

A pattern of teal circles of varying sizes is scattered across the dark background, creating a grid-like but irregular arrangement.

**Collective\_**  **X**  
Unleashing digital skills, together

# A competency framework for digital/ICT skills

[thecollectivex.org](http://thecollectivex.org)

## The need for a consistent, reliable competency framework

The large-scale adoption of new technologies during past ‘Industrial Revolutions’ has always reflected changes in labour market demand and have required a significant realignment of South Africa’s skills base. This time however it is different. Digital transformation has permeated every aspect of society and has impacted most jobs in virtually every workplace. Not only has it been all-pervasive but the rate of change has been different with a velocity and breadth never before experienced.

The first step in establishing an equilibrium between the supply and demand for digital/STEM skills is to create some form of consistency of understanding to underpin exactly which skills are in demand and what competency should underpin the application of a skill. Doing so provides a common language and consistent framework for educators, trainers, employees and employers to base their decisions and actions. This consistency is ensured by the establishment of competency standards. Competency standards describe the skills required to do a job effectively.

On the demand side, competency standards assist hiring managers to develop effective job descriptions as they provide an accurate picture of what is required to perform a job at a granular level. Competency models are critical elements within talent management frameworks and are used by employers and their human resource practitioners in areas such as recruitment, training/skills development, career development as well as succession planning.

On the supply side, competency frameworks provide direction to educators with regard to the development of their curricula. Once skills requirements are clear and there is consensus on them at an industry or employer level, educators can focus on developing creative pedagogical approaches and methodologies to develop these skills.

Whilst a competency framework provides a comprehensive, consistent language or framework for the acquisition of skills, it must be remembered that the combination of the changing nature of jobs in today’s world, the evolving skills landscape, and the focus on building ‘composite’ capabilities have all resulted in the transformation of career pathways in the digital age.

A **competency framework** therefore needs to be flexible and pragmatic enough to accommodate a conceptual transition in the description of career progressions from ‘career ladders’ to a ‘**career lattice**’ of multiple entry points, career paths, progressive competencies and multiple end points in terms of potential positions that may be attained. A career lattice acknowledges that there are multiple paths to advance a learner’s career. It provides the opportunity and flexibility to switch job roles entirely and make cross-functional movements to different roles that are not necessarily at a level higher or even in the same domain. The use of a ‘career lattice’ acknowledges the reality of non-linear non-traditional career movements.

## The guiding principles in the selection of the SFIA Competency Framework were as follows:

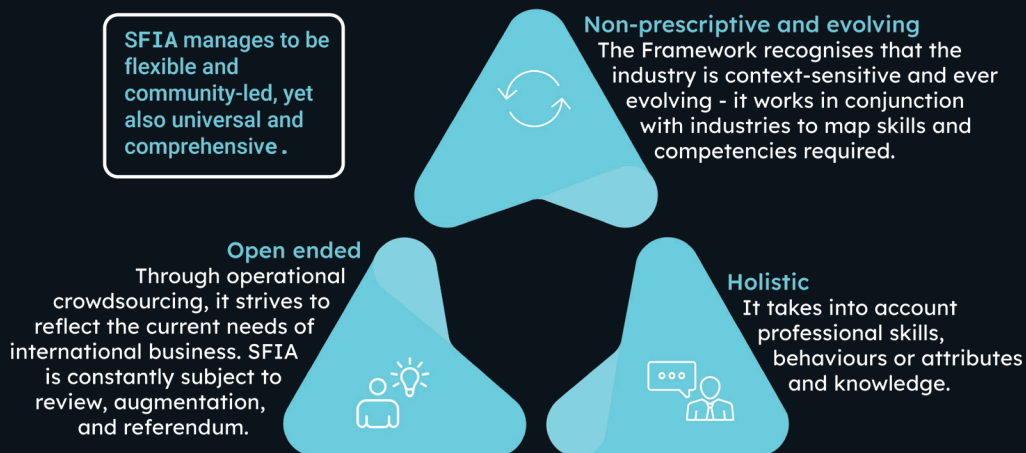


Figure 1: Guiding principles | Source: The Collective X

## Digital skills competency levels may be divided into four distinct groups

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### 01. Digital literacy as a basic life skill

These are skills required by the majority of citizens to navigate the requirements of their digitally-enriched lives. At an employment level it talks to all employees, irrespective of their level within an organisation, and is critical to operating an organisation's basic systems and applications. This requirement has created a new form of literacy called digital literacy. Digital literacy may be defined as 'the awareness, attitude and ability of individuals to appropriately use digital tools and facilities to identify, access, manage, integrate, evaluate, analyse and synthesise digital resources, construct new knowledge, create media expressions, and communicate with others, in the context of specific life situations, in order to enable constructive social action; and to reflect upon this process.' These are the foundational skills that all children should learn and all adults should be able to acquire through primary and tertiary education. (Digital Work Research, 2018)

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### 02. Digital practitioner skills

These are the skills required for researching, designing, managing, producing, consulting marketing, selling, integrating, installing, administering, maintaining and supporting ICT/digital systems. These are functional skills which would normally require both tertiary and higher education level focus through universities of technology. They may also be provided by other education providers or technology certification providers (MCSE) or acquired at the workplace through company specific skills training based on the employer's own systems or technologies employed, such as robotic and automation programming.

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### 03. Digital related skills for specific sectors

These are both the specific and generic skills required to work in a particular industry such as financial services, health, education, security etc. These are usually developed by industry specific service providers and institutions.

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### 04. Digital leadership skills

These are the skills required to exploit the opportunities offered by the digital world which may include optimising efficiency and effectiveness, disrupting business models or establishing new business organisations such as platforms. These skills are usually developed at higher education institutions such as colleges, universities and business schools.

Within each group, users can grow from basic use of the relevant digital skills to a more advanced or even sophisticated use of the various skills, for example ICT practitioner skills.

## The SFIA Competency Framework (ICT practitioner skills)

The SFIA Foundation is a global, not-for-profit organisation which oversees the development and use of the SFIA Competency Framework. SFIA was first published in 2000, created by a consortium of many organisations, spearheaded by the British Computer Society (BCS). Since its first publication, the SFIA Competency Framework has been regularly refreshed and updated every 3 years to reflect the evolving needs of international industry and business.

The SFIA Competency Framework is a world-wide industry standard for defining the skills of ICT professionals. The wide acceptance of the framework makes it ideal for assessment purposes due to the consistent definition of the skills in whichever country, region, or organisation within which it is deployed.

The SFIA Competency Framework provides detailed descriptions for more than 102 professional skills. Each professional skill comes with a description and guidance notes reflecting the skill at each relevant level of responsibility.

The consistency of the levels of responsibility carries forward into the progression of the skills.

The generic responsibilities describe five important attributes of responsibility:

1. autonomy.
2. influence.
3. complexity.
4. knowledge.
5. business skills.

### Skills

SFIA provides a detailed description 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.

### Levels of responsibility

1

Follow

2

Assist

3

Apply

4

Enable

5

Ensure,  
Advise

6

Initiate,  
Influence

7

Set Strategy,  
Inspire,  
Mobilise

### Attributes

Autonomy, influence, complexity, knowledge and business skills.

Figure 2: Visual representation: skills, levels of responsibility and attributes | Source: SFIA

## Digital forensics - skill, level of responsibility and attributes:

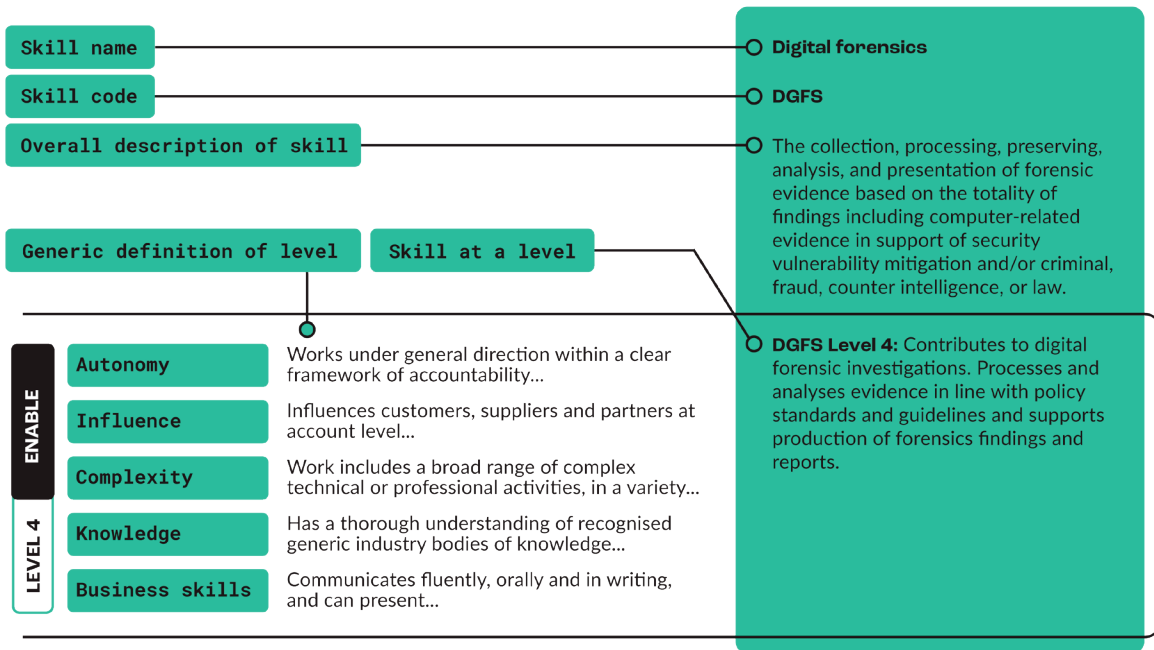


Figure 3: Visual representation: Digital forensics - skill, level of responsibility and attributes | Source: SFIA

The SFIA Competency Framework doesn't define roles or jobs – it has always provided a framework of flexible 'building blocks' of skill descriptions at various levels of competency.

SFIA skills that used to be found in people who would identify themselves as 'ICT professionals' are now more distributed throughout organisations. Organisations are supplementing traditional formal structures with flexible pools of resources that can be included in short-term and agile teams for specific projects or activities.

The use of the SFIA Competency Framework to assess the skills required help to provide a clear picture that answers the often otherwise unanswered question of 'what skills do you have?' By using the SFIA Competency Framework to answer the next question, 'what skills do you need?' it provides the two essential elements needed to create a plan for closing any identified skills gaps.

## The Collective X SFIA Competency Framework

The Collective X SFIA Competency Framework is an adaption of the SFIA Competency Framework and introduces an additional level to describe a basic digital literacy competency expected to be achieved within the School Phase.

A gap in competency frameworks usually exists in describing the skills developed to equip school leavers. It creates a seamless progression from the competencies described in the SFIA Competency Framework.

### The benefits of Collective X utilising the SFIA Competency Framework are:

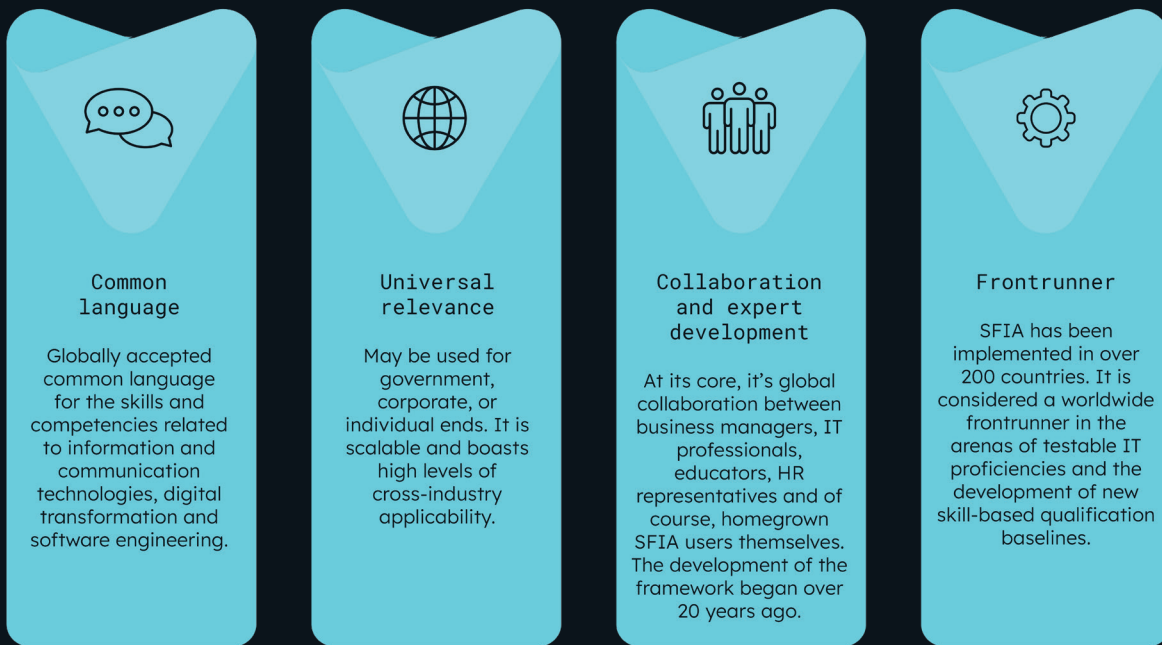


Figure 4: SFIA Competency Framework (adapted) | Source: SFIA

## The Collective X unified digital/ICT competency framework

The impact of adopting The Collective X's unified digital/ICT Competency Framework is:

- A consistent view on the level of digital/ICT skills competency;
- A standardised view of the quality of skills, given that job titles & descriptions are not universally standardised;
- A common framework to underpin highly-proficient digital skills training, trainers and training institutions;
- A common framework to support employers and employment-related decisions;
- A thorough, robust, well described portfolio of current and future in demand job families;
- Guidance for a smooth digital skills journey and the transition from school to post school digital learning;
- The adoption of an open set of interoperable standards will ultimately allow all stakeholders in the ecosystem to speak a common skills language.

By driving the adoption of an open set of interconnected digital credential and learner pathway ecosystems, Collective X enables any stakeholder to “plug-in” to a non-competitive set of standards that better serve the ambition of upskilling tech talent to meet demand side opportunities.



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