About SFIA

The global skills and competency
framework for the digital world

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.

About SFIA

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.

SFIA was formally launched in 2000. Its origin can be traced back to collaborative skills initiatives from the 1980s. The SFIA Foundation was formed as an international not-for-profit foundation that brings together the global community to develop and maintain the SFIA Framework for the benefit of all.

SFIA has become the globally accepted common language for the skills and competencies for the digital world. Within its scope are many of the world's most in-demand occupations, encompassing professionals working in areas such as (but not limited to):

- information and communications technology
- business change
- digital transformation
- data science and analytics
- software engineering
- information and cyber security
- learning and education
- applied computing and computational science
- user centred design
- digital product development, sales and marketing
- human resource and workforce management

SFIA remains a collaboration: it has been regularly updated through a global open consultation process. People with real practical experience of developing and managing skills and competencies in corporate, public sector and educational environments from all around the world, contribute to ensuring SFIA remains relevant and true. It is built by industry and business for industry and business. Many have copied SFIA, been inspired by it or simply choose to map to it so as to promote their own frameworks and products.

It is these features that set SFIA apart from other frameworks and has resulted in its adoption by governments, corporates and individuals in almost 200 countries. Its unique and ongoing success can also be attributed to:

- Built and owned by the global user community
- Global collaborative development
- Global governance and steering boards
- A 20+ year track record of successful use
- Proven sustainability with an established ecosystem and trusted infrastructure
- A neutral approach – it is not aligned to any specific technologies, vendors or professional bodies

SFIA remains free of charge for most non-commercial use

- The SFIA Foundation is a not-for-profit organisation
- There is a modest licence fee for large organisations using SFIA and for organisations that use SFIA for commercial purposes
- The licence fee supports the continued development of the framework and ecosystem support
- Organisations and individuals who contribute a licence fee can be proud that they are helping the continued development of the industry

SFIA – What is it?

SFIA is an easy to use common reference model

SFIA is a practical resource for people who manage or work in or with business and technology professionals who design, develop, implement, manage and protect the data and technology that power the digital world.

SFIA brings together professional skills, behaviours / behavioural factors and knowledge. The behavioural factors are distributed throughout the generic attributes specified for each level of responsibility.

- It provides a framework consisting of professional skills on one axis and seven levels of responsibility on the other.
- It describes the professional skills at various levels of responsibility.
- It describes the levels of responsibility, in terms of generic attributes of Autonomy, Influence, Complexity, Business Skills and Knowledge.

SFIA is updated frequently to remain relevant and aligned with the needs of industry and business and current thinking.

A common language for skills in the digital world

SFIA gives individuals and organisations a common language to define skills and expertise in a consistent way. The use of clear language, avoiding technical jargon and acronyms, makes SFIA accessible to all involved in the work as well as people in supporting roles such as human resources, learning and development, organisation design, and procurement. It can solve the common translation issues that hinder communication and effective partnerships within organisations and multi-disciplinary teams.

This consistency means that SFIA works well for both large and small organisations: they share an approach, a vocabulary, and a focus on skills and capability. SFIA works well across large multi-national organisations and throughout the supply chain to establish a common language for skills and competency management. SFIA is especially beneficial for small and medium-sized enterprises who simply do not have the resources to develop and maintain their own skills and competency framework and yet want to benefit from one.

Why use it?

SFIA has been designed to be completely flexible and to fit seamlessly with a user's established ways of working.

- SFIA does not define a fixed methodology or prescribe organisational structures, roles or jobs: it simply provides clear descriptions of skills and levels of responsibility.
- SFIA can be used across multiple industries and organisational types. It's an ideal framework, whether for individuals, small and large teams, departments or business functions, small and medium-sized enterprises or entire organisations with thousands of employees.

Key design principles

Since its early development, SFIA has maintained a number of design principles. These have persisted throughout all versions of SFIA.

- **SFIA is straightforward, generic and universally applicable.** The breadth of coverage is broad and SFIA is designed to be applicable to all sectors.
- **SFIA is an experience-based framework based on levels of responsibility and skills.** An individual has a particular competency because they have demonstrated that they have a level of responsibility and have demonstrated a number of skills at the levels required in real-world situations. Certifications and qualifications can be aligned to SFIA, but if they only test knowledge they do not indicate experience nor a level of responsibility.

- **SFIA is flexible and works with all organisational structures, job or role designs.** The SFIA skills and levels can be configured flexibly to support all organisational structures. It works for individuals, small and large teams, whole departments or entire organisations with thousands of employees. It can be used to define jobs, roles, people, processes or areas of activity. In addition, the inbuilt flexibility in SFIA supports all organisational models including traditional hierarchical structures, competency centres, resource pools, agile project teams and individual tasks.
- **SFIA defines the essence of skills. SFIA is descriptive, not prescriptive.** It does not define low level tasks nor deliverables as these are highly context dependent.
- **SFIA provides an integrated view of competency.** SFIA recognises levels of responsibility, professional skills, behaviours or attributes, knowledge and qualifications and certifications. It shows how these fit together and how they complement each other.
- **SFIA is independent of technology and approach.** SFIA does not provide a comprehensive list of individual technologies, methods, approaches or technical knowledge – these change rapidly and can be mapped to the underlying SFIA skills and competencies which are more persistent. These attributes can relate to multiple SFIA skills and competencies, depending on how they are used. Roles and jobs needed for specific technologies and working practices such as Cloud, DevOps, Agile, Big Data and digital transformation etc. can be described using a combination of the SFIA skills.
- **SFIA is updated by real practitioners from the international user base.** SFIA is driven by its end users – the content reflects what industry and business want and it is not driven by any single stakeholder group.

Who is it for?

The design and structure of SFIA makes it a flexible resource with a proven track record of being adopted and adapted to support a wide variety of skills and people-management related activities. The following list provides an indication of the current usage of SFIA by different stakeholder groups.

Note that this list is neither exhaustive nor prescriptive, and new uses of SFIA are continually being developed and described by the SFIA community.

Individuals
- assessing current skills and competencies
- identifying future interests, career goals, and planning personal development
- identifying suitable courses, qualifications, and professional memberships
- creating CVs, resumés, and personal skills profiles
- applying for job vacancies which match their skills and experience
- developing high quality, focused, learning and development objectives

Line managers
- resource management and resource deployment
- identifying operational risks in teams and developing succession plans
- measuring current capability and planning for future demand
- creating role profiles and job descriptions supported by skill and skill level definitions

Organisational leaders
- strategic capability planning
- aligning organisational capabilities to technology and business strategies
- planning and implementing transformations and mergers / acquisitions

Human resource professionals

- creating role profiles / job descriptions supported by consistent skill and skill level definitions
- strategic workforce planning, talent management, succession planning, assessment centres
- designing and implementing career families and career pathways
- supporting organisational performance management and personal development processes
- improving employee engagement by supporting careers and professional development

Learning and development professionals

- defining required competency and skills profiles
- creating learning catalogues, blended learning solutions, curriculum, and mixing formal and on the job learning

Operating model and organisation design consultants

- aligning operating models and process roles with required people capabilities
- designing new roles and validating the skills needed to deliver a new operating model
- assessing organisational skill gaps and developing plans to close the gaps

Procurement, supplier management and service providers

- supporting the management of service providers (e.g. for outsourcing, staff augmentation, managed services, education, training, and consultancy services)
- providing a clear and transparent basis for describing capabilities being sought or provided
- using SFIA Rate Cards for like-for-like comparison of resource-based services from suppliers

Recruiters

- specifying required competencies based on having the right skills with the required level of experience
- helping employers to accurately describe what they need, in language that potential employees understand
- creating competency-based selection criteria and assessment approaches

Professional bodies and their Bodies of Knowledge

- creating discipline-specific competency frameworks aligned to a global standard
- linking bodies of knowledge to competencies
- mapping to support membership levels, certifications, professional development and mentoring programmes
- developing and mapping qualifications, accreditations and career paths
- creating and maintaining a professional register of members' skills and skill levels

Education providers, training providers, curriculum designers

- aligning curriculum to industry / employer needs and improving employability
- mapping curriculum to skills and knowledge attainment
- supporting developmental and evaluative skills assessment

Reward and recognition consultants

- aligning organisation structures, salary banding and benchmarking
- linking to an industry standard for levels of skills experience, and being compatible with standard approaches for job architectures, job sizing and job evaluation

Staying relevant

SFIA is kept relevant through open consultation. It has been updated every few years to address the changing needs of industry and business. SFIA reflects the evolving reality of skills and competencies practiced in the real-world working environment.

The architecture and underlying design principles of SFIA have remained unchanged - this is testament to its usefulness and value. It continues to deliver what industry and business need in order to manage and develop skills and competencies.

SFIA has adopted a continuous approach to consultation in order to remain responsive to new and changing needs. This process is facilitated via the SFIA Foundation website.

In order to ensure continuity of usefulness, SFIA must reflect changing needs and perceptions of the significance of some items, and occasional changes in accepted terminology. The maintenance of SFIA is carried out with the aim of making sure that SFIA remains relevant to the needs of industry, employers and individuals. It is part of an evolution that balances stability with the need to remain up to date.

Requests to update and extend SFIA skill definitions are welcome and are a visible sign of a healthy and well-used resource.

SFIA and skills management

SFIA provides a resource to support skills and competencies management. Adopting SFIA provides clarity in identifying and deploying the required skills within an organisation and throughout the supply chain.

SFIA provides a common language throughout the skills management cycle. This improves communication and understanding for all involved e.g. line management, HR and employees. By using SFIA, organisations can achieve a consistent and integrated skills and people management system.
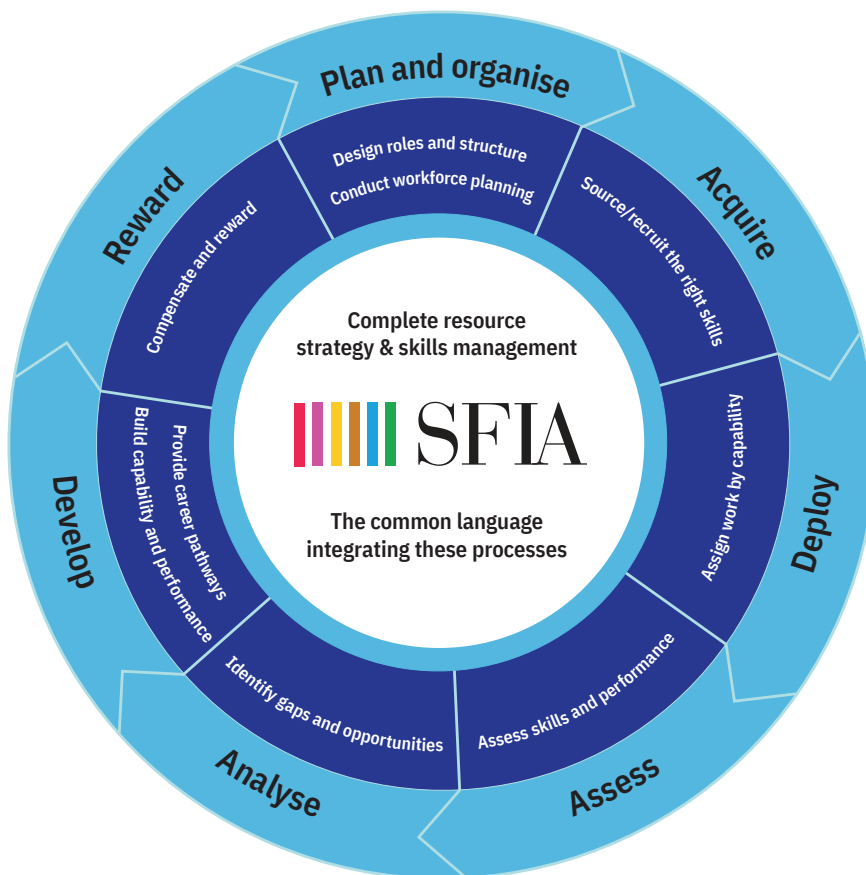
Complete resource strategy and skills management

SFIA is used for measuring current capability and identifying requirements, including planning for future demand, using the same capability criteria used throughout the skills management processes.

Organisations achieve consistency in sourcing and deployment, through the use of easy to understand definitions of skills and levels. This reduces risks and potential costs from incorrect placement of personnel.

Using the same language for understanding the capability of the workforce and for professional development planning provides a structure and focus for skills development.

Using the same language and a structure for their development, consistency can be achieved in sourcing and job assignment, professional development planning and understanding the capability of the workforce

This cycle view does not imply a starting point for the use of SFIA. The initial use of SFIA may be to address a specific issue or opportunity, e.g. employee satisfaction or skills development. The issue may affect only one team or project or maybe part of something broader like a new operating model for an entire technology function. Regardless of the starting point, the use of SFIA can be extended to other parts of the cycle, as, and when, required.

From an organisational perspective, one logical starting point might be knowing that a new resource needs to be recruited.

Plan and organise

Designing target operating models and organisation structures and conducting workforce planning

SFIA can be used to design and validate proposed organisation designs and target operating models. Using SFIA for position/role analysis and skills mapping provides a quick cross-check and an effective bottom-up review of the scope of the positions in the organisation design. The SFIA levels of responsibility help optimise spans of control and the number of organisational levels. Generic, SFIA based, profiles are a significant enabler of organisational agility. They allow operating models and organisation designs to flex and change without needing to be re-written.

SFIA does not assume specific operating models or organisation structures. It is equally effective in enabling agile, collaborative, working practices as it is for functional, hierarchical or process-driven models.

Creating job descriptions and role profiles

SFIA-based role profiles, job descriptions and skill profiles are probably the most common use of SFIA in organisations. Context is important in the use of any framework, and it is crucial to understand the organisation's needs rather than simply use the skills in an isolated manner to form a single job description or role profile. The specific mix will be different from one organisation to another.

SFIA aligned job descriptions and role profiles are useful and popular for many reasons.
- They can support the complete skills management cycle.
- They provide clarity to enable productivity and performance to match expectations
- They reduce business risk by increasing the chances of recruiting and developing individuals with the required skills, at the right level. This is positive for both the organisation and the individual and reduces the costs of churn, when individuals feel 'the job is not what they thought it would be', or the organisation discovers the individual has not got the right set of skills to do the job effectively.

Many organisations streamline this process by recognising standard combinations of skills. These are typically called role profiles or professional profiles. To apply SFIA appropriately, it is helpful to be clear on the relationship between skills, roles, and jobs.

SFIA does not attempt to cover everything that an individual may be required to do. SFIA does not describe any product or technology-specific skills or knowledge, industry years of service or qualifications. For example, a service desk manager requires knowledge of a particular process framework (such as ITIL or COBIT) and the specific service desk tools which are used in that organisation, and they may also need specific industry experience, security clearance and defined qualifications.

Although job/role design is greatly assisted by the use of SFIA, the framework itself does not describe roles, jobs or organisational units - it simply provides the building blocks to help create these. There are no organisational design templates, examples or suggestions in the core SFIA Framework. The SFIA categories and sub-categories should not be used to imply specific organisational units, departments, teams or jobs.

A job can be made up of one or more roles, which, in turn, include one or more skills at appropriate skill levels. For example, there may be a job advertised in an organisation for a Service Desk Manager. This job could include the roles of Incident Management Process Owner, Major Incident Manager and Knowledge Management Process Owner (and possibly several more). Each role would require one or more skills at various levels, with the skills being defined using SFIA.

The role of Major Incident Manager, for instance, and detail of the activities which anyone carrying out this role would have to complete, can be defined in the Incident Management process. This role profile would use SFIA to describe the generic level of responsibility for the role and include the SFIA skills and levels for these skills which are required in order to perform this role consistently to the required standard. This role might be carried out by several different people with various job titles, and therefore be referred to in a number of job descriptions.

Acquire

Sourcing and recruitment of the right skills, staff augmentation or supplier engagement

SFIA supports the acquisition of people with the right skills. Acquisition could be through different routes:

- recruitment of resources (permanent and / or contingent / contract workers)
- mergers and acquisitions
- the engagement of service providers (e.g. for outsourcing, staff augmentation, managed services, education, training, and consultancy services).

A SFIA-based position or job description provides clarity on the required level of responsibility and skills. In turn this attracts the right candidates. Subsequent assessment and selection criteria can be aligned to the SFIA skills and levels.

A similar approach can be used to support processes for resource divestment or separations. e.g. as a result of headcount reduction.

In the case of outsourcing and off-shoring, SFIA provides both the client and the supplier with a clear and transparent basis for describing the capability being sought or provided.

Procurement of resource-based services benefits from the use of SFIA rate cards. These enable a like-for-like comparison of resource-based services from suppliers. Service providers map their offerings and/or personnel to SFIA skills and levels. Difference in costs for resources is made clear. Clients can confirm that deployed resources have the skills needed to meet their requirements.

Deploy

Assigning resources by capability

Effective skills management enables people to work in a way that is best for the organisation and best for the individual. Managers will improve motivation, engagement and productivity by deploying people to the right work. Targeted deployment also provides the best opportunity for individuals to develop new skills.

Project and operational risks are reduced by assigning the right skilled people. Using SFIA means this is based on their actual capability, not just their technical knowledge. Getting this right leads to more effective use of resources, appropriate development, and potentially reduced expenditure on contractors. Managers use SFIA to highlight scarce skills in their teams, and deploy resources to mitigate those risks.

As well as enabling functional organisational structures, the flexibility of SFIA supports other approaches for resource deployment. This includes competency centres or resource pools. In these models, resources are allocated to temporary endeavours, agile project teams, or even individual tasks.

Ensuring that externally sourced capability – whether contractors or service providers – is deployed to

appropriate tasks is essential to ensure the desired outcome and value for money. Organisations can use SFIA to identify potential cost saving through contractor replacement programmes. By identifying the skills provided by contractors, plans can then be made to acquire or develop those skills internally.

Assess

Assessing skills, skills needs, performance and capability

SFIA is used extensively in the assessment of existing capability, at both an individual and an organisational level. Assessment is a valuable initial diagnostic stage that feeds into subsequent analysis and development.

SFIA provides a powerful diagnostic tool to enable skills assessments to be made. Individuals can assess their current skills and experience, identify their goals, and use such assessments for planning their personal professional development journey by determining the skills and levels they want to achieve.

Organisations can assess an individual's skills in an objective manner to support subsequent analysis and development planning. The objective nature of the SFIA descriptions help managers to reach an assessment that is agreed by the person being assessed.

The core framework itself does not provide instructions for assessment or the specific mix of skills that an individual or organisation should be assessed against. Assessment guidelines have been developed by the SFIA global community - these are available on the website.

Analyse

Analysing performance and capability to identify gaps, skills development needs and opportunities

Analysis goes hand-in-hand with assessment. Having established a skills assessment, the assessment data may be analysed to inform decision-making, including development needs. Performance is assessed against business objectives and, in the case of development objectives, by reference to SFIA skills.

SFIA's practical descriptions enable performance to be analysed to reveal an individual's strengths and development needs. This presents managers with the ability to assess an individual's competence, and to analyse the reasons for their level of performance. This greater objectivity in analysis of performance and explanation to the individual leads to greater staff satisfaction with appraisals, better motivation and improved levels of retention.

Assessment data can be combined to determine an organisational view of the skills capability that the organisation has and its skills needs. This characterises the 'skills gap' and by using a recognised structured framework it is less open to misinterpretation.

In times of business change, whether driven by changing customer requirements, mergers and acquisitions, new services or products, market trends or evolving business objectives, SFIA can be used to identify and express the skills impact, supporting planning and delivery.

Develop

Planning and executing development activities to build capability and performance and to provide career pathways

The development of individual capability in line with the organisation's needs is based on SFIA's objective statements of competence.

SFIA can be used to help define development objectives by:

- identifying the skills or aspects of skills which need to be developed
- providing clarity on the targeted levels of competence
- helping to identify and reach agreement on how development can be achieved and what support is required

Support can be provided by a range of different interventions or activities, not just classroom learning or training courses: e.g. coaching, mentoring, stretch-tasks, work shadowing, training and certification, attending an external event, participating in special interest groups and communities of practice.

Proper analysis of how current skill levels affect an individual's performance enables the construction of relevant development plans that really work. Obtaining value for money from training is always important. Creating focused development plans will make a real difference to the value obtained from the training budget.

Use of SFIA encourages appropriate individual growth, effective budgeting and a way to confirm skills development is in line with the organisation's real needs.

SFIA can be used by employers to set education and training objectives for individuals and groups. It can also be used by providers of education and training to explain learning outcomes and improve the effectiveness. This helps employers to understand the relevance of qualifications and certifications, and to make targeted investment in training and education for existing staff.

The individual's defined development needs can also be fed into the process by which individuals are assigned to tasks.

Reward

Rewarding and compensating an individual for their skills and competencies

Organisations can use SFIA levels of responsibility to support job evaluation and grading. Particularly useful is the clear difference between the attributes of one level and those at the next level. Aligning job descriptions to SFIA levels provides clear support for job grading.

The attributes of autonomy, influence, complexity, business skills and knowledge are complementary to most job grading methods. This enables salary benchmarking in a consistent way for all the professional disciplines.

The use of SFIA to support job descriptions and professional profiles adds greater objectivity to the assessment of the levels of jobs and of people. The use of SFIA to assess and to analyse an individual's performance supports making and communicating decisions about the individual's place within any corporate scale. It is essential that individuals and service providers are recognised for their performance, whether through salary and benefits, bonus schemes or feedback and SFIA can form the basis of such mechanisms.

How SFIA works

At the core of SFIA are the descriptions of professional skills and generic attributes each using the same 7-level structure. These form SFIA's most valuable resource. The generic attributes describe both behavioural factors and the knowledge component of competence. This section describes how it all fits together to form a simple, yet powerful, and proven approach.

7 levels of responsibility

The seven levels provide the backbone of SFIA. The skills and competencies are described at the levels at which they are found to be practiced within the working world. The generic attributes which contain behavioural factors and knowledge statements are described at each of the seven levels. These combine to provide a common language to describe levels of responsibility across roles in all the professional disciplines represented in SFIA.

The two distinct areas, behaviours and skills, can be applied and assessed separately. They can also be combined to reflect that the successful exercising of a skill or competency at a particular level is dependent on possessing and applying behavioural, knowledge and generic attributes as the same or very similar level. For example, an individual asked to perform a skill or competency as level 6 will not be able to do this effectively if their level of influence or autonomy is only at level 3.

The SFIA Framework consists of seven levels of responsibility from Level 1, the lowest, to Level 7, the highest.

Level 7	**Set strategy, inspire, mobilise**
Level 6	**Initiate, influence**
Level 5	**Ensure, advise**
Level 4	**Enable**
Level 3	**Apply**
Level 2	**Assist**
Level 1	**Follow**

The levels are described using the behaviours, values, knowledge and characteristics that an individual should have in order to be identified as operating at the level.

The levels are precisely written to be progressive, distinct and consistently described.

Each of the seven levels is also labelled with a guiding phrase to summarise the level of responsibility.

Generic attributes underpin the levels of responsibility

The levels of responsibility are characterised by generic attributes which describe behavioural factors such as, collaboration, communication, creativity, decision making, execution performance, influence, leadership, learning and professional development, planning, problem solving and security, privacy and ethics. The generic attributes are:

- Autonomy
- Influence
- Complexity
- Business skills
- Knowledge

The definitions of the seven levels describe the behaviours, values, knowledge and characteristics that an individual should have in order to be identified as competent at the level.

The breakdown of each level of responsibility can be found in the levels of responsibility section. SFIA Level 1 is shown here as an example.

Follow / Level 1	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.

Professional skills

SFIA provides a detailed descriptions for more than 120 professional skills. Each professional skill provides a skill description, guidance notes and a description of the skill at each relevant level of responsibility.

- The consistency of the levels of responsibility carries forward into the professional skills.
- A description of a skill at a level is written so that it is consistent with the level of responsibility at that level.

This approach ensures the consistency of the levels throughout the whole framework, making it solid and robust. It also integrates behaviours/behavioural factors and professional skills at a level combining to describe overall responsibility, accountability and impact.

Professional skills and generic attributes work together

The levels of responsibility, and specifically their generic attributes, are used together with the professional skills to describe overall competence.

Each skill description comprises an overall definition of the skill, some guidance notes and a description of the skill at each of up to seven levels at which the skill might be exercised. These descriptions provide a detailed definition of what it means to practice the skill at each level of responsibility.

Skill name	**Digital forensics**
Skill code	**DGFS**
Skill Description	**Recovering and investigating material found in digital devices**
Guidance notes	Activities may include — but are not limited to:

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.

• collecting, processing, preserving and analysing material

• presenting forensic evidence based on the totality of findings.

Generic level definition

Skill at a level

Enable

Level 4

Autonomy	Works under general direction within a clear framework of accountability …
Influence	Influences customers, suppliers and partners at account level …
Complexity	Work includes a broad range of complex technical or professional activities, in a variety of contexts …
Business skills	Communicates fluently, orally and in writing, and can present complex information to both technical and non-technical audiences …
Knowledge	Has a thorough understanding of recognised generic industry bodies of knowledge and specialist bodies of knowledge as necessary …

DGFS 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.

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 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.

The context for SFIA

SFIA is industry and business led and at its core is experience. Skills proficiency and professional competency are attained at a particular level due to the practice of that skill, at that level, in a real-world situation. The context for SFIA is, therefore, the real-world environment in which industry and business operate.

Any description of professional capability, whether as part of a job description or an assessment of an individual, includes a number of different aspects. The diagram illustrates the context for the different aspects that contribute to capability.
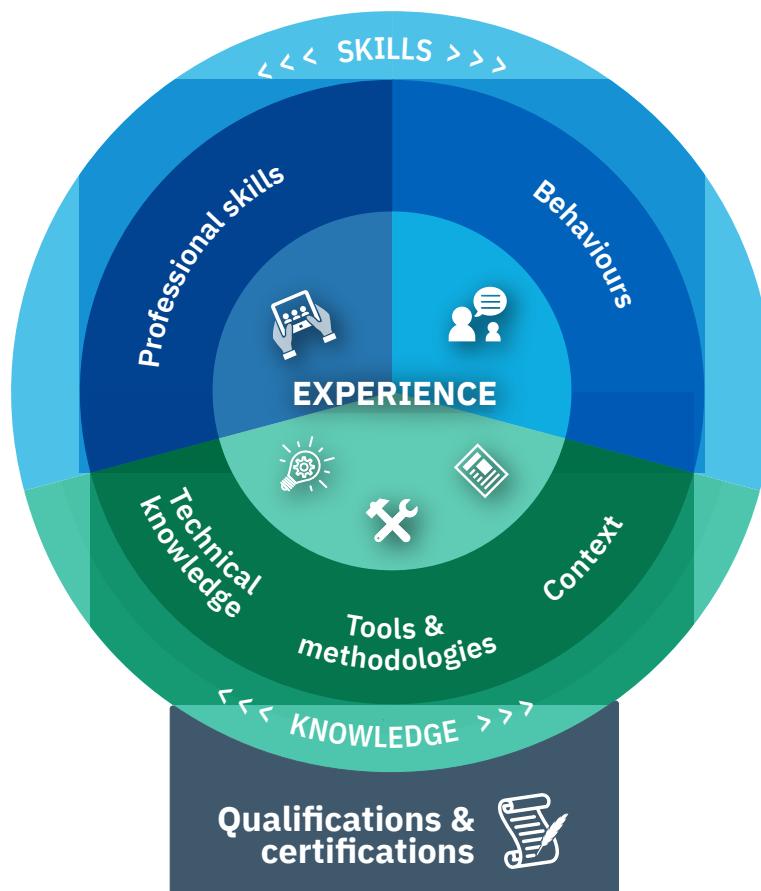
Experience

At the centre of SFIA is experience: an individual has a skill or competency at a particular level because that skill or competency at that level, has been demonstrated in a real-world situation together with the appropriate generic attributes.

- Experience demonstrates the ability to apply knowledge and achieve outcomes in a practical environment.
- The description of skills within SFIA, at different levels, relate to the experience demonstrated by individuals at that level.

Gaining experience is not a linear path. By applying knowledge and skills in a workplace setting, experience is gained and as people develop their experience in this way, they also build their knowledge and skills and develop their behaviours.

Professional skills

SFIA defines professional skills aligned to levels of responsibility. These are the most recognisable components of the SFIA framework. They provide the information necessary to identify, assess, deploy and develop professional skills.

Behaviours

Behaviours are an essential component of capability and form part of the overall SFIA Framework.

- They can have a variety of names - such as behavioural competencies, social skills, employability skills or soft skills.
- The SFIA Framework uses the term behavioural factors.

The behavioural factors in SFIA are distributed throughout the generic attributes that characterise the SFIA Levels of responsibility.

- SFIA is designed to be flexible. This allows organisations to use the behavioural factors based on their context of use. In the workplace, behaviours are typically highly contextual and culturally specific.

Many organisations define their own set of behaviours that are used internally.

- These are usually aligned with corporate values and vary considerably from one organisation to another.
- In this case they can be mapped to SFIA's generic attributes and behavioural factors or SFIA can be used to complement them effectively.

Where an organisation does not have its own behavioural framework, the SFIA behavioural factors can make a significant contribution to meeting this need. The SFIA behavioural factors can be used as defined or as the basis of an organisation's own behavioural model.

A detailed explanation of the SFIA behavioural factors is available in an associated document: Glossary of behavioural factors within the 7 levels of responsibility.

Knowledge

Knowledge is a critical component of competence. The design of SFIA emphasises that knowledge is required to demonstrate any skill effectively. To be competent and effective in any role an individual will need a mix of generic, specialist and domain knowledge.

- Generic knowledge represents what someone might reasonably be expected to know before any special knowledge is needed for a particular domain or specialism.
- Domain knowledge relates to the industry or business domain that the organisation operates in.
- Specialist knowledge is specific and detailed for a particular specialism or role.
- Technologies, products, methods, approaches, legislation, services, processes and domain specifics are all examples of where professionals working in the industry are required to have knowledge.
- Knowledge can be obtained in different ways such as from formal training courses, on-the-job training, web-based research, networking, conferences or simply by working with, and mentored by, experienced practitioners.
- Knowledge may be recognised by formal qualifications or certifications and an increasing number of university courses, training courses, events and other mechanisms for gaining knowledge, have been mapped to SFIA to ensure they align with the required professional skills. This approach enhances the employability of students attaining these qualifications.

SFIA does not define the specific knowledge required to exercise any particular skill because knowledge changes rapidly and is highly context dependent. SFIA's approach is to clearly state that knowledge is required through the knowledge statements in the generic attributes. This allows users to determine what knowledge is required for the environment in which the skills are being applied.

Without prescribing the knowledge required, SFIA links to around 50 bodies of knowledge as a useful resource for those seeking sources of generic and specialist knowledge.

Qualifications and certifications

Qualifications and Certifications are an important part of the industry. SFIA recognises the value of qualifications and certifications and provides a context for positioning them within the skills needed by industry and business. Qualifications and certifications show that an individual has successfully completed some testing or assessment; whilst a great many of these require demonstration of textbook knowledge or recall of a particular subject area, some test understanding, and some confirm application of skills.

- The mapping of qualifications to SFIA communicates to potential applicants the usefulness and relevance of the qualification.
- The learning objectives can be matched to continual professional development (CPD) targets expressed in SFIA terms.
- The use of SFIA by awarding bodies, to establish whether an individual meets the required level, is also growing and is increasingly linked to demonstration of experience.

Appendices

SFIA - Behavioural factors

This describes the behavioural factors that are distributed throughout the generic attributes. While many organisations choose to use the generic attributes in their summary form, others find expanding them into individual behavioural factors useful.

SFIA - knowledge, skill and competency

This describes how SFIA aligns with ISO Standards related to the assessment of knowledge, skills and competency and how these maybe used to help manage the development of a workforce.

SFIA - More than just a skills and competencies framework

This describes some of the range of activities of the SFIA Foundation. They are not core elements of the SFIA Framework and may not be generally visible to the user community but they are key to the Foundation's activities. This illustrates the global governance of the SFIA Foundation, how the SFIA Foundation operates, how it supports its global ecosystem and outlines some of the additional resources provided by the SFIA Foundation through its volunteer community

Behavioural Factors in SFIA

Key to the SFIA Levels are the behavioural factors that are components of responsibility. The behavioural factors are usually presented as distributed throughout the generic attributes. They can also be viewed explicitly and individually when required.

The behavioural factors within the 7 levels of responsibility are spread across the 5 generic attributes of Autonomy, Influence, Complexity Business Skills and Knowledge and complement SFIA's professional skills framework.

Focussing on behavioural factors is an alternative view of looking at the generic attributes in their summary form. These two approaches provide significant flexibility:

• Organisations with their own behavioural model, or corporate values, can map them to the generic attributes (considering the individual behavioural factors).

• The generic attributes as summary statements are particularly useful for a balanced view when considering professional certification or internal role balancing.

• Organisations, such as small and medium-sized enterprises, without their own behavioural model, can adopt the behavioural factors explicitly. This can be beneficial for example, in defining specific behaviours required for a role or for individual staff development planning.

In accordance with the design principles of SFIA, the behavioural factor descriptions are generic. This is to ensure that they can be universally applied to any organisation, its structure, its internal capability framework, its ways of working and culture. The behavioural factors themselves have two components, the first describes the behavioural element and the second describes the organisation scope, context and impact.

The behavioural factors are discussed in a separate document available on the SFIA website. Glossary of behavioural factors within the 7 levels of responsibility.

In the glossary document, the following behavioural factors and knowledge statements are addressed alongside autonomy, influence and complexity.

Behavioural Factors	Knowledge Statements
Collaboration	Generic Knowledge
Communication Skills	Specialist Knowledge
Creativity	Domain and Localisation Knowledge
Decision Making	
Delegation	
Execution Performance	
Influence	
Leadership	
Learning and Professional Development	
Planning	
Problem Solving	
Security, Privacy and Ethics	
Contextual and Attribute Descriptions	

Knowledge, skill and competency

SFIA is an experience framework – you have a skill or competency at a particular level because you have experience of practising that skill or competency in a real-world, professional environment.

SFIA reflects industry. Industry uses such terms as knowledge, skill, competence, competency and capability almost interchangeably.

The International Standards Organisation (ISO) has developed standards related to this (ISO/IEC 24773-1:2019 and ISO/IEC 17024:2012) and they also recognise, for example, that the words competency and competencies can be used as synonyms of competence and competences.

> From ISO/IEC 24773-1:2019
>
> competence, competency
>
> - ability to apply knowledge and skills to achieve intended results
>
> Note 2 to entry: The word competency and competencies can be used as synonyms of competence and competences. Competence can be used to refer to general ability(e.g. overall competence), while competency can be used to refer to a specific ability (e.g. competency in design of user interfaces). ...

SFIA has been successful because it broadly adopts the ISO definitions without trying to be overly prescriptive. This is a pragmatic approach focussing more on defining how SFIA can be used to determine whether someone can achieve intended results and less on debating whether a professional skill within the SFIA Framework is a 'skill' or a 'competency'.

As SFIA has experience at the core, it is a competency framework.

- SFIA also describes the skills, so it is also recognised as a skills framework.
- SFIA does not provide a body of knowledge for all the skills it defines but instead links to relevant and valued industry bodies of knowledge.
- Relevant elements from these bodies of knowledge can be mapped to individual SFIA skills and to the generic attributes.

SFIA is used in a great many scenarios and uses the following approach.

- Knowledge describes facts and information typically acquired through experience or education. An individual can acquire knowledge without applying that knowledge.
- Skill is applying knowledge and developing proficiency – which could be done in a controlled environment such as an educational institution through, for example, simulation or substantial project work.
- Competency is applying the necessary knowledge and skill in a real-world environment with full professional responsibility and accountability for one's own actions. Experience in a professional working environment represents the difference between demonstrated skill and demonstrated competency.

This approach can be used to have greater confidence in the ability of someone to achieve intended results, within the workplace, whether in the application of an individual skill or a group of skills necessary to perform a role.

When assessing an individual, knowledge, skill and competency are not necessarily a progression but recognisable states.

- **Knowledge:** An individual should provide sufficient evidence that they possess the relevant knowledge appropriate to a particular SFIA element. A minimum cognitive level of "can explain" should be demonstrated.

- **Skill:** An individual should provide sufficient evidence that they have applied the relevant knowledge and performed the activity at the performance level of "proficient in the skill" i.e. they can do what SFIA describes on their own without instruction, possibly in a controlled environment.

- **Competency:** An individual should provide sufficient evidence that they have applied the relevant knowledge and skills, and have significant professional experience of performing the activities described by SFIA in a professional working environment through the performance of a role, job or function. They must consistently achieve expected objectives and a successful outcome on an ongoing basis, reliably as a professional level.

More than just a framework

The SFIA Foundation provides much more than just the SFIA Framework. It provides and operates the mechanism necessary to develop the SFIA Framework from real industry experience and practice and make it available for use along with supporting resources.

The SFIA Foundation provides:

- The SFIA skills and competencies framework
- The mechanism to support its continued development, maintenance and support
- The global ecosystem necessary to support the use of the framework by a global userbase
- User guidelines informed by good practice from real users
- Practical examples of the use of SFIA such as illustrative role profiles
- Valuable assets and resources such as SFIA Views and links to industry bodies of knowledge
- SFIA accredited partners and specialists to help organisations
- Mappings to industry frameworks and collaborations with industry bodies

User guidance

The SFIA Framework is an enabler to support human capital management and development activities. User guidance is collected from industry use and made generic for others to use.

One example is the guidance for skills and competencies assessment, which is available from the SFIA website.

SFIA skills profiles for standard industry roles

A common initial use of the SFIA Framework is to define the skills and competencies needed to support an organisation's role profiles. The SFIA Foundation recommends that organisations develop their own skills profiles rather than using off-the-shelf profiles of others without proper consideration. However, it is often difficult for those new to creating role profiles to see what can be done. By looking across the industry, across different countries and users we can provide a useful starting point for creating a SFIA-based skills profile for common roles. Some examples include an extensive set of roles organised as career paths. Examples include:

- Australian public sector career pathways – a set of more than 160 roles defined
- Roles aligned to the International Standard Classification of Occupations (ISCO-08)
- USA National Initiative for Cybersecurity Education (NICE) work roles
- SFIA 8 illustrative skills profiles
- Digital apprenticeships

Bodies of Knowledge

SFIA recognises that knowledge is important but it does not include specific knowledge within the framework nor does it define the detailed knowledge required. SFIA chooses to actively promote bodies of knowledge that are developed by experts in the subjects and recognised widely by industry.

- Knowledge is highly context sensitive to particular industries, employers, technologies, methods, tools, jobs etc
- Knowledge changes rapidly, and the responsibility for keeping up-to-date lies with the people who are leading, managing or doing the work
- There are often national interpretations of knowledge, e.g. legal and regulatory requirements

SFIA has identified around 50 industry bodies of knowledge and has provided links to these from the SFIA website. This resource is updated regularly as new bodies of knowledge are identified.

SFIA views

SFIA views help users to identify the key elements of SFIA most relevant to particular environments such as specific professional disciplines, industry topics and approaches and complementary frameworks. SFIA is designed to be flexible and SFIA views are explanations of how SFIA can be applied in particular situations. Current SFIA views include:

- Digital transformation
- Big Data / Data Science
- Information and cyber security
- DevOps
- Agile
- Software Engineering
- Enterprise IT

Other SFIA views are in development with input from the global SFIA user base.

SFIA mappings to industry frameworks

These help framework users adopt SFIA and help SFIA users access the specialist knowledge in these frameworks. Industry frameworks and bodies of knowledge provide a reliable insight into current industry working practices and priorities.

Good frameworks structure and categorise their information to help users navigate and understand the content. Mappings between frameworks help the users of both build and integrated view. This helps the adoption and adaption of both frameworks.

Everything is connected. The content of SFIA is broad-ranging and can connect different professional disciplines through its common language for skills and competency levels.

SFIA accredited partners and specialists

Help in Using SFIA is available from either SFIA Partners or SFIA specialists. SFIA specialists consult as individuals; SFIA Partners are organisations that offer services using SFIA which may include SFIA consulting or SFIA related products or tools.

SFIA training

Accredited SFIA training is available from accredited training organisations. The syllabus for each course is published on the SFIA website. This includes:

- SFIA Foundation level training - a brief introduction to SFIA
- SFIA Practitioner level training - suitable for those using SFIA within their organisation
- SFIA Consultant level training - intended to give a wider perspective of SFIA use and adoption
- SFIA Assessor training - specialist training for those who will be assessing skills and competencies of others

SFIA Foundation global ecosystem

The SFIA framework is generally updated every 3 years, any longer and a framework becomes very stale in what is a fast moving and rapidly changing industry. The SFIA Foundation has built the mechanisms necessary to coordinate a global consultation and to efficiently manage framework updates and enable cost effective translation into over 12 languages.

The SFIA Foundation operates as a not-for-profit global foundation consisting of the following:

- An international governance board - to ensure the foundation operates for the good of the whole global community
- A lean operations function - to manage the activities of the SFIA Foundation, provide essential administrative support and to coordinate framework update activities
- An international SFIA Council of industry representatives and SFIA expert users from 6 continents - to provide expertise and advice and guidance to the SFIA Foundation
- An international SFIA Design Authority board - to oversee and ensure the continued quality and integrity of the SFIA Framework and other assets
- An international user base and user group - to provide input to the SFIA Framework and a source of volunteers for updates to the framework and assets

The SFIA Foundation approach is to ensure that the framework for industry is really built by industry and the SFIA Foundation's role in this is one of coordination – mostly of volunteer effort from a great many countries.

To keep any framework alive and relevant it is necessary to ensure that it is updated regularly through real usage and, very importantly, in a timely manner. The SFIA Foundation global ecosystem is designed to achieve this. These mechanisms are reviewed and modified as necessary in line with industry needs.

Using and licensing SFIA

Important: you need a licence to use SFIA

The SFIA Foundation maintains and distributes SFIA using a licensing system. For personal career development and for the majority of internal use for staff management, SFIA is available free of charge. Other use may require different licences which may incur a modest fee.

The following is prohibited without a special fee-bearing licence from the SFIA Foundation:
- using SFIA to support the sale or marketing of a product or service
- using SFIA for external certification or credentials
- using SFIA to promote a company or organisation, including in rate cards, redistributing this material in electronic or printed form to any other organisation (even if affiliated)
- using SFIA across a large distributed organisation
- translating SFIA into another language or language variant and distributing that version

Separate licensing is available for large-scale SFIA use. This is particularly attractive where a country wishes to use the global common reference model of SFIA as the foundation of its wide-scale skills and competence initiatives. Licensing includes:
- whole of public sector licence
- whole of country licence

As a not-for-profit, the SFIA Foundation does not seek commercial gain over and above its subsistence needs. All revenue received is used to develop, maintain and make available the framework and support the adoption by organisations and individuals around the world through the global ecosystem. Our licensing terms reflect that our intellectual property does indeed have a value, so we seek its protection through a very modest fee arrangement for those who benefit commercially from its use. The Foundation doesn't generate substantial revenue, and has a very modest operations capability supported by the users, trainers, consultants and partners of SFIA around the world.

The governance of the SFIA Foundation is provided by respected organisations or professional bodies and all information can be obtained from the SFIA web site – www.sfia-online.org

Intellectual property and copyright

SFIA is the intellectual property of the SFIA Foundation.

The trademark SFIA is protected in more than 35 countries throughout the world.

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