engagement of staff and business partners. Produces marketing materials and stages events.

Finds innovative solutions to marketing problems. Uses experience and data to make recommendations to senior management. Reviews and reports on the effectiveness of marketing approaches and services and their impact on business outcomes.

Level 6

Determines and oversees the overall marketing strategy for the organisation to meet its business objectives.

Provides oversight of all marketing plans and directs the marketing planning process.

Evaluates and responds to key factors relating to the implementation, measurement and review of successful campaigns.

Assesses the current and future capability needed by the marketing function.

Selling SALE

Finding prospective customers and working with them to identify needs, influence purchase decisions and enhance future business opportunities.

Guidance notes

Activities may include — but are not limited to:

- identifying and qualifying sales prospects
- prospecting and outreach to potential customers using appropriate channels
- developing customer interest, building rapport and trust
- asking questions about goals and challenges and finding a solution
- preparing, executing and monitoring the sale of products or services into an external or internal market
- bid management, value analysis, negotiation, sales presentations, closing the sale, preparation of contracts.

Level 3

Identifies new leads and prospects and communicates them to the sales manager.

Responds to assigned sales leads.

Applies agreed standards and tools to perform simple sales tasks or support complex sales processes.

Monitors and reports on assigned sales quota, performance, customer satisfaction, market intelligence and competitors.

Level 4

Identifies and qualifies new sales leads and prospects with a view to developing a pipeline of potential opportunities.

Manages existing sales leads.

Collects and uses information in order to achieve sales objectives.

Understands customers and their needs, and develops and enhances customer relationships before, during and after the conclusion of agreements/contracts.

Level 5

Designs and implements sales strategies and works with senior management to implement sales plans.

Develops and maintains effective customer relationships at executive levels and qualifies new sales leads.

Leads the bid process within the organisation. Agrees and signs contracts. Maintains customer contact during and after the selling process to pre-empt any issues and identify further opportunities.

Plans, monitors and controls the work of sales teams. Contributes to the development and training of sales teams and product/service development.

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Level 6

Oversees the organisation's sales activities to ensure they are aligned with business objectives.

Approves sales proposals and targets. Develops and implements organisational sales policy and strategy, and contributes significantly to the development of marketing strategy.

Negotiates with customer representatives at the most senior level on both technical and contractual issues. Agrees and signs contracts.

Collaborates on the evolution of services, products systems, and standard contracts to support alignment with future customer needs.

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Sales support SSUP

Providing advice and support to the sales force, customers and sales partners.

Guidance notes

Sales support can be delivered to a range of roles — such as but not limited to — the sales force, sales agents, reseller/distributor staff and existing or prospective customers.

This skill includes the provision of technical advice and assistance either in support of customer development or sales activity or in fulfilment of sales obligations.

Level 1

Communicates effectively with customers to provide basic information about products and services.

Seeks assistance from colleagues for the resolution of more complex customer service queries and complaints.

Uses databases to retrieve and enter data.

Level 2

Communicates effectively with customers by telephone and in person.

Assists in providing customer service, including technical advice and guidance on the successful use of products and services.

Assists in devising solutions to customer requirements and solves straightforward problems.

Level 3

Helps customers to clarify their requirements and documents the conclusions reached.

Contributes to preparing and supporting bids and sales proposals.

Provides customer service, including technical advice and guidance on the successful use of complex products and services.

Level 4

Works closely with the sales team to help prospects to clarify their needs and requirements.

Devises solutions and assesses their feasibility and practicality.

Demonstrates technical feasibility using physical or simulation models. Resolves technical problems.

Produces estimates of cost and risk and initial project plans to inform sales proposals.

Level 5

Works closely with the sales team to ensure that customers are assisted and advised appropriately.

Ensures that reliable cost, effort and risk estimates and project plans are produced.

Manages all sales support activities, taking full responsibility for the technical content of bids and sales proposals.

Establishes metrics to provide data on performance and support continual improvement of sales support activities.

Level 6

Leads the organisation's customer service activities to ensure that they are aligned with corporate objectives and policy.

Approves proposals and initiates the implementation of development activity in customer services and systems.

A to Z Skills list

SFIA 8: The framework reference | Skills A-Z

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