

Entry-Level Pathways - Final Report

A Skills-Led Evidence Base for Entry-Level Pathways into the Technology Sector

Prepared by ACS with C4 Digital for the Future Skills Organisation (FSO)

Executive Summary

Purpose

This report defines nine pathways into the technology sector and the 34 entry-level roles within them. The nine pathways organise technology work into distinct areas, each with its own skills foundation and training routes. The 34 roles sit within them, providing employers with a framework for skills-based hiring, RTOs with evidence for curriculum design, and learners with clear visibility of how training connects to specific technology roles.

Both the pathways and roles are grounded in a point-in-time analysis of more than 40,000 job advertisements, providing a skills-led evidence base to inform Information and Communications Technology (ICT) Training Package reform and support workforce planning across the technology sector.

Background

Employment pathways into the technology sector are not clearly defined, consistently understood, or reliably used by employers, RTOs, or learners. As the FSO Workforce Plan 2025 states: "Local educational and training pathways have not kept pace with the rapid growth in demand for digital and technical skills. Consequently, companies often struggle to fill positions with locally trained professionals."¹

The scale of this challenge is significant. Technology occupations are projected to grow from 824,700 to 1.1 million by 2030, yet the sector already faces a projected shortage of 131,000 workers. Completion rates in the ICT training package sit at around 37–38%, and Australia relies on migrants for 41% of its technology workforce, a dependency the WFP identifies as a systemic risk.²

More than 1.1 million workers in non-technology roles already hold relevant skills but face systemic barriers to transition.

Without clearer pathways from training into employment, the FSO Workforce Plan 2025 warns of "ongoing workforce shortages and an overreliance on migration to meet critical technology needs."³

Future Skills Organisation (FSO) commissioned two connected bodies of work to address that gap and provide the evidence base for training reform and a more accessible domestic pipeline into technology careers.

Project One (2025): The Australian Computer Society (ACS) with Deloitte Access Economics (DAE) established the foundational structure. They identified and ranked 41 in-demand technology occupations from a pool of 104 and grouped them into nine pathways. The project mapped each occupation to Skills Framework for the Information Age (SFIA), DigComp 2.2 competencies, and ICT Training Package qualifications and UoC.

Project Two (2026): This project, delivered by ACS with C4 Digital, refined and strengthened the earlier foundation through a skills-led demand analysis of more than 40,000 job advertisements, adding real-time employer demand signals to the occupational analysis. The project identified a 70% gap between the top 10 SFIA skills employers were actively seeking and those reflected in Occupation Standard Classification for Australia (OSCA) skill profiles, confirming that skills-led evidence is essential to keep the pathways accurate and current.

The project also added AI Impact Profiles for each role, updated framework mapping to DigComp 3.0, incorporated Singapore's Critical Core Skills Framework (CCS) to make behavioural skills that are transferable across the economy more explicit, and validated findings through industry consultation.

Together, the two projects produce an evidence base that is occupation-grounded, demand-validated, and framework-aligned, connecting what employers are hiring for, what the national occupational framework describes, and what VET currently delivers.

¹ Future Skills Organisation, *Workforce Plan 2025: Pathways to Impact (2025)*

² Ibid.

³ Ibid.

The nine pathways

The diagram below shows the nine pathways and the entry-level roles within each.

Full details are available here: [Pathway Profiles](#)

All findings were validated through consultation with 52 stakeholders across industry, government, education, and workforce advisory groups, confirming that the pathways, their skills foundations, and the entry-level roles within them reflect real hiring structures, current workforce demand, and emerging workforce needs.

ICT Career Disciplines at a Glance			9	34	98%
Entry-level roles supported by the Australian VET system, organised by discipline			DISCIPLINES	ENTRY-LEVEL ROLES	VET COVERAGE
Cert III Foundation entry (SFIA L2) Cert IV Established practitioner (SFIA L3) Diploma Capable practitioner (SFIA L4)					
Software Engineering 7 roles			Telecommunications 7 roles		
242131 Multimedia Designer Cert IV 273332 DevOps Engineer Diploma 273131 Digital Game Developer Diploma 273333 Software Engineer Diploma 242132 UI / UX Designer Diploma 242133 Web Designer Diploma 273132 Web Developer Diploma			382231 Communications Operator Cert III 382233 Electronic Instrument Technician Cert IV 314199 ICT and Telecommunications Technicians nec Cert IV 314132 Radiocommunications Technician Cert IV 272331 Telecommunications Engineer Diploma 314133 Telecommunications Field Engineer Diploma 314135 Telecommunications Technical Officer or Technologist Diploma		
Data 3 roles			Cloud, Network & Infrastructure 6 roles		
223231 Data Analyst Diploma 223233 Data Engineer Diploma 271231 Database Administrator Diploma			382232 Electronic Equipment Trades Worker Cert IV 314131 ICT Hardware Technician Cert IV 382234 Office Equipment Technician Cert IV 273331 Cloud Engineer Diploma 272131 ICT Network and Systems Engineer Diploma 272132 Network Administrator Diploma		
Operations & Service Management 2 roles			Architecture & Systems Administration 3 roles		
314231 ICT Customer Support Officer Cert IV 273234 Systems Analyst Diploma			313937 Other Draftsperson Cert IV 314136 Web Administrator Cert IV 271232 Systems Administrator Diploma		
Project & Delivery Management 2 roles			Cybersecurity 2 roles		
273232 ICT Business Analyst Diploma 272233 ICT Test Analyst Diploma			271135 Cyber Security Engineer Diploma 271137 Penetration Tester Diploma		
Sales & Account Management 2 roles					
			631331 ICT Sales Assistant Cert IV 221632 ICT Sales Representative Cert IV		
Source: OSCA • SFIA9 • training.gov.au • Entry-level criterion: all skills mapped at SFIA level 4 or below			Disciplines Summary • v1		

Who the pathways are for

- **Employers and hiring managers:** A shared, skills-based framework for defining entry-level role requirements and assessing candidates across all nine pathways, supporting skills-based hiring from both traditional and non-traditional backgrounds.
- **RTOs and educators:** Evidence to support alignment of qualifications and curriculum with the specific skills demanded across the nine pathways, including clearer identification of where current training aligns with employer demand and where gaps remain.
- **Government and workforce planners:** A validated, replicable methodology for connecting labour market demand, training design, and occupational classification, with a defined approach for ongoing updates.
- **Learners and career changers:** Clear visibility of how VET qualifications connect to specific roles across the nine pathways, including recognition of transferable skills developed outside the technology sector that are directly relevant.

Key findings

- **Stakeholder Relationship Management is the most in demand skill and the largest gap in training.** It is the top-ranked skill across more than 40,000 job advertisements analysed and the weakest area of coverage in the current ICT Training Package. This finding is consistent across all nine pathways and represents the clearest priority for Training Package reform.

- **Employers are not primarily hiring supervised beginners.** Employers are seeking people who can apply skills with a degree of independence, adapt to changing contexts, and take responsibility for outcomes. Training that focuses primarily on closely supervised application does not align with current workforce demand.
- **There is a significant gap between employer demand and occupation-based skill profiles.** The project identified a 70% gap between the top 10 SFIA skills employers are actively seeking and those reflected in OSCA-derived skill profiles. This demonstrates that occupation-based analysis alone cannot accurately reflect current workforce demand and that a skills-led approach is essential.
- **Entry-level technology capability is hybrid.** Employers consistently require a combination of technical skills, coordination and engagement capability, and transferable skills. Training that develops only technical proficiency does not reflect real employer demand.
- **Pathways from VET into technology roles exist but are not clearly understood or communicated.** The nine pathways provide a clear and structured framework for entry into the technology sector, with 34 entry-level roles making the connections between the skills required for each role.
- **The pathways will not remain accurate without active stewardship.** The pace of change in employer demand means the skills landscape shifts quickly. A refresh cycle using the same skills-led methodology is required to keep the pathways current and aligned with workforce needs

Recommendations

- The nine pathways, supported by the workforce demand analysis, can inform ICT Training Package reform, particularly in raising the applied skills profile and addressing gaps in technical and transferable skills.
- The nine pathways can inform how employers, RTOs, and workforce planners understand and communicate entry-level skills demand across the technology sector.
- Create formal recognition pathways for candidates entering from non-technology backgrounds. Many already hold the CCS and DigComp 3.0 capabilities required for entry but lack the technical skills component.
- Establish a refresh cycle for the pathway data using the most recent approved skills-led methodology applied in this project.
- Transition the pathway profiles into dynamic, publicly accessible tools that are interactive, searchable, and updated as the underlying data is refreshed.

For the methodology underpinning this project, see Appendix D. For the framework mappings and their application, see Appendix E.

The nine pathways

The nine pathways are the pathways into the technology sector. Each pathway defines a distinct area of technology work, with its own skills foundation and entry-level roles.

How the pathways were established

- Roles were drawn from OSCA occupational data and grouped by shared skill profiles, typical tasks, and capability requirements, revealing natural groupings of work rather than relying on existing job categories.
- Each role was validated against SFIA, DigComp 3.0, and CCS to ensure the pathways reflect technical, digital, and transferable capability in full.
- Roles were selected at entry and early-career level using SFIA Foundation guidance. This produced the 34 OSCA-aligned roles included in the pathways.
- The pathways and role groupings were tested and refined through consultation with 52 stakeholders across industry, government, and education, confirming they reflect real hiring structures and team compositions.
- Skills-led demand analysis from more than 40,000 job advertisements was applied across each pathway to validate the capability profiles against current employer demand.

What each pathway profile contains

Each pathway profile provides a complete view of the skills foundation and entry-level roles within that pathway:

- **SFIA skills:** the technical skills required across the pathway, the number of job advertisements demanding each skill, and the SFIA responsibility level at which they are applied.
- **UoC reach:** the total number of Unit of Competency mappings delivering skills in the pathway, reflecting the breadth of training coverage available.
- **Entry-level roles:** the specific OSCA-aligned roles within the pathway, each with their SFIA skills, CCS, and DigComp 3.0 mappings at the role level.

What each entry-level role profile contains

Each of the 34 role-based profiles includes:

- **SFIA skills and levels:** the technical capabilities required for the role and the level of responsibility at which they are applied.
- **SFIA Professional Attributes:** the behavioural factors that shape how work is performed, including autonomy, influence, complexity, communication, and business judgement.
- **DigComp 3.0:** the foundational digital capabilities required across five areas: information and data literacy, communication and collaboration, content creation, safety, and problem-solving.
- **Singapore's Critical Core Skills Framework (CCS):** the transferable human skills required for effective performance, including communication, collaboration, problem-solving, adaptability, and continuous learning. These are mapped explicitly to support recognition of candidates from non-technology backgrounds.
- **Training alignment:** the ICT and BSB Units of Competency that support the required skills, alongside the VET qualification level identified as the strongest entry pathway.
- **Progression pathway:** how someone enters the role, the capability they develop over time, and potential progression opportunities.

- **AI impact profile:** which parts of the role are AI-resistant, AI-supported, AI-oriented, or AI-automated.

Before this project, the links between employer demand, occupational classifications, and VET training existed in fragments, with no common reference point across industry, government, and education. The nine pathway profiles and 34 entry-level role profiles provide that connection.

Full details for each pathway and role are available here: [Pathway Profiles](#)

What we heard

Consultation with 52 stakeholders across industry, government, education, and workforce groups ran alongside the analysis and directly informed the pathway design and validated the findings. Across discussions, there was strong convergence on the need to better recognise transferable capability, align training with real workforce demand, and modernise how the nine pathways and entry-level roles within them are defined in the context of rapid technological change. Four themes emerged consistently.

A summary of the stakeholder engagement process and participants is provided in Appendix B. Traceability from consultation findings to project outputs is included in Appendix C.

Theme 1 - Transferable skills are undervalued and under-recognised

Industry stakeholders consistently identified that entry-level capability is often developed outside traditional technology roles, particularly in customer service, operations, retail, and administrative environments. Communication, problem-solving, digital confidence, and customer engagement developed in these settings are directly applicable to technology roles but are often undervalued or not formally recognised in recruitment and training pathways.

To address this, SFIA Professional Attributes and CCS are mapped explicitly across all nine pathways and 34 entry-level roles. This enables candidates from non-technology backgrounds to assess how their existing capabilities align to specific technology roles, identify transferable strengths, and target the additional training needed to close technical skill gaps.

Theme 2 - Employers value applied readiness, not immediate full independence.

Employers consistently emphasised the need for candidates who arrive with the foundational skills and professional aptitude to contribute meaningfully and develop quickly. Entry-level roles increasingly require a combination of applied technical knowledge, workplace-ready behaviours, and the ability to learn and adapt in real work environments.

Employers do not expect complete independence from day one, but they do need confidence that candidates can apply their skills in practice, communicate effectively, collaborate with others, and build capability at pace. Stakeholders were clear that training focused primarily on closely supervised or theoretical application does not align with this expectation.

The pathway profiles respond by making applied capability more explicit, including the technical skills, professional attributes, and behavioural capabilities employers expect in workplace contexts.

Theme 3 - Technology is reshaping entry-level work faster than training is adapting.

Industry confirmed that AI, automation, cloud computing, and cyber security are already changing what entry-level work involves. Routine tasks are increasingly being automated, while entry-level roles now require higher levels of digital fluency, judgement, problem-solving, and adaptability than they did even a few years ago. This shift was consistently reflected in the job advertisements analysed for this project.

This aligns with the capability frameworks applied throughout the project, including SFIA, DigComp 3.0, and CCS, which collectively emphasise technical capability, digital literacy, adaptability, collaboration, and professional responsibility in increasingly complex work environments.

Each of the 34 entry-level role placemats includes an AI impact profile and DigComp 3.0 mapping to make these changes explicit. Stakeholders were clear that qualifications which do not account for these shifts risk producing graduates who are underprepared for current workforce demand.

Theme 4 - Lack of a common skills language.

Stakeholders consistently highlighted misalignment between the way industry, education, and government describe skills, roles, and capability expectations. Employers describe roles one way, training packages another, and government frameworks a third. This creates friction in recruitment, training design, workforce planning, and careers guidance.

SFIA was used as the primary classification framework because it provides a structured and widely recognised way to describe technology-based skills, levels of responsibility, and professional capability. DigComp 3.0 adds the foundational digital capability dimension, while CCS adds the transferable human skills dimension identified consistently through stakeholder consultation.

Together, the three frameworks provide a shared reference point for describing entry-level technology capability. An employer, an RTO, and a government workforce planner reviewing the same pathway placemat are working from the same capability description, using language that can be applied consistently across sectors.

Further detail on the supporting frameworks and mapping approach is provided in Appendix E.

What this means

Entry-level pathways must evolve to reflect modern workforce realities and should:

- Recognise and validate transferable and foundational skills from diverse employment backgrounds.
- Align more closely to real hiring practices and job task requirements.
- Support faster transition into productive employment while maintaining capability standards.
- Incorporate recognised skills frameworks to define technical, digital, and transferable capability expectations across the nine pathways.
- Incorporate digital competence and adaptability in response to AI and automation.
- Enable ongoing learning and skills evolution as technology continues to change work.

What the data shows

The following findings are drawn from analysis of more than 40,000 job advertisements, cross-referenced against OSCA occupational profiles and the ICT Training Package.

Where demand is concentrated

Demand across the job advertisement corpus falls into three broad clusters: development and implementation (~30%), delivery and operation (~27%), and strategy, architecture, and transformation (~32%). All three clusters are represented at entry-level, indicating that employers expect entry-level workers to contribute across the full span of ICT work, not only execution-focused tasks.

RTOs designing or reviewing qualifications against the pathway profiles will need to address all three clusters. Training focused narrowly on technical execution does not reflect where workforce demand is concentrated.

The most in-demand skills

Stakeholder Relationship Management is the single most in-demand SFIA skill across the job advertisement corpus and the weakest area of coverage in the current ICT Training Package. This finding is consistent across all nine pathways.

Demand consistently spans three skill types:

- **Technical skills:** Software development, systems integration, API development and management, database design and optimisation, infrastructure and cloud technologies, and end-to-end troubleshooting and maintenance.
- **Coordination skills:** Project management, requirements definition, cross-functional coordination, stakeholder alignment, and delivery management against scope, timelines, and objectives.
- **Transferable skills (CCS):** Communication, adaptability, collaboration, problem-solving, and continuous learning, appearing consistently alongside technical requirements across every pathway.

Employers are hiring across all three skill dimensions. Each of the 34 pathway placemats reflects this combination. Qualifications assessed only against technical capability will present a false picture of alignment with workforce demand.

The alignment gap

Only three of the top 10 SFIA skills in current job market demand are reflected in OSCA-derived skill profiles: Infrastructure Operations, Programming/Software Development, and Systems Integration and Build. The remaining seven, including Stakeholder Relationship Management, are not captured in occupational classifications.

OSCA is designed for occupational classification, not real-time workforce demand analysis. As employer skill requirements shift, pathways built solely from occupational frameworks will diverge from market demand over time.

A recurring refresh cycle using the same skills-led methodology applied in this project is required to keep the pathways current and aligned to workforce needs.

What employers are hiring for

Employer demand is concentrated in roles requiring applied capability, independent judgement, adaptability, and responsibility for outcomes. Closely supervised application is significantly underrepresented in workforce demand.

Qualifications that focus primarily on supervised or theoretical application will not prepare graduates for the roles these pathways describe. This provides a direct evidence base for raising the applied skills profile of ICT Training Package qualifications.

How the ICT Training Package compares to market demand

Both OSCA and the ICT Training Package are anchored by the same core technical capabilities, particularly Network Support, Infrastructure Operations, and Systems Installation and Removal. This confirms that the Training Package is producing relevant foundational capability in these areas.

The gaps are more specific and structural:

- The Training Package is weighted toward lower levels of applied capability, while workforce demand is concentrated in roles requiring greater independence and responsibility.
- Stakeholder Relationship Management, the most in-demand skill in the labour market, is underrepresented across the qualification suite.
- Change management and cross-functional coordination are consistently present in workforce demand and weakly represented in both the Training Package and OSCA profiles.
- While the ICT Training Package maps significantly more skill instances than OSCA, the overall competency pattern is broadly similar. This suggests the foundation is sound, but the emphasis and application profile require adjustment rather than wholesale redesign.

The nine pathway and 34 entry-level role profiles provide the evidence of where these gaps appear, and which qualifications are most affected. This provides a practical evidence base to inform future ICT Training Package reform.

Further detail on the mapping methodology and framework alignment is included in Appendix E.

Mapping entry-level pathways

The pathway and role placemats are supported by an integrated evidence base connecting workforce demand, occupations, skills frameworks, training pathways, and AI impact analysis.

What the integrated dataset connects

- **Skills to roles and occupations:** Each role is mapped to SFIA skills and levels, SFIA Professional Attributes, DigComp 3.0 competencies, and CCS, then connected to the relevant OSCA occupational classification.
- **Occupations to training:** Each OSCA occupation is linked to the ICT and BSB Units of Competency that support the required skills and capability profile.
- **Market demand to workforce capability:** The top 20 SFIA skills identified through analysis of more than 40,000 job advertisements are mapped against occupations, training pathways, and capability frameworks to identify areas of alignment and gaps.
- **Skills to AI exposure:** Each SFIA skill and responsibility level is classified by AI impact, with role-level AI profiles derived from the skill composition of each role.

Together, these connections provide a single view across workforce demand, occupational classification, capability frameworks, and VET pathways.

What the integrated dataset enables

- **Employers and hiring managers:** A shared, skills-based framework for defining role requirements and assessing candidates across the nine pathways.
- **RTOs and curriculum designers:** Direct evidence of where qualification coverage aligns with labour market demand and where gaps exist at the Unit of Competency level.
- **Government and workforce planners:** A repeatable methodology connecting labour market demand, occupational classification, and training design using consistent and comparable data.
- **Learners and career changers:** Clearer visibility of how skills connect to roles, what training supports those skills, and how pathways progress into employment.

For the first time, employers, RTOs, and workforce planners are working from a shared evidence base using a consistent description of skills, capability, and workforce demand.

Additional detail on the framework mappings and their application is provided in Appendix E.

Recommendations

The following recommendations are informed by the findings, framework mapping, and stakeholder consultation undertaken through this project.

R1 - Use the nine pathways and workforce demand analysis to inform ICT Training Package reform.

The analysis identified a significant gap between the skills employers are actively seeking and those reflected in OSCA-derived role profiles. It also confirmed that employers are seeking a combination of technical skills with

stakeholder engagement, requirements definition, and coordination capability that current training does not consistently develop.

The nine pathways and associated role profiles provide a practical structure to inform ICT Training Package reform. The workforce demand analysis provides the evidence for what each pathway needs to train for, particularly in raising the applied capability profile of qualifications and addressing the gap in technical, coordination, and transferable skills, including Stakeholder Relationship Management and cross-functional coordination.

R2 - Use the nine pathways to inform how employers, RTOs, and workforce planners understand and communicate entry-level skills demand.

The nine pathways provide a practical structure for informing entry-level technology workforce demand to employers, RTOs, and careers advisors. Each pathway represents a cluster of roles with shared capability requirements, allowing workforce, training, and hiring decisions to be made at a level broader than a single role but more specific than the technology sector overall.

An employer with an understanding of the Cyber Security pathway can assess candidates across multiple related roles using a shared capability profile. An RTO aligning a qualification to the Software Engineering pathway can clearly position that qualification against a defined set of workforce outcomes. The pathway structure should be used consistently across stakeholder-facing materials derived from this project.

R3 - Recognise transferable skills as valid pathway entry points.

Consultation confirmed that many candidates entering from non-technology backgrounds, including customer service, operations, and administration, already hold the Critical Core Skills and DigComp 3.0 capabilities required for entry into multiple pathways. In many cases, the gap is technical capability rather than broader workplace readiness.

Formal recognition approaches should allow candidates to demonstrate existing transferable skills and digital capability at the pathway entry point, reducing duplication and shortening the pathway from training into employment. This has relevance for Operations & Service Management and Sales & Account Management, where transferable capability forms a significant part of the role profile.

R4 - Maintain and refresh the pathway data on a regular cycle.

The nine pathways and entry-level roles are grounded in labour market data collected up to March 2026. The identified gap between current workforce demand and OSCA-derived skill profiles demonstrates how quickly workforce capability requirements change over time.

A suitable refresh cycle should be established using the same analytical approach applied in this project: job advertisement analysis mapped to SFIA, cross-referenced against OSCA and the ICT Training Package, and supported by targeted stakeholder validation. The methodology provides a repeatable foundation that enables the pathway and roles to be updated without requiring a full rebuild each cycle.

R5 - Transition the pathway placemats to dynamic, accessible tools

The pathway and role placemats currently exist as structured analytical outputs. To support practical use by employers, RTOs, and learners, they should transition into interactive and publicly accessible tools that reflect how these audiences search for workforce and training information.

The existing dataset provides the foundation for a public-facing platform that allows users to explore the nine pathways, associated roles, qualification pathways, and relevant Units of Competency. Linking the platform to the refresh cycle outlined in R4 would transition the pathways from a point-in-time report into an ongoing workforce intelligence resource.

The following appendices provide supporting detail on terminology, consultation, methodology, framework mapping, and traceability referenced throughout this report.

Appendix A: Glossary and key terms

This appendix defines the key terminology, frameworks, and concepts used throughout the report to support consistent interpretation across industry, education, and government stakeholders.

Acronyms and abbreviations

Term	Definition
ACS	Australian Computer Society. Professional body for ICT in Australia; co-delivery partner for ELP project.
ANZSCO	Australian and New Zealand Standard Classification of Occupations. The occupational classification system used by the ABS. OSCA is replacing it.
BSB	Business Services Training Package. The national Training Package for business and administrative qualifications; several of its Units of Competency (e.g. around stakeholder engagement and requirements analysis) are used within ICT qualifications.
CCS	Critical Core Skills. A transferable-skills framework (Singaporean) used as the cross-sector currency for non-technical capability.
DigComp 3.0	The European Digital Competence Framework for Citizens, version 3.0. A 21-competency framework covering digital literacy, problem solving, safety, information management and content creation, used as a complementary lens to SFIA.
ELP	Entry-Level Pathways. The FSO-commissioned project (s) that produced this report. Project 1 established the occupation-led demand analysis; Project 2 extended it with a skills-led lens.
FSO	Future Skills Organisation. The Jobs and Skills Council responsible for finance, technology, and business skills; commissioning body for ELP.
ICT	Information and Communications Technology. The sector and skills domain ELP is scoped to.
IRG	Industry Reference Group. Stakeholder group providing industry-side validation of findings and draft outputs.
ISC	Industry Skills Council. Sector-specific bodies supporting the design of training products. FSO is one of several ISCs within Australia's Jobs and Skills Council system.

JSA	Jobs and Skills Australia. Commonwealth statutory body providing advice on workforce, skills and training. Owner of the OSCA framework.
OSCA	Occupation Standard Classification for Australia. The modernised national occupational classification replacing ANZSCO. Used as the occupational traceability layer.
RTO	Registered Training Organisation. Provider accredited to deliver nationally recognised VET qualifications. Key consumer of the ELP findings.
SFIA	Skills Framework for the Information Age. A global skills framework (currently at version 9) organising ICT skills into categories and levels. The primary classification framework used.
SFIA 9	The ninth version of SFIA, released 2024.
UoC	Unit of Competency. The smallest formal training component in an Australian Training Package. The unit at which Training Package revisions happen.
VET	Vocational Education and Training. The tertiary sector delivering nationally recognised qualifications below higher education, primarily through TAFEs and RTOs.

Key terms and concepts

Term	Definition
AI-Automated	An AI-impact classification: AI can perform the skill at the level in question with little or no human involvement. Training should either redirect toward higher levels of the skill or toward adjacent skills with more durable profiles.
AI-Oriented	An AI-impact classification: AI is actively reshaping the tasks the skill covers. The skill itself remains, but the way it is performed is changing. Training needs to emphasise the AI-enabled workflow rather than the pre-AI one.
AI-Resistant	An AI-impact classification: the skill remains human-performed for the foreseeable future, typically because it requires judgement, physical presence, or contextual nuance that current AI cannot reliably replicate.

Term	Definition
AI-Supported	An AI-impact classification: AI tools augment the human performing the skill, accelerating work while the human leads. Training should prepare practitioners to work with AI tools effectively.
Critical Core Skills (CCS)	A framework of transferable, cross-sector capabilities used alongside SFIA and DigComp 3.0. Organised into three categories — Thinking Critically, Interacting with Others, and Staying Relevant — covering 16 skills including Communication, Problem Solving, Adaptability, and Developing People.
Demand Prioritisation Index	The weighted-indicator ranking developed in the earlier project by Deloitte Access Economics. Ranked 41 in-scope ICT occupations on likelihood of being both in demand and accessible via a Secondary School or VET pathway. Retained in this project for directional context.
Digital Fluency	A Critical Core Skill covering the capacity to use digital tools and systems effectively in the work context. The top-ranked CCS skill across both OSCA and the ICT Training Package mappings.
Entry-level	The capability profile expected of a candidate entering the technology workforce for the first time or through a career transition. Operationally characterised as SFIA Levels 2–4, DigComp 3.0 Advanced, and CCS Intermediate.
Entry-level capability	The combination of technical skills, professional attributes, digital competence, and transferable skills expected of individuals entering the technology workforce or transitioning into technology-related roles.
Entry-level Pathway	A defined route by which a learner or career changer can enter the technology workforce at entry-level. Includes formal qualifications, transferable-skill routes, and lateral entry from adjacent roles.
Foundational digital capability	The baseline digital knowledge and applied competencies required to participate effectively in modern workplaces and digital environments, including communication, information management, digital safety, and problem-solving.
Hybrid capability	The combination of technical depth and coordination / governance capability (e.g. stakeholder engagement, requirements definition, project management) that evidence shows the ICT market now expects at entry-level. Contrasts with a purely technical profile.

Term	Definition
ICT Training Package	The nationally endorsed Training Package defining Qualifications, Units of Competency, and Skill Sets for the technology sector. Currently under review, this project provides evidence as an input to that review.
Occupation-based analysis	The previous approach: rank occupations by demand (via the Demand Prioritisation Index), then infer required skills from the OSCA role definitions for those occupations. Retained for traceability but no longer the primary evidence base.
Placemat	A single-page pathway view introduced that brings the market, OSCA, Training Package, framework, and AI-impact data together for a pathway or job role. Designed as a portable artefact for Training Package designers, employers, careers advisors, and learners.
Professional Attributes	The SFIA component covering behavioural factors such as Communication, Complexity, Autonomy, Business Skills, and Influence. SFIA itself labels these 'Core Competencies and Behavioural Factors'; this project refers to them as Professional Attributes for readability.
SFIA Level	A 1–7 scale of responsibility, autonomy, and influence within SFIA. Level 1 (Follow) through Level 7 (Set Strategy). Entry-level ICT work is anchored at Levels 2–4.
Skill intensity	The combined measure of frequency and prevalence at which a skill appears in a corpus. Used to distinguish broadly sought skills from niche ones across job advertisements, OSCA, and the Training Package.
Skills language	A consistent and structured way of describing skills, capability, responsibility, and professional attributes across workforce, education, and policy contexts to improve alignment and comparability.
Skills-led approach	An approach to workforce planning, training design, and capability analysis that prioritises the specific skills employers require, rather than relying solely on occupational titles or classifications. Within this project, skills demand is identified through job advertisement analysis and mapped across multiple capability frameworks.
Skills-led demand analysis	The revised methodology: extract skills directly from 40,000+ job advertisements using SFIA as the classification framework, measure intensity, and compare with OSCA and Training Package mappings. Complements (does not replace) occupation-based analysis.

Term	Definition
Stakeholder Relationship Management (RLMT)	The SFIA skill covering the identification, engagement, and ongoing management of stakeholders. The #1 skill by frequency in market data, and the single most significant gap identified in the ICT Training Package's coverage.
Thinking Critically	The dominant Critical Core Skills category across both the OSCA mapping (39.8%) and the ICT Training Package mapping (41.2%). Covers Problem Solving, Decision Making, and related analytic capabilities.
Training Package	A nationally endorsed set of Qualifications, Units of Competency, and Skill Sets that defines what is delivered in VET. The ICT Training Package and BSB Training Package are the two most relevant to ELP.
Transferable skills	Capabilities developed in one role, industry, or context that can be applied effectively in another. In this project, transferable skills include communication, teamwork, problem solving, customer engagement, and adaptability that support entry into ICT roles from non-traditional backgrounds.
Unit of Competency (UoC)	The smallest formal component of a Training Package. Specifies the performance outcomes, knowledge, and skills required. The unit at which Training Package revisions are typically made.
Workforce intelligence	The use of workforce, labour market, skills, and training data to support evidence-based workforce planning, capability analysis, and decision-making across industry, education, and government.

Appendix B: Stakeholder engagement and consultation

This appendix outlines the stakeholder engagement process, consultation activities, and participant groups that informed and validated the findings and recommendations within the report.

Stakeholder identification

Phase 2 identified four groups of stakeholders and structured engagement around each.

Primary stakeholders

The bodies directly commissioning, governing, and executing the work.

- Future Skills Organisation (FSO)
- Australian Computer Society (ACS)
- FSO Project Team
- ACS / C4 Digital Project Team
- ICT Training Package Scoping Team
- FSO Executive and Governance Committees

Secondary stakeholders

The broader institutional ecosystem whose work the ELP findings will influence.

- Jobs and Skills Australia (JSA)
- Registered Training Organisations (RTOs)
- Higher Education Providers
- Industry Skills Councils (ISCs)
- Government Departments (Commonwealth and state)
- Industry Associations and Professional Bodies
- Career Advisory and Employment Services Providers

End users

The people and organisations who will use the outputs in practice.

- Learners
- Career changers
- Educators and curriculum designers
- Workforce planners and HR teams
- Employers recruiting ICT talent
- Careers advisors and employment service providers

Validation stakeholders

The individuals and bodies whose endorsement underpins the credibility of the findings.

- Industry Reference Groups (IRGs)
- ICT employers and hiring managers
- Industry subject-matter experts
- Training providers validating Unit of Competency alignment
- ACS SFIA-Accredited Consultants
- SFIA Foundation
- Workforce planning and labour-market experts

Consultation schedule

Consultation was delivered across seven workshops, an ICT Scoper Team briefing, and an industry Town Hall between 5 March and 14 April 2026.

Activity	Purpose	Date	Location	Attendees
Presentation	Intro to ELP Phase 1	5 March 2026	Online	FSO ICT Scoper Team
Workshop	Industry Demand Signals Consultation	17 March 2026	Hobart	Employers, government
Workshop × 2	Industry Demand Signals Consultation	19 March 2026	Adelaide	Employers, government, Hays
Workshop	Industry Demand Signals Consultation	25 March 2026	Sydney	Employers, academic
Workshop × 2	Industry Demand Signals Consultation	31 March 2026	Melbourne / Online	Employers, academic, government
Workshop	Industry Demand Signals Consultation	7 April 2026	Online	Peak bodies and members
Town Hall	Industry Town Hall and ELP Call to Action	14 April 2026	Online	Past participants

Consultation participants

The project engaged 52 participants across five stakeholder segments. The tally below shows the balance of segments represented; the full participant list follows.

Segment tally

Segment	Participants	Share
Education & Training	12	23%
Industry / Employers	18	35%
Peak bodies & associations	7	13%
Government	8	15%
Recruitment & workforce advisory	7	13%
Total	52	100%

Appendix C: Stakeholder-to-output traceability

This appendix demonstrates how stakeholder consultation directly informed the project analysis, outputs, and recommendations.

The consultation process directly informed the design, analysis, and recommendations within this report. The following examples demonstrate how stakeholder feedback translated into project outputs and decisions.

What We Heard	What We Did
Employers need candidates who are job ready from day one	Developed entry-level pathway definitions aligned to practical workforce capability and current hiring expectations
Transferable skills from non-ICT roles are not recognised strongly enough	Included transferable capability through the Critical Core Skills Framework and recommended recognition of non-traditional entry pathways
Industry lacks a common language for skills	Used SFIA, DigComp 3.0, and Critical Core Skills together to create a shared capability framework across industry, training, and government
Entry-level roles are changing due to AI and automation	Incorporated AI Impact Profiles and adaptability requirements into pathway design and capability analysis
Training pathways do not align well to employer demand	Conducted skills-led demand analysis using job advertisement data and mapped findings to the ICT Training Package
Employers require hybrid capability, not purely technical skills	Integrated behavioural, communication, stakeholder engagement, and coordination capability alongside technical skills
Existing workforce signals are fragmented and reactive	Developed a connected dataset linking roles, skills, occupations, and training pathways to support future workforce intelligence
Pathways between education and employment are unclear	Developed role-based placemats linking training, occupations, skills, and employment outcomes
Industry requires more responsive and up-to-date workforce insights	Recommended transition from static reports to dynamic, refreshable workforce intelligence tools

This traceability demonstrates that the project outputs are not solely data-driven, but are also grounded in industry, education, and stakeholder validation.

Appendix D: Methodology

This appendix explains the project scope, analytical approach, data sources, and skills-led methodology used to develop the findings and recommendations presented in the report.

This project covered five items - a skills demand analysis, framework mapping, industry and stakeholder consultation, an implications analysis, and final recommendations. It deliberately did not attempt a redesign of individual Units of Competency, a new qualification structure, nor employer-specific workforce plans. Those are proper question, but they are downstream of the evidence base this project was commissioned to produce, and in several cases, they sit in the scope of the ICT Training Package Scoping Project running in parallel.

In scope

- Analysis of current and emerging skills demand triangulated with industry consultation.
- Discovering the top 20 SFIA9 skills in the ICT labour market
- Mappings between OSCA, the SFIA Professional Attributes, SFIA, DigComp 3.0, and the Critical Core Skills framework.
- Mapping of the ICT Training Package — together with the relevant BSB Units of Competency — to the same frameworks.
- Industry and stakeholder consultation across five jurisdictions, culminating in an industry Town Hall.
- Implications for entry-level pathways and recommendations for future workforce and training design.

Out of scope

- Redesign of individual Units of Competency or the creation of new qualifications.
- Employer-specific workforce plans.
- Assessment or accreditation of training providers.
- Ongoing maintenance of the ELP dataset after launch — addressed instead as a recommendation (see R4).

The occupation-based methodology (earlier demand analysis)

Earlier demand analysis was built on a Demand Prioritisation Index developed by Deloitte Access Economics. The Index ranked 41 in-scope technology and digital occupations — filtered from an initial 104 ANZSCO v1.3 occupations — by the likelihood that they were both in demand and accessible via a Secondary School or VET pathway.

The filter applied two thresholds. Occupations were included only if at least 10% of the workforce held a Secondary School or VET qualification, and at least 10% had studied in an Information Technology field. This reduced the 104 ANZSCO occupations to the 41 that met both criteria.

Each of the 41 in-scope occupations was then scored across 12 indicators, normalised to a 0–10 scale. A weighted average across the indicators produced an ordinal rank from 1 (highest priority) to 41. The weighting gave 70% of the total to demand indicators — realised employment, forecast employment, job vacancies, VET enrolments, and skill shortages — and 30% to entry-level characteristic indicators — median age, median wage, and recent training share.

The ANZSCO-based ranking was then concorded to the OSCA framework for downstream skills analysis against SFIA and subsequently compared to the ICT Training Package. Skills were inferred from OSCA role definitions for the ranked occupations. This was an appropriate methodology for the data available at the time. It was not a mistake, and this revision is not a criticism of it. It was, however, bounded by four constraints that this project addresses.

Opportunities to strengthen the approach

The previous methodology had four structural limitations, each of which this project addresses because of the job-advertisement data now available.

- 1. The methodology identifies in-demand roles, not in-demand skills**

The Demand Prioritisation Index ranks occupations by demand and then infers skills from OSCA role definitions. This tells us which roles the market needs, but not directly which skills employers are seeking. Training package development ultimately requires skill-level evidence, not role-level evidence.

- 1. OSCA role definitions don't reflect what employers ask for**

OSCA describes standardised role archetypes designed for classification purposes. Job advertisements for the same role title vary significantly by industry, organisation, and tech stack. For example, two "Software Engineer" advertisements may require quite different skills, tools, and experience. The framework captures neither this variation nor the relative priority of individual skills within a role,

- 2. Each step adds a layer of abstraction from market demand**

The earlier analysis moves from ANZSCO occupations to an Index rank to OSCA concordance to SFIA skills mapping, and finally to a training package comparison. Partial concordances mean multiple OSCA roles can map to a single ANZSCO code. By the end of the chain, skill-level findings inherit assumptions from every preceding step.

- 3. 4. This is an evolution, not a criticism**

The earlier methodology was appropriate for its scope and data constraints. What has changed is not the quality of the original work but the availability of richer data sources that can complement and extend it. Job-advertisement data at the scale used in this project was not a practical input to earlier iterations.

The revised approach — skills-led demand analysis

The revised approach starts from demand signals directly. Rather than inferring skills from occupations, it extracts them from the advertisements employers are posting and measures their intensity across the corpus. SFIA remains the classification framework; OSCA is retained for traceability.

The approach works in three analytical steps described in Section 3 and summarised here.

1. **Collect demand signals.** 40,000+ job advertisements (October 2025 – March 2026), supplemented by industry consultation and workforce reports.
2. **Extract and classify skills.** Skills, tools, and competencies extracted and mapped to SFIA and, in parallel to DigComp 3.0 and Critical Core Skills).
3. **Measure skill intensity.** Frequency and prevalence across the corpus — distinguishing broadly sought skills from niche requirements.

Key benefits of the revised approach:

- **Direct observation.** Skills are identified from what employers ask for, not inferred from role definitions.
- **Skill-level granularity.** Findings are immediately applicable to training package development without requiring occupation-to-skill inference.
- **Demand-based prioritisation.** Frequency data ranks skills by how urgently and broadly the market needs them, so the most important rise to the top naturally.
- **Cross-cutting skills surfaced.** Skills that span multiple roles (cloud, cyber security, data analysis) are identified through their repeated appearance across diverse advertisements.
- **OSCA traceability preserved.** In-demand skills are mapped back to OSCA, maintaining connection to the occupational framework for government and reporting purposes.
- **Dual-lens training package analysis.** The training package is assessed against both market-observed skills and OSCA role coverage.
- **Responsive to change.** Job-advertisement data reflects current needs and can be refreshed regularly.
- **Complements existing work.** The occupation-level prioritisation provides directional context; the skills-led analysis adds the granular evidence base for training outcomes.

Revised training package analysis

The shift in demand methodology also changes how the ICT Training Package should be assessed. Under the earlier approach, SFIA skills and levels were derived from OSCA role definitions for the prioritised occupations, and the Training Package was assessed against these role-derived skill profiles. This answered the question "how well does the training package support the in-demand roles?".

The analysis was bounded by the skills each OSCA role definition happened to include. Skills that employers frequently seek, but that don't feature prominently in any single OSCA definition, could be overlooked, and the skill levels assessed were those prescribed by the framework for a given role, not necessarily what employers need at entry-level.

Under the revised approach, the Training Package is assessed directly against the skills and skill levels observed in the market, with OSCA coverage analysed in parallel as a secondary lens. This helps identify gaps that point directly to where new or revised Units of Competency would have the greatest impact.

Appendix E: Mappings – purpose and use

This appendix explains the purpose, structure, and practical application of the cross-framework mappings used to align workforce demand, skills, occupations, and training pathways.

The mapping across SFIA, DigComp 3.0, and the Critical Core Skills Framework is a central component of this work. It is designed not simply as a technical exercise, but as a practical tool to translate between different skills languages used by industry, education, and policy.

Skills Frameworks Used

To ensure the outputs are robust, transferable, and aligned to both industry and government expectations, this project draws on three complementary skills frameworks:

1. SFIA (Skills Framework for the Information Age)

SFIA was used as the primary skills classification framework within this project because it supports structured description of ICT skills and responsibility levels. It describes skills across levels of responsibility, enabling clear articulation of capability progression from entry-level through to senior roles. Within this project, SFIA is used to define the technical and professional skills required for ICT roles and to ensure alignment with industry-recognised capability standards.

2. DigComp 3.0 (Digital Competence Framework for Citizens)

DigComp 3.0 was used to provide an additional reference point for foundational digital capability required by individuals to participate effectively in a digital society and workforce. It includes areas such as information literacy, communication, content creation, safety, and problem-solving. In this project, DigComp 3.0 supports the identification of baseline digital competencies expected at entry-level, complementing the more specialised skills defined in SFIA.

3. Singapore's Critical Core Skills Framework

The Critical Core Skills Framework, developed in Singapore, defines the essential transferable skills required across all occupations to enable workforce adaptability and resilience. It focuses on areas such as critical thinking, communication, collaboration, and self-management, with an emphasis on applying these skills in dynamic and evolving work environments. Within this project, it was used to help assess transferable and human-centric capability required by industry to support long-term employability and career progression.

Together, these frameworks provide a comprehensive view of capability, covering technical, digital, and transferable skills, and enable the development of pathways that are both industry-relevant and practically usable across education, training, and workforce contexts.

Purpose of the Mapping

- Create **a common skills language** that aligns technical, digital, and transferable capabilities
- Bridge the gap between **industry expectations and training system outputs**
- Enable clearer articulation of **entry-level capability requirements**
- Support consistency in how skills are **defined, described, and assessed**

How the Mapping Works

- SFIA skills and levels (technical and professional capability)
- DigComp 3.0 competencies (baseline digital literacy and application)
- Critical Core Skills (transferable and human skills)

This creates a layered view of capability, where each framework contributes a different dimension of what is required to perform effectively in an entry-level ICT role.

How the Mapping Can Be Used

- **Employers:** Define clearer job requirements, improve job ads, and align hiring expectations with real capability needs
- **Education & Training Providers:** Design or refine courses that better reflect industry demand across all skill types
- **Policy & Workforce Planning:** Inform skills forecasting, workforce strategies, and qualification design
- **Individuals:** Understand what skills are required, where gaps exist, and how to progress into and within ICT careers

What This Enables

- More transparent and consistent **entry-level pathways**
- Improved alignment between **skills supply and demand**
- Stronger foundation for **skills-based hiring and development**
- A practical mechanism to move from **occupation-based thinking to skills-led workforce planning**.

OSCA to SFIA | Skill Categories & Levels

KEY INSIGHTS



Operations & development dominate

Delivery & operation (35.7%) and Development & implementation (31.7%) together exceed two thirds of all mapped SFIA skills to OSCA — core tasks are built around hands-on technical execution.



Security & risk are embedded, not siloed

Risk management, Information security, and Security operations all rank in the top seven, indicating security responsibilities are distributed broadly across roles.



Senior & strategic capacity is limited

SFIA Levels 6 and 7 together account for only ~31 instances (~9% of total), suggesting a narrow pool of staff operating at the highest levels of responsibility.



Infrastructure & network skills lead

The two highest-frequency SFIA skills — Infrastructure operations and Network support — sit well above all others.



Workforce is at mid-level proficiency

Level 4 (Enable) carries the highest count (127 instances). Levels 3–5 collectively represent ~86% of all mapped skill levels, pointing to a workforce centred on SFIA Level 4–5 responsibility.



Change & engagement are underrepresented

Change and transformation (4.3%) and Relationships and engagement (6.7%) are the smallest segments, highlighting a gap in change management and engagement capability.

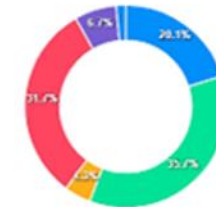
*Strategy and architecture capture 20.1% which may warrant review if the industry intends to grow its enterprise architecture and planning capability.



96

Unique SFIA Skills

SFIA Skill Categories Distribution



● Strategy and architecture ● Delivery and operation ● Change and transformation ● Development and implementation
● Relationships and engagement ● People and skills

Skill Level Distribution



1

OSCA to SFIA chart showing 96 unique SFIA skills by category and level. Most skills sit at SFIA Levels 3 to 5, with strongest coverage in delivery, operations, development, infrastructure and network support.

UoC to SFIA | Skill Categories & Levels

KEY INSIGHTS



Delivery & operations is the dominant category

At 34.9%, Delivery and operation holds the largest share, closely followed by Development and implementation (29.6%) — nearly two thirds of the ICT training package focuses on building and running ICT systems.



Network & infrastructure anchor the package

Network support, Systems installation and removal, and Infrastructure operations occupy the top three positions by frequency, reinforcing that foundational skills form the backbone of ICT qualifications.



Package is weighted toward junior to mid-level

SFIA Levels 2–4 account for over 91% of total skill instances (~3,535 of ~3,880), with Level 3 alone contributing 1,802 instances. This reflects an ICT package designed primarily to produce practitioners rather than senior leaders.



Senior & strategic skills are notably scarce

Levels 5–7 together represent fewer than 340 instances (under 9%), with Level 7 nearly invisible. The ICT training package offers very limited pathways into strategic or advisory ICT roles.



Strategy & architecture holds a meaningful but third position

At 19.0%, planning and design skills such as Solution architecture and Systems design feature in the package but are not a primary focus.



Change & engagement receive minimal coverage

Change and transformation (10.5%) and Relationships and engagement (4.5%) point to limited emphasis on organisational change, stakeholder management, and business engagement skills.



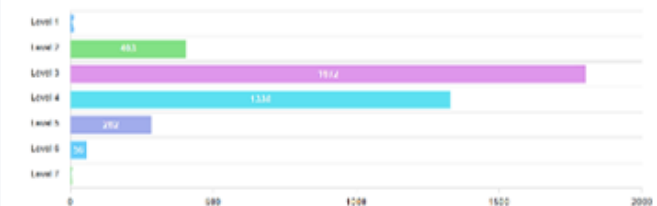
134

Unique SFIA Skills

SFIA Skill Categories Distribution



Skill Level Distribution



25

UoC to SFIA chart showing 134 unique SFIA skills by category and level. Most skills sit at SFIA Levels 2 to 4, with strongest coverage in delivery, operations, development, network support and infrastructure.

OSCA to UoC | Top 10 SFIA Skill Priority Shift



Ranks are based only on each side's top 10 SFIA skills. A dashed line means the skill is in the top 10 for only one side and is drawn to a fallback rank of 11 on the other side.

KEY INSIGHTS

- Both mappings share a core technical skills foundation
- OSCA skews toward operations & security; the ICT training package skews toward development and engineering practices
- ICT training Package produces a more junior workforce profile
- OSCA allocates more weight to strategy and architecture
- Neither mapping invests in change management or stakeholder engagement
- Scale differs dramatically, but the competency shape is similar

26

OSCA to UoC chart comparing the top 10 SFIA skill priorities. It shows shared technical foundations, with OSCA stronger in operations and security, and UoCs stronger in development and engineering.

OSCA to SFIA | Professional Attributes



KEY INSIGHTS



Workforce concentrated at mid-levels

SFIA Level 4 (Enable) and Level 5 (Ensure, advise) together account for the majority of OSCA's SFIA-mapped positions, signalling a strong operational and senior practitioner base.



Communication & Problem-solving are universal

These two attributes appear across almost all mapped roles, reinforcing their status as foundational professional capabilities expected across the entire industry.



Creative & adaptive attributes trail significantly

Creativity and Adaptability appear far less frequently, which may present a risk if the industry needs to accelerate innovation or respond to rapid change.



Planning & digital mindset rank closely behind

Their high frequency reflects OSCA's need for structured delivery thinking and technology-aware professionals at scale.



Collaboration and Decision-making sit in the mid-tier.

While still prevalent, their lower ranking compared to Communication suggests many roles are individually accountable rather than operating in shared-authority models.



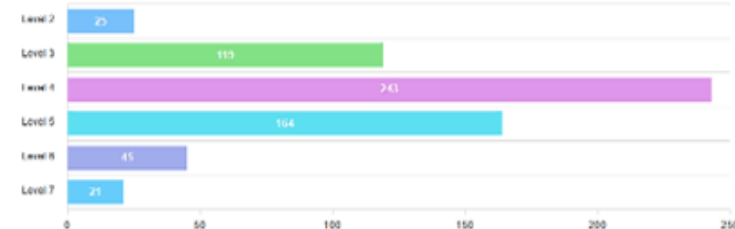
Entry-level representation is minimal

Only 25 roles sit at Level 2 (Assist), indicating limited structured pathways for early-career professionals entering the SFIA framework.

16

Unique Professional Attributes

PA Level Distribution to OSCA



27

OSCA to SFIA chart showing 16 Professional Attributes. Most attributes sit at SFIA Levels 4 and 5, with strongest coverage in communication, problem-solving, planning and digital mindset.

UoC to SFIA | Professional Attributes



KEY INSIGHTS



Package weighted to Levels 3 & 4

Levels 3 (Apply) and 4 (Enable) account for roughly 83% of all roles, indicating the ICT training package is predominantly oriented toward practitioner and senior practitioner levels.



Communication & Planning lead the rankings

Both appear with near-equal frequency, clearly ahead of remaining attributes — reflecting an emphasis on structured delivery and stakeholder engagement across ICT qualifications.



Leadership sits well below the midpoint

Its low ranking indicates that leadership as a professional attribute is embedded in only a small subset of ICT qualifications, predominantly at the higher levels.



Problem-solving & Digital mindset form a strong second tier

Their prominence signals that the ICT training package expects ICT professionals to combine technical fluency with analytical thinking as baseline capabilities.



Security, privacy & ethics ranks higher relative to OSCA

Its position above Improvement mindset suggests the ICT training package places greater emphasis on governance and responsible practice across its qualifications.



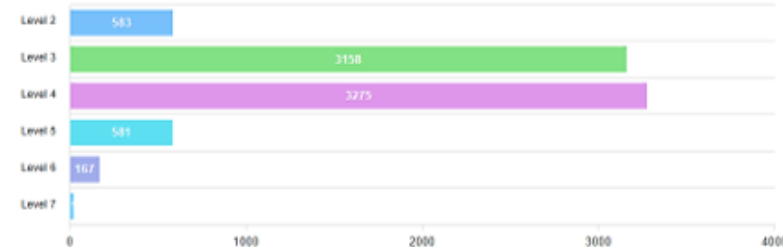
Creativity & adaptability remain least represented

Consistent with the OSCA pattern, these trail significantly — raising questions about whether the training package adequately prepares professionals for innovation-intensive environments.

16

Unique Professional Attributes

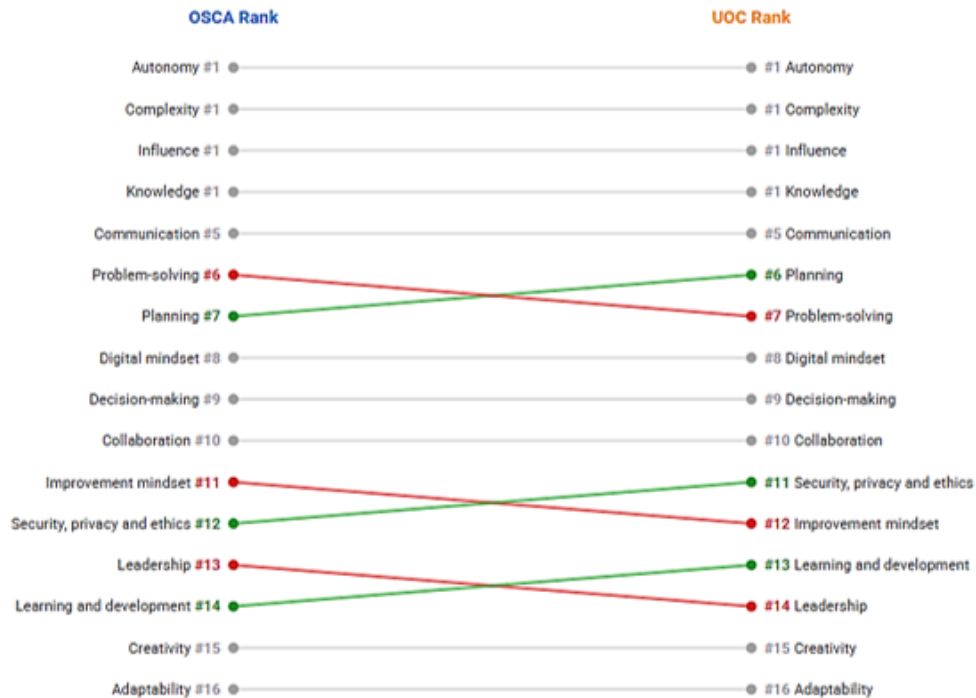
PA Level Distribution to UoC



28

UoC to SFIA chart showing 16 Professional Attributes. Most attributes sit at SFIA Levels 3 and 4, with strongest coverage in communication, planning, problem-solving and digital mindset.

OSCA to UoC | Professional Attributes Priority Shift



Lines connect each PA's frequency rank in OSCA (left) to its rank in UoC (right). Green = PA ranks higher in UoC, Red = PA ranks lower in UoC, Grey = same rank. Dashed lines indicate PAs found in only one dataset.

KEY INSIGHTS

Communication leads both; Planning & Problem-solving swap

Level distribution profiles differ significantly in shape

OSCA has proportionally greater representation at Levels 5–7

Security, privacy & ethics ranks higher in the ICT training package

Both mappings share the same tail-end gap

29

OSCA to UoC chart comparing Professional Attribute priorities. Most rankings align, with planning, security, privacy and ethics ranking higher in UoCs, and OSCA showing more higher-level coverage.

OSCA to Digcomp 3.0

KEY INSIGHTS



Two thirds of the DigComp framework already addressed

OSCA roles map to 14 of the 21 DigComp 3.0 competencies (67%), indicating strong foundational alignment with the framework.



Workforce skews toward advanced proficiency

105 of 171 role-competency mappings sit at the Advanced level (61%), while only 1 mapping falls at Basic — suggesting OSCA roles demand a digitally mature workforce.



Content Creation & Information Management are lightly covered

Together these two areas account for just 22.3% of mappings, and competencies such as Copyright and Licences and Integrating and Re-elaborating appear with minimal frequency.



Problem solving dominates the competency profile

Problem Identification and Solving accounts for 48% of all competency mappings, with four of its competencies ranking in the top five by frequency.



Safety & device protection rank highly alongside core skills

'Protecting devices' is the third most frequent competency, and Safety, Wellbeing and Responsible Use collectively represents 19.3% of all mappings.



Seven competencies remain unmapped, signalling potential gaps

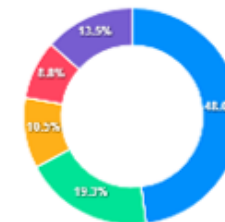
One third of the DigComp 3.0 framework has no current alignment to OSCA roles, presenting an opportunity to broaden digital capability expectations in future role design.



14

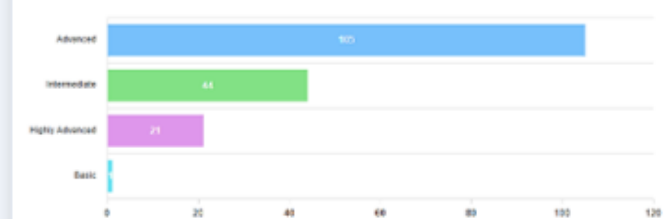
Unique DigComp 3.0 Competencies

Competence Areas Distribution



● Problem Identification And Solving ● Safety, Wellbeing And Responsible Use ● Communication And Collaboration
● Information Search, Evaluation And Management ● Content Creation

Competence Level Distribution



30

OSCA to DigComp 3.0 chart showing 14 mapped competencies. Problem-solving is the strongest area, with most mappings at advanced level.

UoC to Digcomp 3.0

KEY INSIGHTS



Full framework coverage achieved

The ICT training package maps to all 21 of the 21 DigComp 3.0 competencies, providing complete alignment across every competence area.



Problem solving remains dominant but with a more balanced profile

Problem Identification and Solving accounts for 40.5% of mappings, followed by Information Search, Evaluation and Management at 23.5% — producing a broader spread than comparable packages.



Information management features much more prominently

'Managing information' ranks second overall, and Information Search, Evaluation and Management as an area (23.5%) is nearly double the share seen in OSCA roles (8.8%).



Proficiency levels concentrated in the middle tiers

Advanced (1,026) and Intermediate (968) levels together account for 94% of all mappings, with only 30 at Highly Advanced and 106 at Basic.



Content Creation carries real weight in this package

At 15.3% of mappings, Content Creation is the third largest competence area, with 'Developing digital content' ranking sixth by frequency.



Safety & Wellbeing has the smallest share among five areas

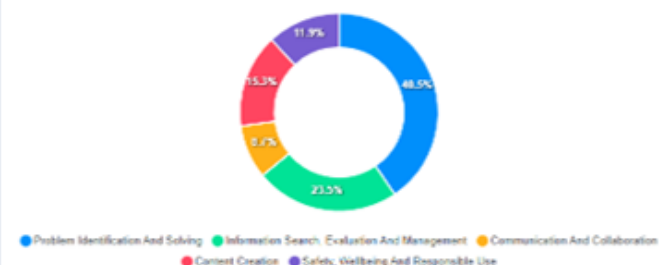
At 11.9%, Safety, Wellbeing and Responsible Use trails all other competence areas, though 'Protecting devices' still ranks fourth overall by frequency.



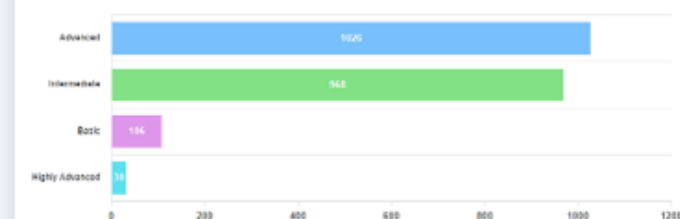
21

Unique DigComp 3.0 Competencies

Competence Areas Distribution



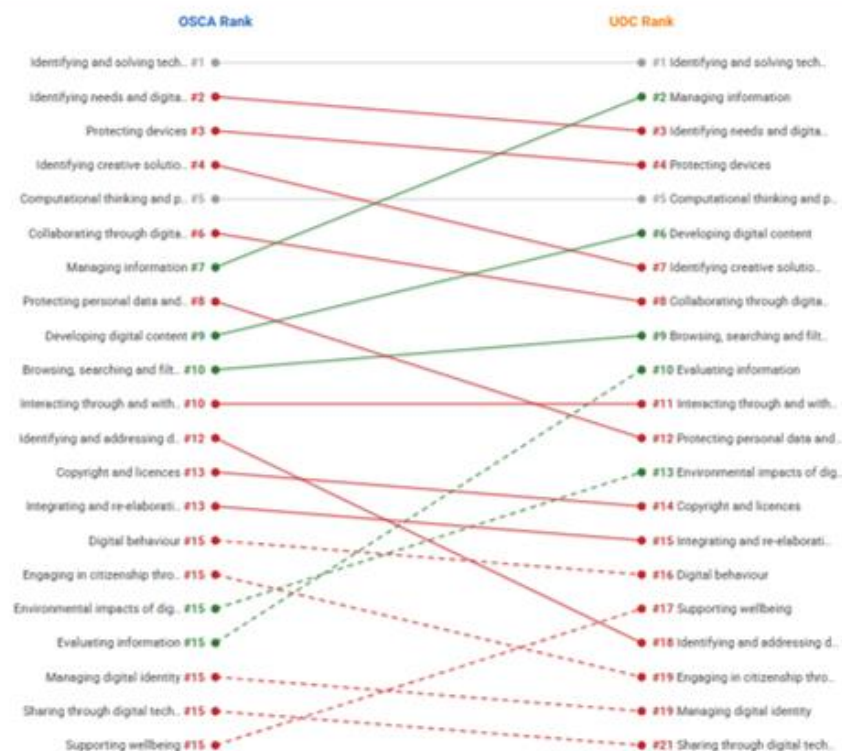
Competence Level Distribution



31

UoC to DigComp 3.0 chart showing all 21 competencies mapped. Problem-solving remains strongest, with most mappings at advanced and intermediate levels.

OSCA to UoC | Digcomp 3.0 Priority Shift



Lines connect each Digcomp competency's frequency rank in OSCA (left) to its rank in UoC (right). Green = Digcomp ranks higher in UoC, Red = Digcomp ranks lower in UoC, Grey = same rank. Dashed lines indicate Digcomp competencies found in only one dataset.

KEY INSIGHTS

Top-ranked competency is consistent across both frameworks

Information management is significantly underweighted in OSCA

Creative problem-solving & digital collaboration drop in priority

Content creation receives stronger training coverage than OSCA demands

ICT package fills the full DigComp framework where OSCA covers only 14/21

Protecting personal data drops out of the ICT package top 10

32

OSCA to UoC chart comparing DigComp 3.0 priorities. It shows the top competency is consistent, while UoCs provide broader coverage across the full DigComp framework.

OSCA to CCS | Critical Core Skills

KEY INSIGHTS



Thinking Critically is the most prevalent CCS category

Accounting for 39.8% of all skill mappings, followed by Staying Relevant (34.5%) and Interacting with Others (25.7%).



Workforce concentrated at Intermediate proficiency

Of 171 total skill-role mappings, 122 (71%) sit at Intermediate level, with only 26 at Advanced and 23 at Basic.



Digital Fluency & Problem Solving dominate the skills landscape

These appear far more frequently than any other competency, together representing the bulk of Staying Relevant and Thinking Critically requirements.



'People' skills trail significantly behind technical ones

Influence, Developing People, and Self Management rank at the bottom, suggesting OSCA roles are weighted toward execution over leadership.



A narrow-Advanced tier signals a potential development gap

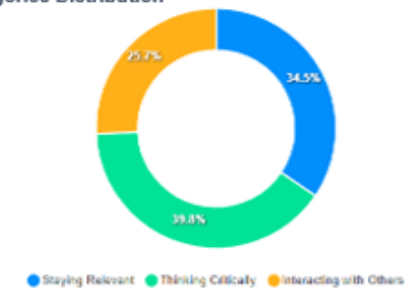
With only 15% of mappings at the Advanced level, there is an opportunity to uplift high-value skills like Problem Solving and Decision Making to deepen industry capability.



12

Unique CCS Skills

CCS Categories Distribution



Proficiency Level Distribution



33

OSCA to CCS chart showing 12 Critical Core Skills. Thinking Critically is the largest category, with most mappings at intermediate level.

UoC to CCS | Critical Core Skills

KEY INSIGHTS



Thinking Critically is the dominant CCS category

Representing 41.2% of all skill mappings, well ahead of Interacting with Others (29.5%) and Staying Relevant (29.2%).



Vast majority of UoCs require Intermediate proficiency

Of 2,130 total mappings, 1,432 (67%) sit at Intermediate, with 565 at Basic and only 133 at Advanced — a pattern very similar to OSCA.



Digital Fluency & Problem Solving are the top two skills

Consistent with an ICT training package rooted in technology, together these two account form a large share of total frequency by a wide margin.



Communication ranks closely behind the top two

Reflecting that ICT roles are not purely technical — stakeholder engagement and documentation are embedded across the package.



Leadership & future-readiness skills sit at the bottom

Building Inclusivity, Developing People, Adaptability, Learning Agility, Transdisciplinary Thinking, and Global Perspective all show minimal frequency, suggesting an orientation toward individual contributor execution.



Advanced proficiency tier is notably thin at just 6% of mappings

This points to an opportunity to deepen expertise expectations in high-impact skills such as Decision Making and Problem Solving as the ICT workforce matures.



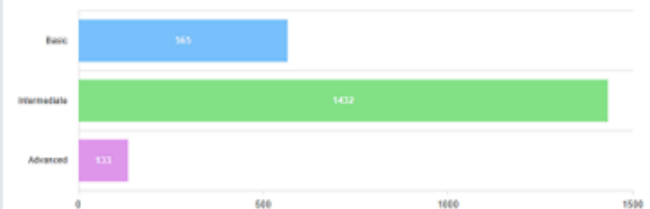
16

Unique CCS Skills

CCS Categories Distribution



Proficiency Level Distribution



34

UoC to CCS chart showing 16 Critical Core Skills. Thinking Critically is the largest category, with most mappings at intermediate level.

OSCA to UoC | Critical Core Skills Priority Shift



Lines connect each CCS competency's frequency rank in OSCA (left) to its rank in UoC (right). Green = CSS ranks higher in UoC, Red = CSS ranks lower in UoC, Grey = same rank. Dashed lines indicate CSS competencies found in only one dataset.

KEY INSIGHTS

The Advanced tier is thin in both, but especially in ICT Training package

Self Management ranks notably higher in the ICT training package

Thinking Critically carries more weight in the ICT package

Interacting with Others is stronger in the ICT training package

Both OSCA and ICT training packages are heavily skewed toward intermediate proficiency

Leadership-oriented skills sit at the bottom in both frameworks

35

OSCA to UoC chart comparing Critical Core Skills priorities. Top skills align closely, with Digital Fluency, Problem Solving and Communication ranked highest in both mappings.

AI impact profile & methodology

The AI Impact Profile classifies how AI affects skills at the role level using four categories:

- **AI-Resistant** - the skill remains human-performed for the foreseeable future, typically because it requires judgement, physical presence, or contextual nuance that current AI cannot reliably replicate.
- **AI-Supported** - AI tools augment the human performing the skill, accelerating work while the human leads. Training should prepare practitioners to work with AI tools effectively.
- **AI-Oriented** - AI is actively reshaping the tasks the skill covers. The skill itself remains, but the way it is performed is changing. Training needs to emphasise the AI-enabled workflow rather than the pre-AI one.
- **AI-Automated** - AI can perform the skill at the level in question with little or no human involvement. Training should either redirect toward higher levels of the skill or toward adjacent skills with more durable profiles.

The AI Impact Profile is developed through a skill-level analysis of the SFIA framework. Classifications are assigned to each skill at each SFIA responsibility level, reflecting the nature of the skill itself rather than the roles in which it appears. Role-level insights are derived later by mapping roles to their constituent skills and inferring impact from that composition.

SFIA-aligned skill analysis

Each SFIA skill is assessed at its defined responsibility levels, with AI impact evaluated separately at each level. This recognises that the same skill can shift in AI exposure as autonomy, complexity, and accountability increase. The analysis draws directly on the SFIA skill and skill-level descriptors as the unit of evaluation.

Skill descriptor decomposition

Each skill-level descriptor is decomposed into the underlying activities it describes. This allows for precise evaluation of whether AI:

- can perform the activity with little or no human involvement,
- is reshaping how the activity is performed,
- augments the human performing the activity, or
- has minimal current impact.

This step ensures classifications are grounded in the work the skill describes, rather than assumptions about job titles or roles.

Classification criteria application

Each skill at each level is assigned to one of the four categories based on a consistent set of criteria:

- degree of automation possible today and in the near term,
- level of human judgement, accountability, and context required,
- extent of AI augmentation already observed in practice,
- trajectory of change (emerging vs established impact).

Role-level inference

Once skills are classified, roles are mapped to their constituent SFIA skills and the AI impact for each role is inferred from the profile of skills it comprises. The role view is therefore an output of the skill-level analysis, not an input to it.

Continuous review and iteration

Given the rapid evolution of AI capabilities, classifications are designed to be dynamic. The model supports review cycles incorporating updated labour market data and advancements in AI tooling.