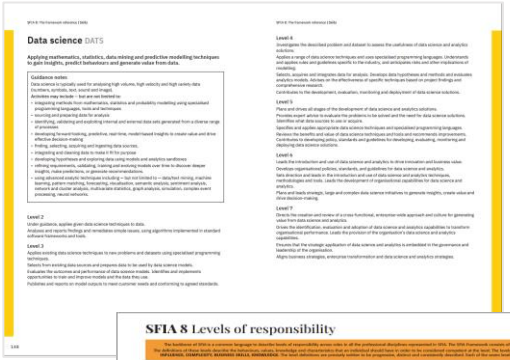
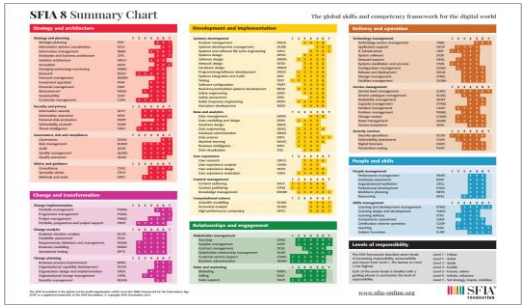
SFIA - overview for new users





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 8

About SFIA — (sfia-online.org)

SFIA Evolution

SFIA has become the globally accepted common language

for the skills and competencies

for the digital world.

Within the scope of SFIA are many of the world's most in-demand occupations, including professionals working in fields such as...

About SFIA — (sfia-online.org)

Used across industries and organisational types

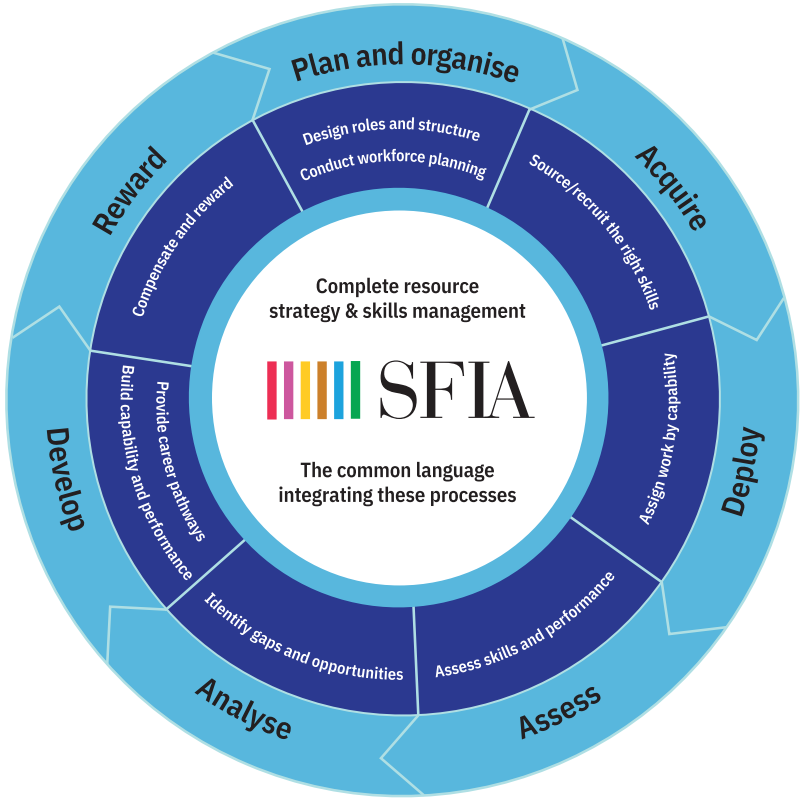
- individuals
- small and large teams
- departments or business functions
- small and medium-sized enterprises
- entire organisations with thousands of employees
- corporate, public sector and educational environments

About SFIA — (sfia-online.org)

SFIA and skills management

SFIA FOUNDATION

SFIA provides a common language throughout the skills management cycle.



By using SFIA, organisations can achieve a consistent and integrated skills and people management system.

Plan and organise
- ❑ Design roles and structure
- ❑ Conduct workforce planning

Acquire
- ❑ Source/recruit the right skills

Deploy
- ❑ Assign work by capability

Assess
- ❑ Assess skills and performance

Analyse
- ❑ Identify gaps and opportunities

Develop
- ❑ Provide career pathways
- ❑ Build capability and performance

Reward
- ❑ Compensate and reward

SFIA and skills management — (sfia-online.org)

The context for SFIA

SFIA is industry and business led and at its core is experience.

The context for SFIA is the real-world environment in which industry and business operate.

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 — English (sfia-online.org)

Who uses SFIA?

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.

About SFIA — (sfia-online.org)

How SFIA works - 7 levels of responsibility

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 seven levels provide the backbone of SFIA.
- The skills and competencies are described at the levels at which they are practiced within the working world.
- Each of the seven levels is also labelled with a guiding phrase to summarise the level of responsibility.
- 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.

How SFIA works — (sfia-online.org)

Generic SFIA attributes

Increasing responsibility, accountability and impact

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

Generic attributes

AUTONOMY	Demonstrating increasing levels of **autonomy** – the level of ownership and accountability for results in the workplace
INFLUENCE	Demonstrating increasing levels of **influence** – the level of positive impact with colleagues, clients, suppliers, partners, managers, leaders and the industry as a whole
COMPLEXITY	Demonstrating the ability to perform work of increasing **complexity** – the scale and impact of the issues, opportunities, tasks and processes addressed in the workplace
BUSINESS SKILLS AND BEHAVIOURS	Demonstrating increasing **business skills** and **positive behaviours** – operating effectively with the required level of impact in the workplace
KNOWLEDGE	Demonstrating increased responsibility for developing and applying **knowledge** to achieve individual and organisational objectives in the workplace

How SFIA works — (sfia-online.org)

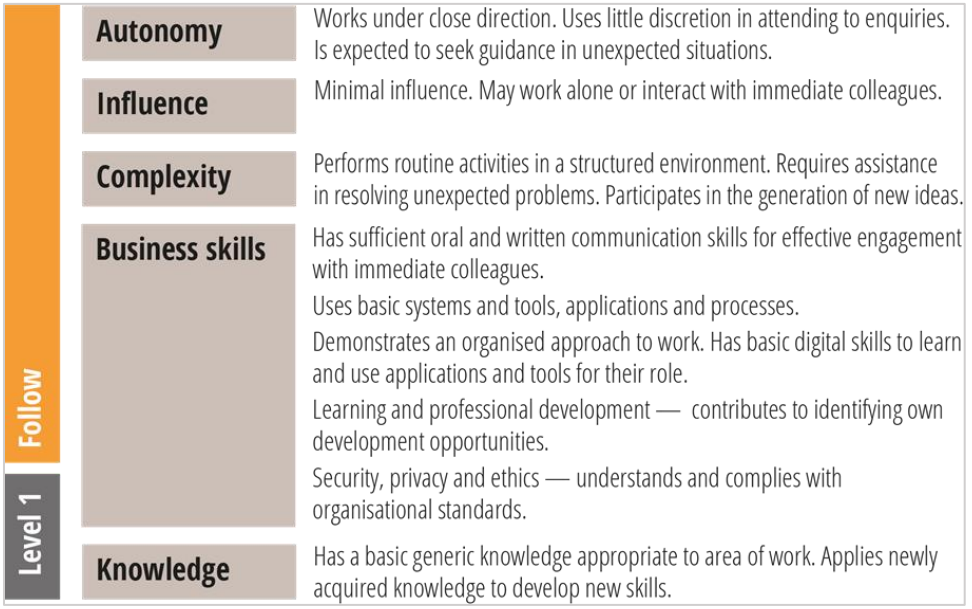
Generic attributes

- 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, security, privacy and ethics.

- The generic attributes are:
  - Autonomy
  - Influence
  - Complexity
  - Business skills
  - Knowledge

Generic attributes underpin the levels of responsibility.



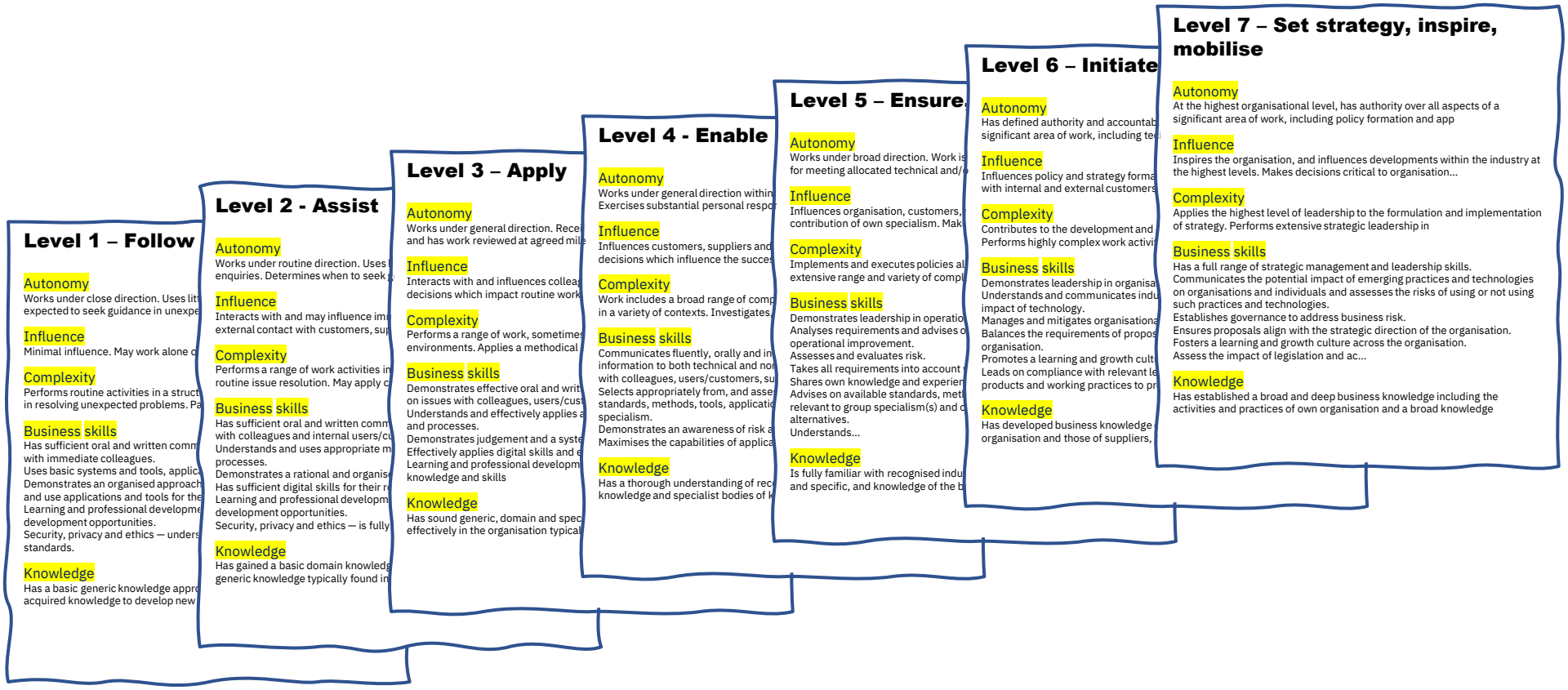
The breakdown of each level of responsibility can be found in the levels of responsibility section.

SFIA Level 1 is shown here as an example.

How SFIA works — (sfia-online.org)

Generic attributes

Increasing responsibility, accountability and impact



Level 1 – Follow

Autonomy
Works under close direction. Uses lit
expected to seek guidance in unexpe

Influence
Minimal influence. May work alone o

Complexity
Performs routine activities in a struct
in resolving unexpected problems. Pa

Business skills
Has sufficient oral and written comm
with immediate colleagues.
Uses basic systems and tools, applic
Demonstrates an organised approach
and use applications and tools for the
Learning and professional developme
development opportunities.
Security, privacy and ethics — unders
standards.

Knowledge
Has a basic generic knowledge appro
acquired knowledge to develop new

Level 2 - Assist

Autonomy
Works under routine direction. Uses
enquiries. Determines when to seek

Influence
Interacts with and may influence im
external contact with customers, su

Complexity
Performs a range of work activities in
routine issue resolution. May apply c

Business skills
Has sufficient oral and written comm
with colleagues and internal users/cu
Understands and uses appropriate m
processes.
Demonstrates a rational and organis
Has sufficient digital skills for their r
Learning and professional developm
development opportunities.
Security, privacy and ethics — is fully

Knowledge
Has gained a basic domain knowledg
generic knowledge typically found in

Level 3 – Apply

Autonomy
Works under general direction. Rece
and has work reviewed at agreed mil

Influence
Interacts with and influences colleag
decisions which impact routine work

Complexity
Performs a range of work, sometime
environments. Applies a methodical

Business skills
Demonstrates effective oral and writ
on issues with colleagues, users/cus
Understands and effectively applies a
and processes.
Demonstrates judgement and a syste
Effectively applies digital skills and e
Learning and professional developm
knowledge and skills

Knowledge
Has sound generic, domain and spec
effectively in the organisation typical

Level 4 - Enable

Autonomy
Works under general direction within
Exercises substantial personal respo

Influence
Influences customers, suppliers and
decisions which influence the succes

Complexity
Work includes a broad range of comp
in a variety of contexts. Investigates

Business skills
Communicates fluently, orally and in
information to both technical and no
with colleagues, users/customers, su
Selects appropriately from, and asse
standards, methods, tools, applicati
specialism.
Demonstrates an awareness of risk a
Maximises the capabilities of applica

Knowledge
Has a thorough understanding of rec
knowledge and specialist bodies of k

Level 5 – Ensure

Autonomy
Works under broad direction. Work is
for meeting allocated technical and/

Influence
Influences organisation, customers,
contribution of own specialism. Mak

Complexity
Implements and executes policies al
extensive range and variety of compl

Business skills
Demonstrates leadership in operatio
Analyses requirements and advises o
operational improvement.
Assesses and evaluates risk.
Takes all requirements into account
Shares own knowledge and experien
Advises on available standards, met
relevant to group specialism(s) and c
alternatives.
Understands...

Knowledge
Is fully familiar with recognised indu
and specific, and knowledge of the b

Level 6 – Initiate

Autonomy
Has defined authority and accountab
significant area of work, including te

Influence
Influences policy and strategy forma
with internal and external customers

Complexity
Contributes to the development and
Performs highly complex work activi

Business skills
Demonstrates leadership in organisa
Understands and communicates indu
impact of technology.
Manages and mitigates organisationa
Balances the requirements of propos
organisation.
Promotes a learning and growth cult
Leads on compliance with relevant le
products and working practices to pr

Knowledge
Has developed business knowledge
organisation and those of suppliers,

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 app

Influence
Inspires the organisation, and influences developments within the industry at the highest levels. Makes decisions critical to organisation...

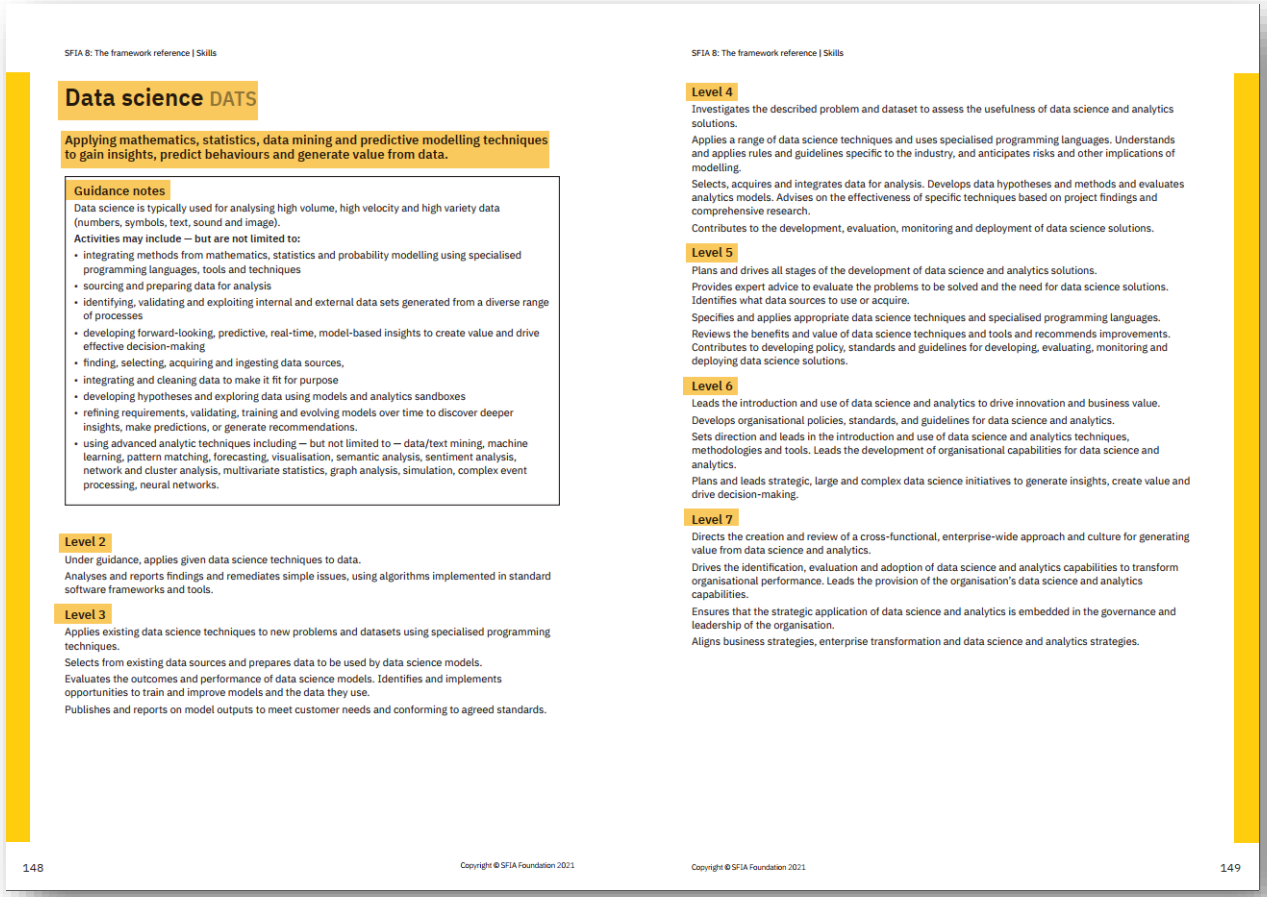
Complexity
Applies the highest level of leadership to the formulation and implementation of strategy. Performs extensive strategic leadership in

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 ac...

Knowledge
Has established a broad and deep business knowledge including the activities and practices of own organisation and a broad knowledge

[Levels of responsibility — (sfia-online.org)]

A SFIA professional skills definition



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.

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.

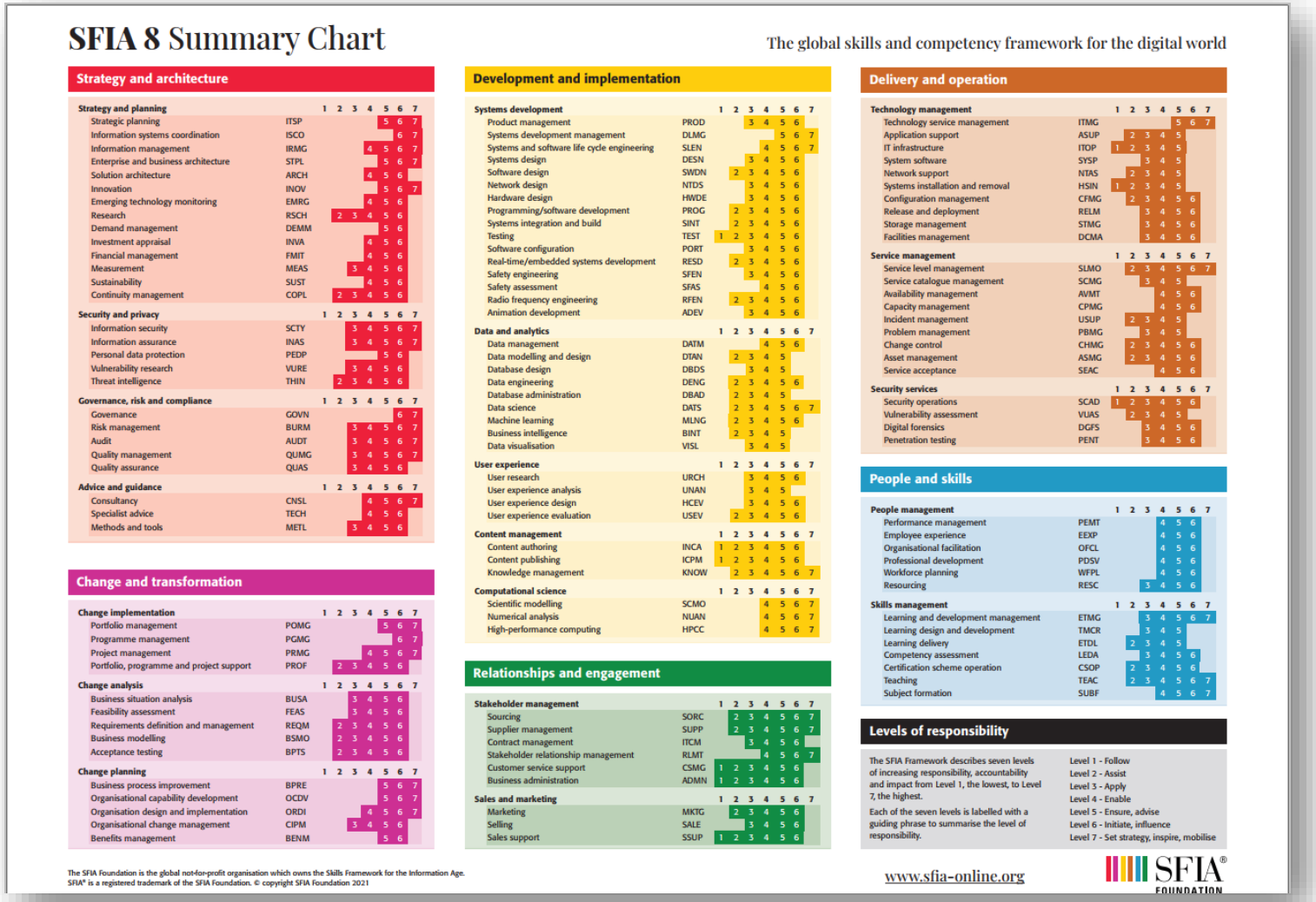
Ensures that the strategic application of data science and analytics is embedded in the governance and leadership of the organisation.

Aligns business strategies, enterprise transformation and data science and analytics strategies.

[SFIA full framework view — (sfia-online.org)]

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.

SFIA professional skills



SFIA 8 Summary Chart

The global skills and competency framework for the digital world

Strategy and architecture

		1	2	3	4	5	6	7
Strategy and planning								
Strategic planning	ITSP					5	6	7
Information systems coordination	ISCO						6	7
Information management	IRMG				4	5	6	7
Enterprise and business architecture	STPL					5	6	7
Solution architecture	ARCH				4	5	6	
Innovation	INOV					5	6	7
Emerging technology monitoring	EMRG				4	5	6	
Research	RSCH		2	3	4	5	6	
Demand management	DEMM					5	6	
Investment appraisal	INVA				4	5	6	
Financial management	FMIT				4	5	6	
Measurement	MEAS			3	4	5	6	
Sustainability	SUST				4	5	6	
Continuity management	COPL			2	3	4	5	6
Security and privacy		1	2	3	4	5	6	7
Information security	SCTY			3	4	5	6	7
Information assurance	INAS			3	4	5	6	7
Personal data protection	PEDP					5	6	
Vulnerability research	VURE			3	4	5	6	
Threat intelligence	THIN		2	3	4	5	6	
Governance, risk and compliance		1	2	3	4	5	6	7
Governance	GOVN						6	7
Risk management	BURM			3	4	5	6	7
Audit	AUDT			3	4	5	6	7
Quality management	QUMG			3	4	5	6	7
Quality assurance	QUAS			3	4	5	6	
Advice and guidance		1	2	3	4	5	6	7
Consultancy	CNSL				4	5	6	7
Specialist advice	TECH				4	5	6	
Methods and tools	METL			3	4	5	6	

Change and transformation

		1	2	3	4	5	6	7
Change implementation								
Portfolio management	POMG					5	6	7
Programme management	PGMG						6	7
Project management	PRMG				4	5	6	7
Portfolio, programme and project support	PROF		2	3	4	5	6	
Change analysis		1	2	3	4	5	6	7
Business situation analysis	BUSA			3	4	5	6	
Feasibility assessment	FEAS			3	4	5	6	
Requirements definition and management	REQM		2	3	4	5	6	
Business modelling	BSMO		2	3	4	5	6	
Acceptance testing	BPTS		2	3	4	5	6	
Change planning		1	2	3	4	5	6	7
Business process improvement	BPRE					5	6	7
Organisational capability development	OCDV					5	6	7
Organisation design and implementation	ORDI				4	5	6	7
Organisational change management	CIPM			3	4	5	6	
Benefits management	BENM					5	6	

Development and implementation

		1	2	3	4	5	6	7
Systems development								
Product management	PROD				3	4	5	6
Systems development management	DLMG						5	6	7
Systems and software life cycle engineering	SLEN					4	5	6	7
Systems design	DESN				3	4	5	6	
Software design	SWDN			2	3	4	5	6	
Network design	NTDS				3	4	5	6	
Hardware design	HWDE				3	4	5	6	
Programming/software development	PROG			2	3	4	5	6	
Systems integration and build	SINT			2	3	4	5	6	
Testing	TEST		1	2	3	4	5	6	
Software configuration	PORT				3	4	5	6	
Real-time/embedded systems development	RESD			2	3	4	5	6	
Safety engineering	SFEN				3	4	5	6	
Safety assessment	SFAS					4	5	6	
Radio frequency engineering	RFEN			2	3	4	5	6	
Animation development	ADEV				3	4	5	6	
Data and analytics		1	2	3	4	5	6	7
Data management	DATM					4	5	6	
Data modelling and design	DTAN			2	3	4	5		
Database design	DBDS				3	4	5		
Data engineering	DENG			2	3	4	5	6	
Database administration	DBAD			2	3	4	5		
Data science	DATS			2	3	4	5	6	7
Machine learning	MLNG			2	3	4	5	6	
Business intelligence	BINT			2	3	4	5		
Data visualisation	VISL				3	4	5		
User experience		1	2	3	4	5	6	7
User research	URCH				3	4	5	6	
User experience analysis	UNAN				3	4	5		
User experience design	HCEV				3	4	5	6	
User experience evaluation	USEV			2	3	4	5	6	
Content management		1	2	3	4	5	6	7
Content authoring	INCA		1	2	3	4	5	6	
Content publishing	ICPM		1	2	3	4	5	6	
Knowledge management	KNOW			2	3	4	5	6	7
Computational science		1	2	3	4	5	6	7
Scientific modelling	SCMO					4	5	6	7
Numerical analysis	NUAN					4	5	6	7
High-performance computing	HPCC					4	5	6	7

Relationships and engagement

		1	2	3	4	5	6	7
Stakeholder management								
Sourcing	SORC			2	3	4	5	6	7
Supplier management	SUPP			2	3	4	5	6	7
Contract management	ITCM				3	4	5	6	
Stakeholder relationship management	RLMT					4	5	6	7
Customer service support	CSMG		1	2	3	4	5	6	
Business administration	ADMN		1	2	3	4	5	6	
Sales and marketing		1	2	3	4	5	6	7
Marketing	MKTG			2	3	4	5	6	
Selling	SALE				3	4	5	6	
Sales support	SSUP		1	2	3	4	5	6	

Delivery and operation

		1	2	3	4	5	6	7
Technology management								
Technology service management	ITMG					5	6	7
Application support	ASUP		2	3	4	5		
IT infrastructure	ITOP		1	2	3	4	5	
System software	SYSP				3	4	5	
Network support	NTAS			2	3	4	5	
Systems installation and removal	HSIN		1	2	3	4	5	
Configuration management	CFMG			2	3	4	5	6
Release and deployment	RELM				3	4	5	6
Storage management	STMG				3	4	5	6
Facilities management	DCMA				3	4	5	6
Service management		1	2	3	4	5	6	7
Service level management	SLMO			2	3	4	5	6	7
Service catalogue management	SCMG				3	4	5	
Availability management	AVMT					4	5	6
Capacity management	CPMG					4	5	6
Incident management	USUP			2	3	4	5	
Problem management	PBMG				3	4	5	
Change control	CHMG			2	3	4	5	6
Asset management	ASMG			2	3	4	5	6
Service acceptance	SEAC					4	5	6
Security services		1	2	3	4	5	6	7
Security operations	SCAD		1	2	3	4	5	6
Vulnerability assessment	VUAS			2	3	4	5	
Digital forensics	DGFS				3	4	5	6
Penetration testing	PENT				3	4	5	6

People and skills

		1	2	3	4	5	6	7
People management								
Performance management	PEMT					4	5	6
Employee experience	EEXP					4	5	6
Organisational facilitation	OFCL					4	5	6
Professional development	PDSV					4	5	6
Workforce planning	WFPL					4	5	6
Resourcing	RESC				3	4	5	6
Skills management		1	2	3	4	5	6	7
Learning and development management	ETMG				3	4	5	6	7
Learning design and development	TMCR				3	4	5		
Learning delivery	ETDL			2	3	4	5		
Competency assessment	LEDA				3	4	5	6	
Certification scheme operation	CSOP			2	3	4	5	6	
Teaching	TEAC			2	3	4	5	6	7
Subject formation	SUBF					4	5	6	7

Levels of responsibility

The SFIA Framework describes seven levels of increasing responsibility, accountability and impact from Level 1, the lowest, to Level 7, the highest.

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

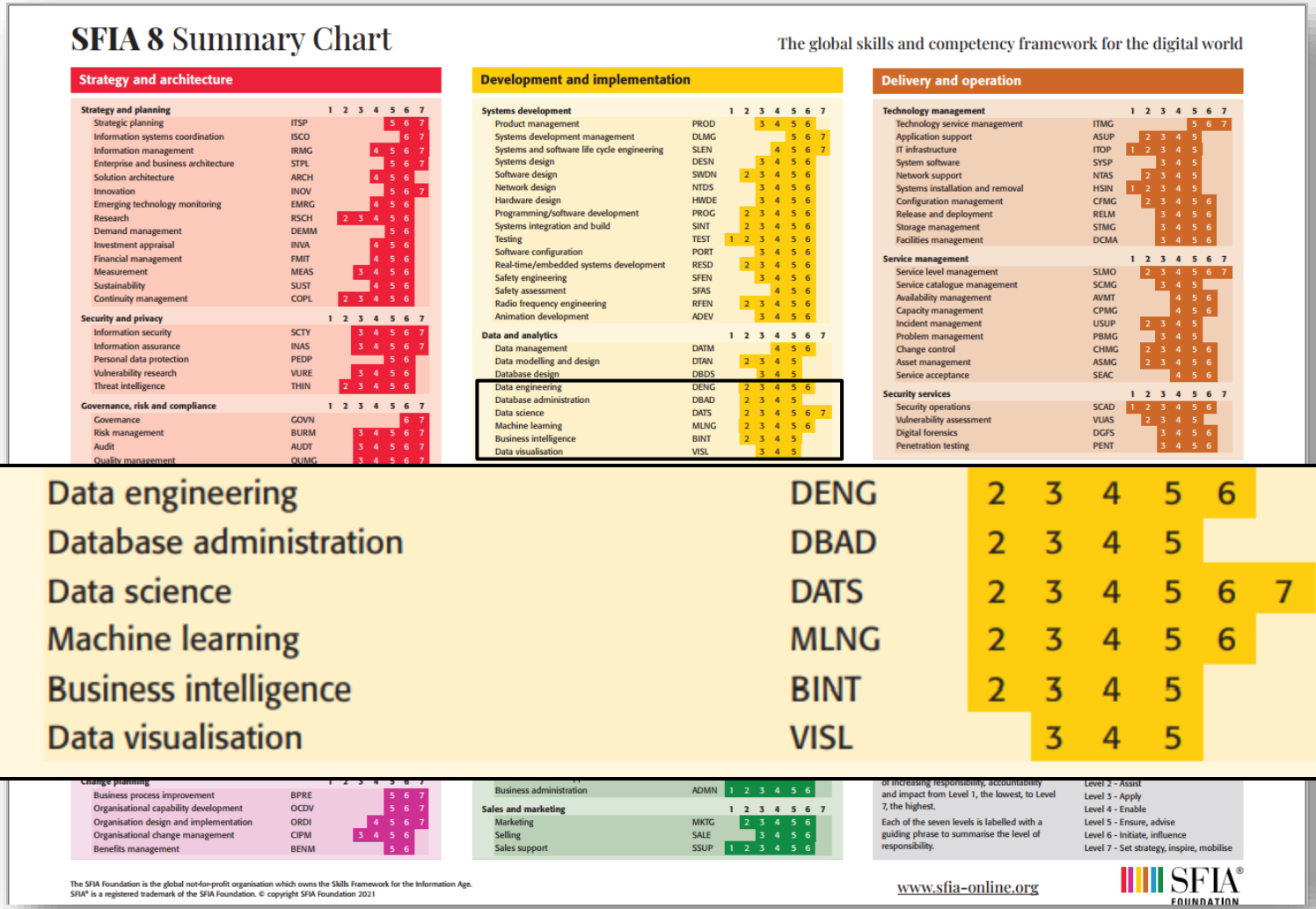
Level 1 - Follow
Level 2 - Assist
Level 3 - Apply
Level 4 - Enable
Level 5 - Ensure, advise
Level 6 - Initiate, influence
Level 7 - Set strategy, inspire, mobilise

www.sfia-online.org

SFIA FOUNDATION

[SFIA full framework view — (sfia-online.org)]

SFIA professional skills

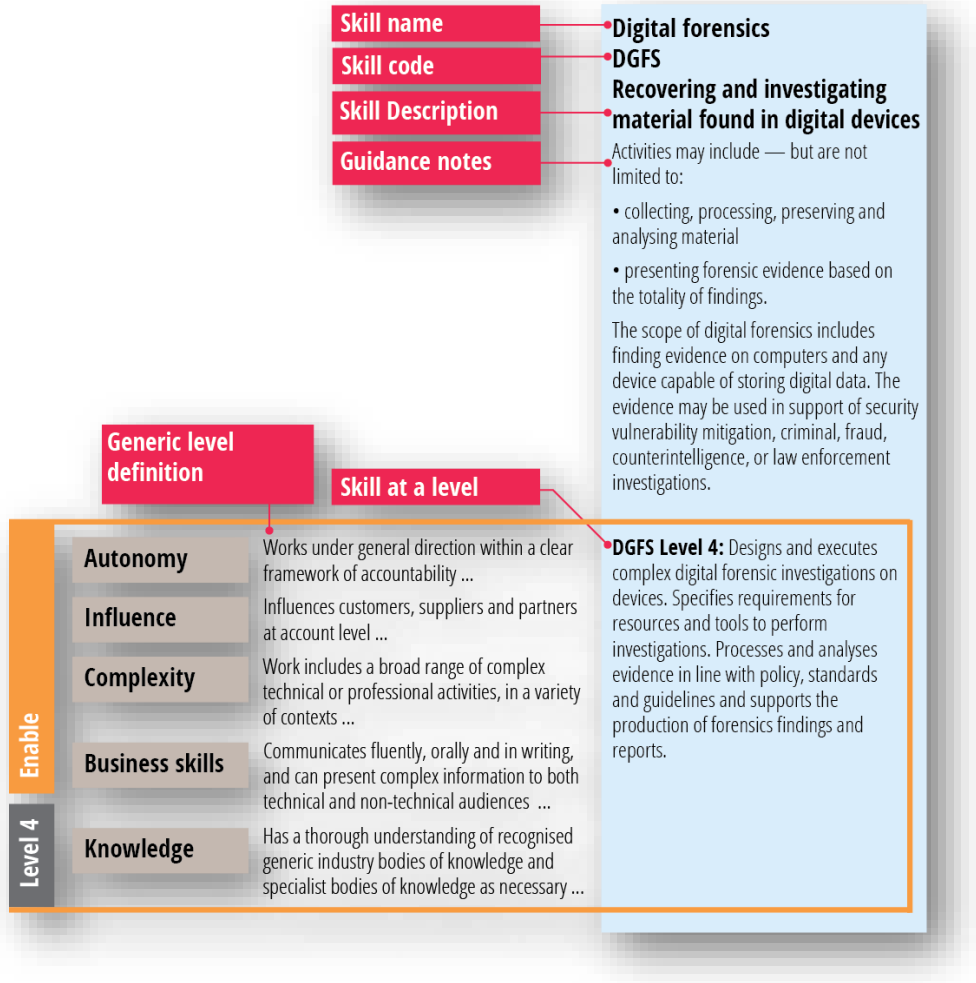


[SFIA full framework view — (sfia-online.org)]

SFIA professional skills

Professional skills and generic attributes work together.

- 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.



How SFIA works — (sfia-online.org)

SFIA 8 - resources

Core framework

- 7 levels of responsibility
- 121 professional skills
- SFIA 8
- 5 generic attributes
- 495 skill level descriptions

Navigation

- Summary chart, pdfs and Excel
- Categories and sub-categories
- SFIA views
- Related skills for website browsing

Tools and resources

- ✓ Mappings to industry frameworks
- ✓ Standard skills profiles
- ✓ Assessment guidelines
- ✓ Links to c.50 bodies of knowledge
- ✓ User stories

SFIA 8 - (sfia-online.org)

Owned by the global user community

- The SFIA Foundation is a not-for-profit organisation
- It is built by industry and business for industry and business
- Adoption by governments, corporates and individuals in almost 200 countries
- Global collaborative development, 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

About SFIA — English (sfia-online.org)

Free of charge for most non-commercial use

SFIA® FOUNDATION

Important: you need a licence to use SFIA

- For personal career development and for the majority of internal use for staff management, SFIA is available free of charge.
- There is a modest licence fee for large organisations using SFIA and for organisations that use SFIA for commercial purposes
- As a not-for-profit, the SFIA Foundation does not seek commercial gain over and above its subsistence needs.
- 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

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