

Staff Development Plan

Communications and Information Management

Classification: Confidential

Draft V1.

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The Staff Development Program is a forward-looking capability-building framework designed to prepare the workforce for the demands of the Fourth Industrial Revolution (4.0 IR) and the evolving policy, governance, and business environment. The program aligns human capital development with institutional strategy by strengthening workforce agility, digital fluency, and leadership readiness.

Adapting to Market Dynamics

Workforce must understand evolving market conditions, technology trends, and emerging digital business models.

Agility and Adaptive Competences

Staff must be able to respond quickly to policy, technological, and economic changes.

Delivering More with Less Resources

Institutions must improve productivity, efficiency, and value creation despite budget constraints.

Preparing Workforce for Industry Transformation

Employees must possess future skills aligned with digital economy, innovation, and emerging technologies.

As governance and policy institutions increasingly shift from traditional regulatory roles to ecosystem enablers, the program builds competencies aligned to evolving business models, including Public–private partnership engagement and Commercial and strategic mindset development.

INTRODUCTION

The Ministry of Transport, Communications and Information Technology is a strategic enabler of Oman's economic diversification and digital transformation agenda. Through integrated oversight of transport infrastructure, telecommunications policy, and digital governance, the Ministry drives connectivity, innovation, institutional modernization, and private-sector-led growth aligned with Vision 2040. To successfully deliver diversification agenda under Vision 2040, digital fluency must be embedded as a national capability and a strategic enabler of competitiveness, productivity, and innovation. The digital fluency transformation strategy focuses on 4'Cs: Capacity, Capability, Community and Culture which are the main themes for staff development program as shown below:

	Micro-Processes	Capacity	Capability	Community	Culture
TALENT ACQUISITION	**Resources Strategy and Recruitment**	Limited digital and high-cost resources in the market (locally)	In-balance of supply vs demand - digital skills i.e., data scientists in the market.	Lack of market exposure internally and external.	Misconception on the recruitment process and staff expectation.
		Develop resourcing strategy (MPS, Contract, FTE. etc.)	Acquire capabilities in collaboration with the international partners through project.	Exposure to new digital trends through webinars, SME's, conferences.	Early engagement to showcase the resource and recruitment strategy.
TALENT MANAGEMENT	**Performance Management, Development and Retention**	Staff dynamic movement driven by progression and external attraction	Current digital competencies do not include the skills needed for future.	Limited exposure which leads to undermining digital economy deliverables.	Mindset reluctance to see the bigger picture.
		Enhance ICT staff development plan, career path and technical ladder	JCP enhancements in alignment to future trends	Embed knowledge sharing (Gemba walks, showcase, publicity etc.) to promote digital economy community.	Transparent development plan that measures performance and promotes recognition.
TALENT OPTIMIZATION	**Succession Planning, Re-Skilling / Up-Skilling and Resources Optimizations.**	Current ICT resources are central bound with limited growth opportunities.	Current focus is on data management centric skills with limited digital specialization.	Lack of understanding of future demand	Mindset reluctance to change or adopt new challenges and or new ways of working.
		Develop a model with embedment of ICT resources (Cross-Posting etc)	reskill and upskill to cater for future demand and challenges	Exposure to new digital skills through webinars, SME's, conferences.	Continue engagements (team building, fishbowl etc.) to transform challenges to opportunities.

CASE FOR CHANGE

To deliver Oman's digital economy mandate and diversification objectives, capability building must be institutionalized across leadership, governance, technical, and commercial dimensions. Infrastructure investment without capability development limits economic value realization. Building digital fluency and institutional competence transforms digital assets into sustained GDP growth, private-sector competitiveness, and long-term national resilience.

To successfully deliver digital economy and diversification mandate under Vision 2040, the ICT sector must strengthen institutional capability. The first phase of the ICT Staff Development Program therefore begins with three Directorate Generals: policy and governance, AI and Advanced technology and Industry stimulation and future skills teams, as it is the strategic nucleus responsible for shaping national ICT policies, digital economy frameworks, and regulatory direction.

Starting with three strategic directorate generals ensures that capability building cascades from the top — embedding digital fluency, regulatory agility, and data-driven decision-making across the entire ICT sector.

FOCUS AREAS

The workforce dynamic framework will focus on elevating four areas of development with the core emphasis on people development. As we embark on the next generation technologies, we need to be sure that our workforce is ready to take on the challenge. Upskilling and Reskilling will be the corner stone of our foundation. Starting with the right curriculum, we will focus on positioning the right and effective competences, prepare the training programme (formal/self-learning) with digital fluency, establish a technical coach system, and drive the cultural changes to manage the new ways of learning.

Competence	**Coaching**	**Culture**	**Training**
Our competences are built to be goal-oriented (i.e., they focus on areas identified as requiring performance improvement), and they linked directly towards effective knowledge transfer. By linking the new digital competences to the training, the transfer gap between the training environment and working on the job is reduced substantially. As a result, it takes less time for employees to become competent in the required areas. This, in turn, contributes to improved efficiency where training and assessment are concerned.	Coaching gives the individual an opportunity to define their career goals in a realistic way. With the assistance of a technical coach, together, they can set these goals and then actively work towards them. Coaching engages coachees with unique one-on-one feedback and lots of encouragement. When an individual becomes engaged with their workplace, they can contribute more effectively to the team and the organization Our technical coaching isn't just about improving an individual's skills in the workplace; it takes learning to an even deeper level allowing coachees to learn quick and work smarter.	Change is the new normal. To cater for the 4IR disruption, innovation in the culture dynamics needs to undergo new ways of learning. Move away from static learning models to adaptive life-long learning. The model of learning will change and has been disrupted. The need to continuous upskilling and reskilling is the way forward. Staff will be encouraged to develop a habit and master the 4C elements of Critical Thinking and Problem Solving, Communication, Collaboration, and Creativity.	Training needs to be affective, link the competences to the learning ladder assures each training is aligned to drive effective learning. Curriculum is positioned to contain the appropriate training and tools needed for an effective learning platform. Tools are position to form a transparent methodology for individuals to follow. A clear career ladder, a learning ladder, competence model per job family and a training / coaching framework.

BUILDING THE SUSTAINABLE MODEL

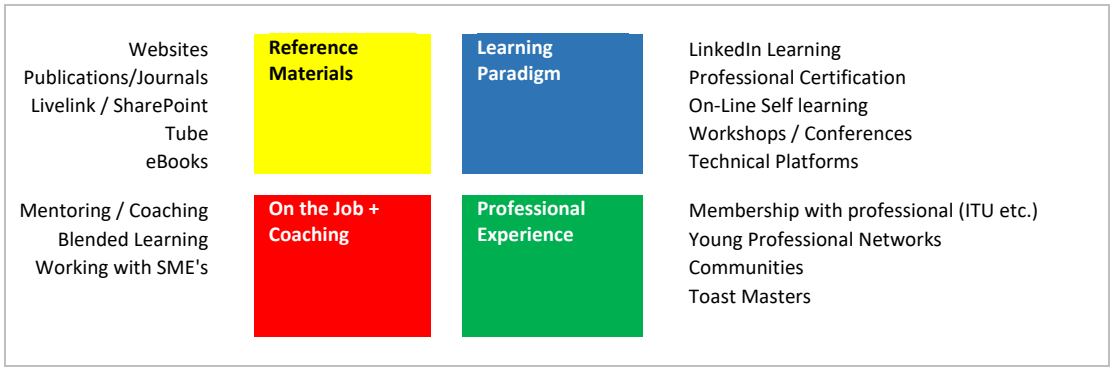
Staff Development Framework is designed to ensure that capability building occurs in parallel with the delivery of the annual ICT program. By integrating culture transformation, structured competence development, coaching and embedded training into live policy and program execution, the Ministry strengthens institutional maturity while advancing Oman's national digital economy and diversification objectives.

MODE OF DEPLOYMENT

The vehicle to drive these competences and ensure upskilling and reskilling happens within a transparent method. Using the 70/20/10 model it allows core focus on the skillsets and marries the staff with a coach and a Subject Matter Expert (SME) throughout their entire development. If skills are needed to bridge the skillset, individual will be embedded into the annual execution program.

On-the-Job Learning, experience based and Practice	Coaching, Mentoring and development though others	Formal and Life-long Learning
70%	20%	10%

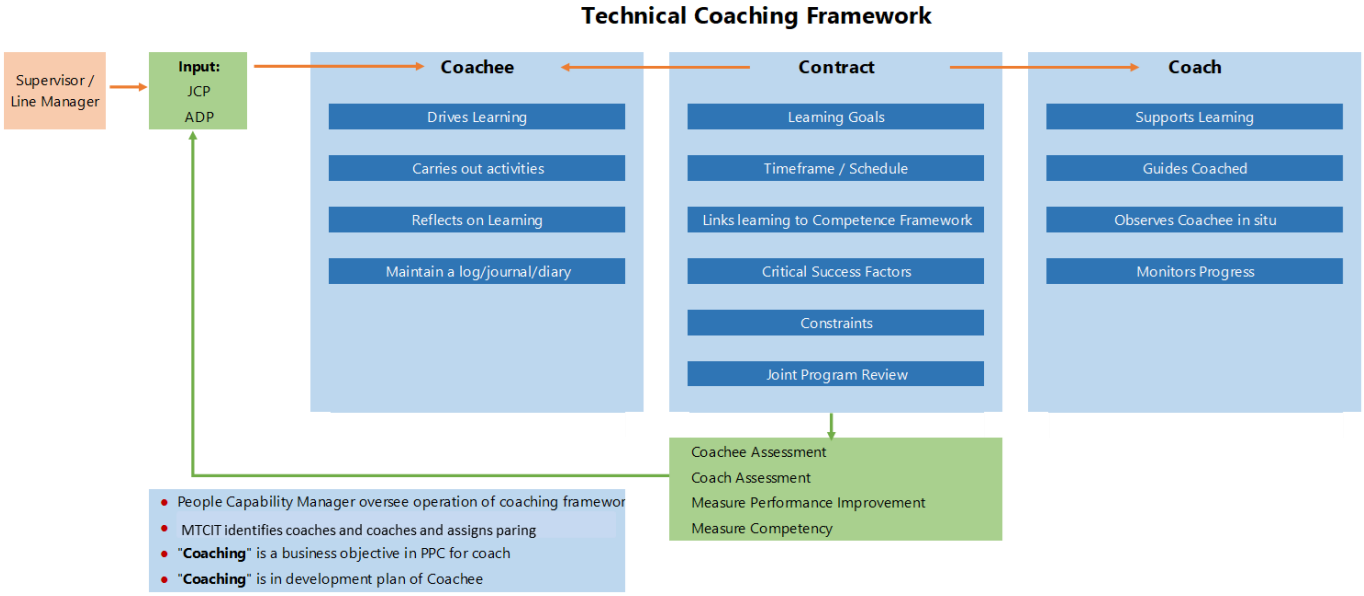
The 4-box model will be injected with new future skills to ensure more self-learning is encouraged via online LinkedIn Learning platform and other online faculties.



Assessment will be performed to allow the right training and coaching happens. It includes a Learning curriculum and clear career path. Furthermore, to respond to future challenges, strong focus will be on embedment of the new skillset into the ICT competence framework which will include social and technical fluency.



Embedment of Digital skills



The Coaching Methodology

The deployment model will concentrate on 3CT as its main pillars, future proof Competences, Coaching, Culture and Training (with more emphasis on self-learning.)

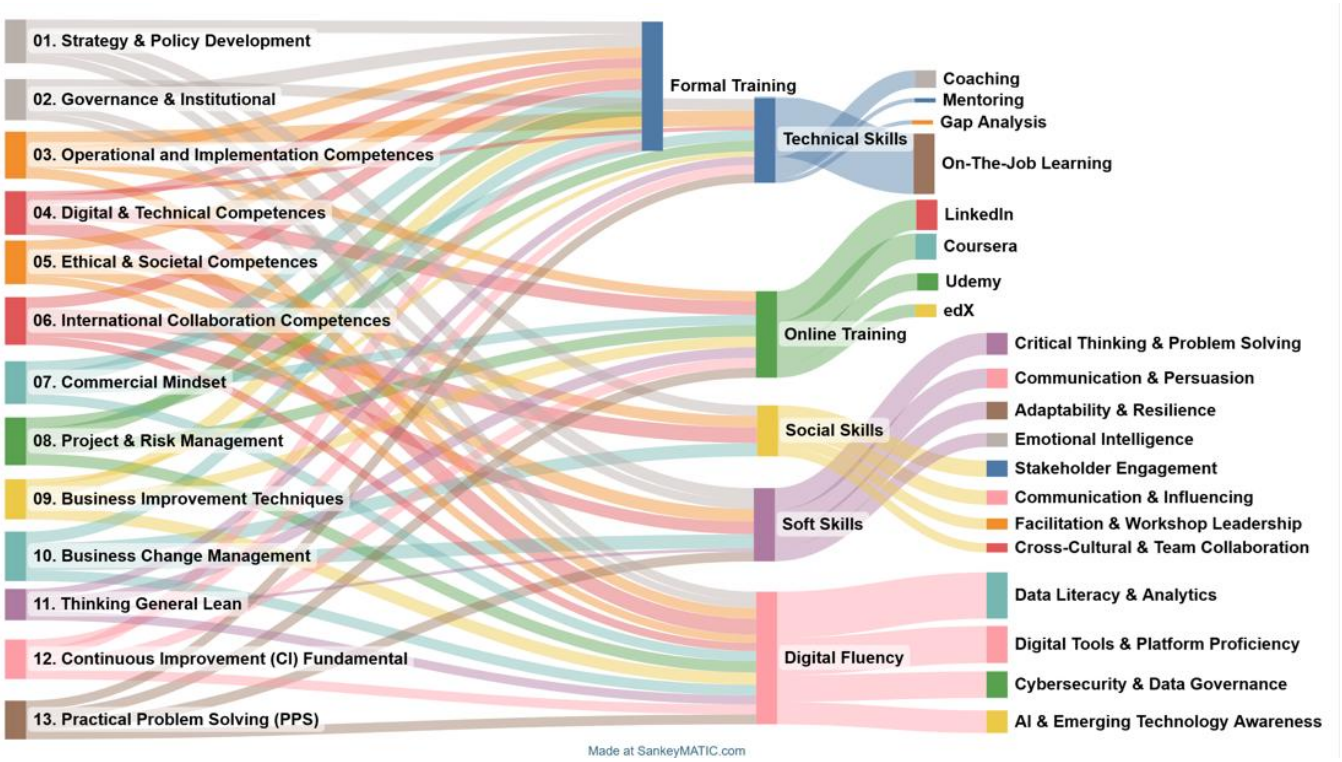
THRIVING COMMUNICATION AND INFROMATION TECHNOLOGY SECTOR

i) Competence

Competences are being constructed to ensure all aspects of learning is delivered through linking the required learnings to the competence. This will ensure strong proof points, with measurable activity tasks that can be monitored to assess the development of the staff. This will include the necessary skills needed to support the business. Prior to its deployment, assessment will be conducted to outline the areas for development.

In preparation for the workforce, ministry has produced a competence framework to outline its core skills as well as social skills. The aim is to develop Curriculum 4.0 that will link the competences to the learning, giving a clear correlation to assure effective delivery of the skillset. It includes, periodic assessments, learning ladder, transparent career path and solid proof points with measurable outcomes.

a) Policy and Governance Competences



The policy and governance competence framework clearly outlines the focus areas. The approach will allow a focus to ensure skill adoption plan over the next 3 years. An assessment exercise has been conducted for the Policy and Governance staff which will drive the competence levels to reach maturity and its desired state. The Core and Support Competences that will cut across ministry ICT sector

JOB FAMILIES FOR POLICY & GOVERNANCE

POLICY AND GOVERNANCE COMPETENCES

			JOB FAMILY	P&G SPECIALIST			P&G TEAM LEADER			P&G DIRECTOR			P&G DIRECTOR GENERAL		
			DESCRIPTION	The Digital Policy and Governance Specialist is responsible for developing and implementing digital policies, regulatory frameworks, and governance mechanisms that advance national digital transformation objectives.			The Team Leader for Digital Policy and Governance provides strategic leadership and direction in the formulation, implementation, and evaluation of national digital policies, frameworks, and governance mechanisms.			The Director of Digital Policy and Governance provides strategic leadership and oversight for the national digital policy and governance agenda.			The Director General for Digital Policy and Governance provides national-level leadership and strategic direction for the development, coordination, and governance of digital transformation policies, frameworks, and regulations.		
	No.	Code	COMPETENCES / ASSESSMENT STAGES	Self Assessment	Assessor Evaluation	Required Competences	Self Assessment	Assessor Evaluation	Required Competences	Self Assessment	Assessor Evaluation	Required Competences	Self Assessment	Assessor Evaluation	Required Competences
POLICY AND GOVERNANCE	1	PG1	STRATEGY & POLICY	K	K	K	K	K	S	S	S	M	M	M	M
	2	PG2	GOVERNANCE & INSTITUTIONAL	K	K	K	K	K	S	S	S	M	M	M	M
	3	PG3	OPERATIONAL AND IMPLEMENTATION COMPETENCES	K	K	K	S	S	S	S	S	S	S	S	S
	4	PG4	DIGITAL & TECHNICAL COMPETENCES	K	K	K	S	S	S	S	S	S	S	S	S
	5	PG5	ETHICAL & SOCIETAL COMPETENCES	K	K	S	S	S	S	S	S	S	M	S	M
	6	PG6	INTERNATIONAL COLLABORATION COMPETENCES	K	K	K	K	K	S	S	S	S	M	S	M
CORE	7	CO1	COMMERCIAL MINDSET	K	K	K	K	K	K	S	S	S	S	S	S
	8	CO2	PROJECT & RISK MANAGEMENT	K	K	S	S	S	S	S	S	S	S	S	S
	9	SO1	BUSINESS IMPROVEMENT TECHNIQUES	K	K	S	S	S	S	K	K	S	S	S	S
	10	SO2	BUSINESS CHANGE MANAGEMENT	K	K	S	K	K	S	S	S	S	S	S	S
SUPPORTING	11	SO3	THINKING GENERAL LEAN	A	A	K	A	K	K	A	A	K	K	K	K
	12	SO4	CONTINOUS IMPROVEMENT (CI) FUNDAMENTAL	A	A	K	A	A	K	A	A	K	K	K	K
	13	SO5	PRACTICAL PROBLEM SOLVING (PPS)	A	A	K	A	A	K	A	A	K	K	K	K

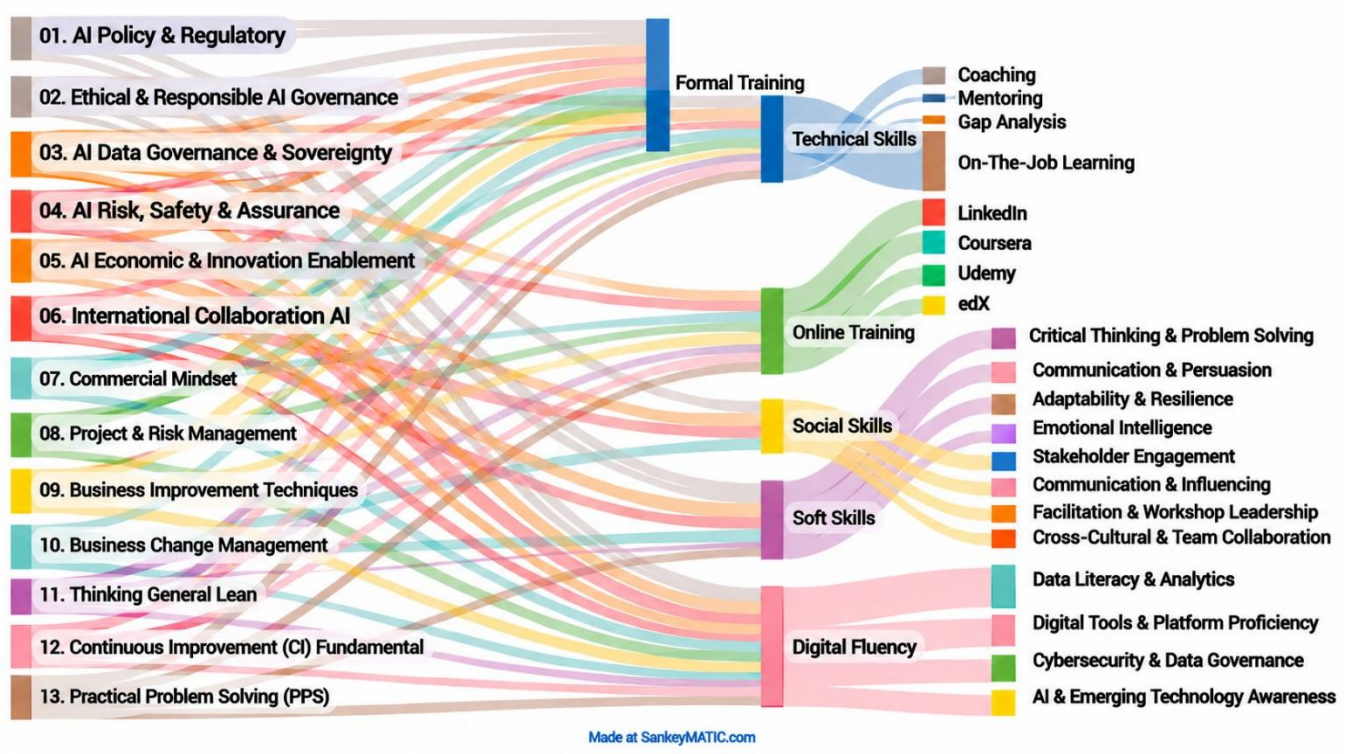
POLICY AND GOVERNANCE Competence Model

Taking competence further by linking it to strong deliverables of proof points and scale down to work measurable tasks and activities. Below shows an example of the Policy and Governance team.

	Competences	Criteria / Proof Points	Detailed Proof Points	Evidence Type
	Strategy and Policy Development	Clear problem definition	Well-articulated policy or strategy problem statements	Concept notes
		Strategic alignment	Explicit linkage to mandate, vision, or national priorities	Strategy alignment maps
		Design scope clarity	Defined boundaries, assumptions, and constraints	Design brief
		Outcome orientation	Clear articulation of intended policy or strategic outcomes	Outcome logic model
	Governance and Institutional	Defined governance model	Clear reporting lines and oversight structures	Governance framework document
		Decision-rights clarity	Formal RACI matrix for digital programs	Approved RACI matrix
		Role accountability	Clear mandate descriptions	Organisational charter
		Escalation mechanisms	Structured decision escalation protocols	Governance handbook
	Operational and Implementation	Implementation roadmap	Phased execution plan with milestones	Approved roadmap
		Work breakdown structure	Defined deliverables and task ownership	Program charter

		Resource allocation	Budget, staffing, and capability assignment	Resource plan
		Alignment to KPIs	Clear linkage between activities and policy objectives	KPI alignment matrix
		Change management plan	Defined communication and transition roadmap	Change strategy document
		Stakeholder engagement	Training and awareness sessions delivered	Training records
	Digital and Technical	Cyber risk awareness	Threat modeling and vulnerability concepts	Risk assessment document
		Control framework integration	Reference to standards (e.g., ISO, NIST)	Security framework mapping
		Incident governance	Defined response and reporting mechanisms	Incident response protocol
		Regulatory enforcement linkage	Cyber compliance mechanisms	Regulatory enforcement guidelines
		Platform governance	Oversight of digital platform ecosystems	Platform governance policy
	Ethical and Societal	Public consultation processes	Structured stakeholder engagement during policy design	Consultation records
		Transparent reporting	Public dashboards and open reporting systems	Published annual report
		Grievance mechanisms	Defined complaint and redress channels	Complaints registry
		Independent oversight	External review or advisory committees	Oversight committee charter
	International Collaboration	Global benchmarking	Comparative analysis of leading digital economies	Benchmarking report
		Participation in global forums	Engagement in international policy platforms	Delegation reports
		Standards tracking	Monitoring ISO, ITU, OECD, WTO digital frameworks	Standards mapping document
		Strategic advisory briefings	Regular updates to leadership	Executive briefing notes

b) Artificial Intelligent and Advanced Technology Competences



The AI and Advanced Technology competence framework clearly outlines the focus areas. The approach will allow a focus to ensure skill adoption plan over the next 3 years. An assessment exercise has been conducted to the Ai and Advanced Technology staff which will drive the competence levels to reach maturity and its desired state. The Core and Support Competences that will cut across ministry ICT sector

JOB FAMILIES FOR AI & AT

AI AND ADVANCED TECHNOLOGY COMPETENCES

			JOB FAMILY	AI & AT SPECIALIST			AI & AT TEAM LEADER			AI & AT DIRECTOR			AI & AT DIRECTOR GENERAL		
			DESCRIPTION	The AI and Advanced Technology Specialist is responsible for developing and implementing digital policies, regulatory frameworks, and governance mechanisms that advance national digital transformation objectives.			The Team Leader for AI and Advanced Technology provides strategic leadership and direction in the formulation, implementation, and evaluation of national digital policies, frameworks, and governance mechanisms.			The Director of AI and Advanced Technology provides strategic leadership and oversight for the national digital policy and governance agenda.			The Director General for AI and Advanced Technology provides national-level leadership and strategic direction for the development, coordination, and governance of digital transformation policies, frameworks, and regulations.		
	No.	Code	COMPETENCES ASSESSMENT STAGES	Self Assessment	Assessor Evaluation	Required Competences	Self Assessment	Assessor Evaluation	Required Competences	Self Assessment	Assessor Evaluation	Required Competences	Self Assessment	Assessor Evaluation	Required Competences
POLICY AND GOVERNANCE	1	AI AT 1	AI POLICY & REGULATORY	K	K	K	K	K	S	K	K	M	K	S	M
	2	AI AT2	ETHICAL & RESPONSIBLE AI GOVERNANCE	K	K	K	K	K	S	K	K	M	K	S	M
	3	AI AT3	AI DATA GOVERNANCE AND SOVEREIGNTY	K	K	S	K	K	S	K	K	S	K	S	S
	4	AI AT4	AI RISK, SAFETY AND ASSUARANCE	K	K	S	K	K	S	K	K	S	K	S	S
	5	AI AT5	AI ECONOMIC & INNOVATION ENABLEMENT	K	K	K	K	K	S	K	K	S	K	M	M
	6	AI AT6	INTERNATIONAL COLLABORATION AI	K	K	K	K	K	S	K	K	S	K	S	M
CORE	7	CO1	COMMERCIAL MINDSET	K	K	K	K	K	K	S	S	S	S	S	S
	8	CO2	PROJECT & RISK MANAGEMENT	K	K	S	S	S	S	S	S	S	S	S	S
	9	CO3	BUSINESS IMPROVEMENT TECHNIQUES	K	K	S	S	S	S	K	K	S	S	S	S
	10	CO4	BUSINESS CHANGE MANAGEMENT	K	K	S	K	K	S	S	S	S	S	S	S
SUPPORTING	11	SO1	THINKING GENERAL LEAN	A	A	K	A	K	K	A	A	K	K	K	K
	12	SO2	CONTINOUS IMPROVEMENT (CI) FUNDAMENTAL	A	A	K	A	A	K	A	A	K	K	K	K
	13	SO3	PRACTICAL PROBLEM SOLVING (PPS)	A	A	K	A	A	K	A	A	K	K	K	K

AI AND ADVANCED TECHNOLOGY Competence Model

Taking competence further by linking it to strong deliverables of proof points and scale down to work measurable tasks and activities. Below shows an example of the AI and Advanced Technology profesional.

	Competences	Criteria / Proof Points	Detailed Proof Points	Evidence Type
		Understanding of AI Policy Landscape	Demonstrates knowledge of national AI strategies, AI governance frameworks, AI legislation, international guidelines, and emerging regulatory trends.	AI policy assessments, certification records, training completion, knowledge tests.
		AI Regulatory Interpretation	Interprets existing laws and regulations impacting AI such as privacy, cybersecurity, intellectual property, competition law, consumer protection, and sector-specific regulations.	Regulatory analysis reports, legal reviews, policy briefs, compliance assessments.

	AI POLICY & REGULATORY	Policy Development Capability	Develops AI policies, strategies, guidelines, frameworks, standards, or operating procedures aligned with organizational and national objectives.	Approved policies, strategy documents, governance frameworks, policy proposals.
		Risk-Based Regulatory Design	Applies risk-based approaches to AI regulation, classifying AI systems according to impact, risk, and criticality.	Risk classification frameworks, AI impact assessments, governance models.
		Alignment with International Best Practices	Benchmarks policies against international AI governance frameworks and standards from organizations such as OECD, UNESCO, ISO, and ITU.	Benchmarking studies, gap assessments, international comparison reports.
		AI Compliance and Governance Oversight	Establishes mechanisms to monitor AI compliance with regulatory requirements and governance obligations.	Compliance frameworks, audit reports, governance dashboards, monitoring reports.
		Cross-Border and International Coordination	Participates in international AI policy discussions, negotiations, regulatory harmonization efforts, and bilateral/multilateral initiatives.	International working group participation, agreements, conference contributions, policy submissions.
		Monitoring Emerging AI Regulations	Continuously tracks global AI regulatory developments and assesses implications for national and organizational policy.	Horizon scanning reports, regulatory watch publications, briefing papers.
	ETHICAL & RESPONSIBLE AI GOVERNANCE	AI Ethics Principles Development	Develops and applies ethical AI principles covering fairness, accountability, transparency, privacy, safety, human oversight, and societal benefit.	AI ethics frameworks, ethical principles documents, governance policies.
		Ethical Risk Identification	Identifies potential ethical risks arising from AI systems, including bias, discrimination, exclusion, manipulation, and unintended consequences.	Ethical risk assessments, AI impact assessments, risk registers.
		Responsible AI Policy Development	Develops policies, guidelines, standards, and operating procedures for ethical and responsible AI use.	Responsible AI policies, governance standards, operational guidelines.

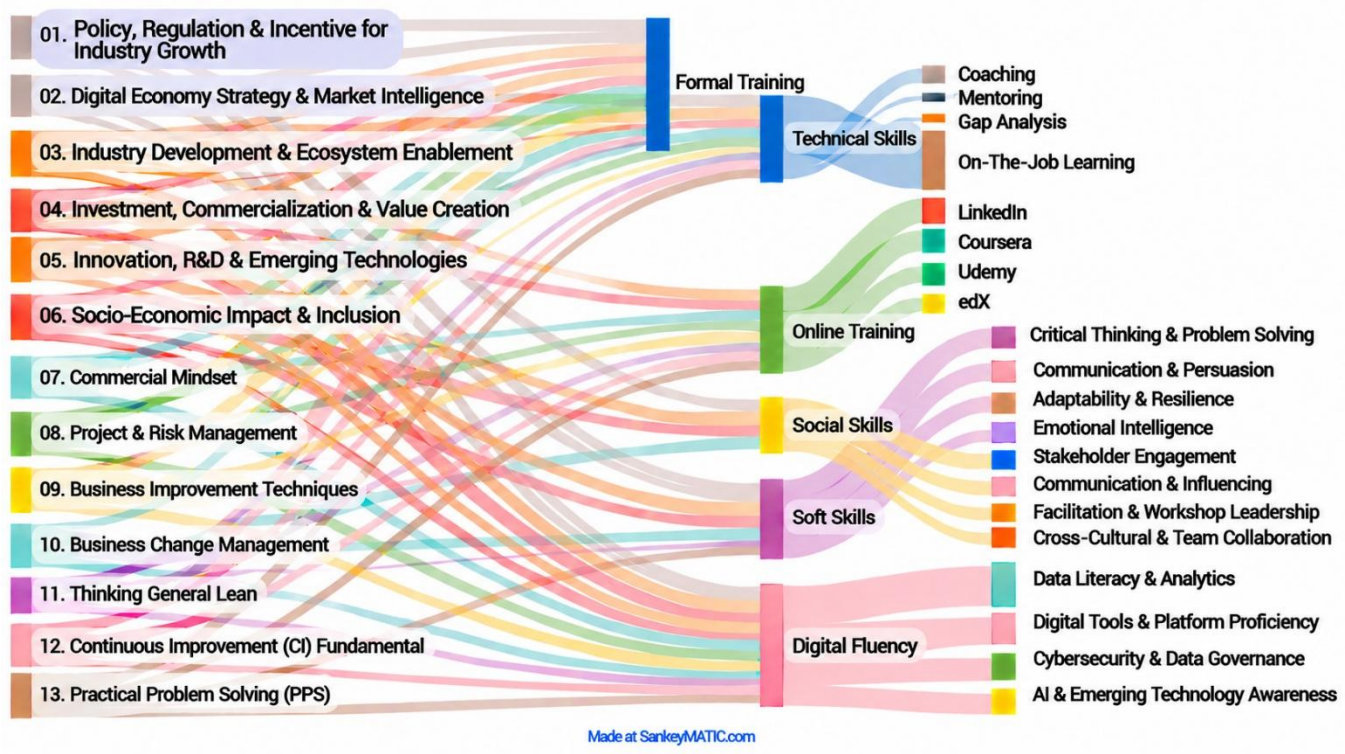
	AI Ethics Impact Assessment	Conducts assessments to evaluate societal, ethical, human rights, environmental, and organizational impacts of AI systems.	AI ethics assessments, human rights impact assessments, evaluation reports.
	Ethical AI Review and Approval Processes	Establishes governance structures such as ethics committees, review boards, and approval processes for AI initiatives.	Committee charters, review procedures, governance records.
AI DATA GOVERNANCE AND SOVEREIGNTY	Data Governance Framework Development	Develops data governance policies, standards, roles, responsibilities, and decision-making structures supporting AI initiatives.	Data governance frameworks, policies, governance charters, operating models.
	Data Sovereignty and Jurisdiction Management	Defines requirements governing data ownership, residency, localization, cross-border transfer, and national sovereignty obligations.	Data sovereignty policies, legal assessments, compliance frameworks.
	Data Classification and Criticality Management	Establishes data classification schemes based on sensitivity, confidentiality, criticality, and regulatory requirements.	Data classification frameworks, data inventories, classification registers.
	Data Privacy and Protection Governance	Ensures AI data usage complies with privacy regulations, consent requirements, personal data protection obligations, and ethical principles.	Privacy impact assessments, privacy policies, compliance reviews.
	Data Ethics and Responsible Use	Defines governance controls to ensure data is collected, used, and shared ethically while minimizing misuse and bias.	Ethical data use policies, governance guidelines, compliance reviews.
	National Data Asset and Sovereignty Strategy	Supports development of national data strategies, sovereign data ecosystems, and trusted data-sharing environments.	National strategies, policy papers, governance frameworks.
	AI Risk Management Framework Development	Develops and implements AI risk management frameworks, methodologies, controls, and governance processes aligned with organizational and regulatory requirements.	AI risk frameworks, governance models, risk management policies.

	AI RISK, SAFETY AND ASSUARANCE	AI Risk Identification and Assessment	Identifies technical, operational, legal, ethical, security, privacy, safety, reputational, and societal risks associated with AI systems.	Risk assessments, AI risk registers, risk analysis reports.
		AI Safety Evaluation	Assesses AI systems for reliability, robustness, resilience, predictability, and safe operation under normal and abnormal conditions.	Safety assessments, testing reports, validation documentation.
		Compliance and Regulatory Assurance	Ensures AI systems meet applicable legal, regulatory, governance, safety, and organizational requirements.	Compliance assessments, regulatory reviews, certification reports.
		Model Governance and Control Assurance	Establishes governance controls for model approval, deployment, change management, version control, and retirement.	Model governance frameworks, approval records, control documentation.
	AI ECONOMIC & INNOVATION ENABLEMENT	AI Economic Impact Assessment	Assesses the economic contribution of AI to GDP growth, productivity improvement, job creation, industry competitiveness, and national development objectives.	Economic impact studies, policy papers, business cases, economic models.
		AI Strategy for Economic Development	Develops AI strategies and initiatives aligned with national economic diversification, digital economy, and innovation agendas.	AI strategies, economic development plans, government programs.
		Industry AI Adoption Enablement	Designs programs that accelerate AI adoption across priority sectors such as industry, logistics, energy, healthcare, finance, education, and government.	Sector adoption roadmaps, implementation frameworks, adoption reports.
		AI Entrepreneurship and Startup Development	Supports AI startup creation, incubation, acceleration, scaling, commercialization, and market access opportunities.	Startup programs, accelerator reports, incubation initiatives.

		AI Investment Attraction and Facilitation	Promotes domestic and foreign investment in AI technologies, infrastructure, research, and innovation ecosystems.	Investment promotion strategies, investor engagement reports, FDI programs.
		International Competitiveness and Benchmarking	Benchmarks national or sectoral AI capabilities against leading countries and identifies opportunities to improve competitiveness.	Benchmarking reports, competitiveness assessments, strategic recommendations.
		AI Value Realization and Benefit Tracking	Measures and demonstrates economic, operational, societal, and innovation benefits generated through AI initiatives.	Benefits realization reports, ROI analyses, impact assessments.
		International AI Landscape Awareness	Demonstrates understanding of global AI strategies, governance models, regulatory developments, market trends, and geopolitical considerations.	Global AI landscape reports, benchmarking studies, policy briefs.
		International Benchmarking and Best Practice Analysis	Conducts benchmarking of AI policies, governance frameworks, innovation ecosystems, and national AI programs from leading countries.	Benchmarking reports, gap analyses, comparative studies.
		Global Partnership Development	Establishes and manages strategic partnerships with governments, international organizations, research institutions, technology companies, and innovation hubs.	Memoranda of Understanding (MoUs), partnership agreements, collaboration frameworks.
		International Policy and Standards Coordination	Contributes to international discussions on AI governance, standards, ethics, interoperability, and regulatory harmonization.	Position papers, standards contributions, consultation submissions.
	INTERNATIONAL COLLABORATION AI	International Research and Innovation Collaboration	Promotes participation in joint AI research, innovation projects, testbeds, and collaborative development initiatives.	Research agreements, project reports, innovation partnership records.

		International Funding and Investment Facilitation	Identifies and secures opportunities for international funding, grants, venture capital, and strategic investments supporting AI development.	Funding proposals, investment agreements, grant awards.
		Representation at International Forums	Represents the organization or country at global AI conferences, summits, standards bodies, and policy forums.	Conference presentations, speaking engagements, participation records.
		International Opportunity Assessment	Identifies strategic collaboration opportunities that support national priorities, economic growth, innovation, and capability development.	Opportunity assessments, strategic recommendations, business cases.

c) Industry Stimulation and Future Skills Competences



The Industry Stimulation and Future Skills competence framework clearly outlines the focus areas. The approach will allow a focus to ensure skill adoption plan over the next 3 years. An assessment exercise has been conducted to the Industry Stimulation and Future Skills staff which will drive the competence levels to reach maturity and its desired state. The Core and Support Competences that will cut across ministry ICT sector

JOB FAMILIES FOR IS & FS

INDUSTRY AND FUTURE SKILLS COMPETENCES

			JOB FAMILY	IS & FS SPECIALIST			IS & FS TEAM LEADER			IS & FS DIRECTOR			IS & FS DIRECTOR GENERAL		
			DESCRIPTION	The Industry Stimulation and Future Skills Specialist is responsible to delivers analysis and execution by conducting market analysis, research, and benchmarking to support digital industry strategies.			The Team Leader for Industry Stimulation and Future Skills responsible to manage programs and teams by leading development and delivery of programs (ecosystem, skills, investment initiatives).			The Director of Industry stimulation and Future Skills shapes strategy and drives portfolios by defining sector strategies and priorities, partnerships with private sector, investors, and international entities.			The Director General for Industry Stimulation and Future Skills sets national vision and direction for digital industry, future skills and represents the country in international forums and strategic partnerships		
	No.	Code	COMPETENCES / ASSESSMENT STAGES	Self Assessment	Assessor Evaluation	Required Competences	Self Assessment	Assessor Evaluation	Required Competences	Self Assessment	Assessor Evaluation	Required Competences	Self Assessment	Assessor Evaluation	Required Competences
POLICY AND GOVERNANCE	1	IS 1	POLICY, REGULATION & INCENTIVES FOR INDUSTRY GROWTH	K	K	K	K	K	S	K	K	M	K	S	M
	2	IS 2	DIGITAL ECONOMY STRATEGY & MARKET INTELLIGENCE	K	K	S	K	K	S	K	K	S	K	S	M
	3	IS 3	INDUSTRY DEVELOPMENT & ECOSYSTEM ENABLEMENT	K	K	K	K	K	S	K	K	S	K	S	S
	4	IS 4	INVESTMENT, COMMERCIALIZATION & VALUE CREATION	K	K	S	K	K	S	K	K	S	K	S	M
	5	IS 5	INNOVATION, R&D & EMERGING TECHNOLOGIES	K	K	K	K	K	S	K	K	S	K	S	S
	6	IS 6	SOCIO-ECONOMIC IMPACT & INCLUSION	K	K	K	K	K	S	K	K	M	K	S	M
CORE	7	CO1	COMMERCIAL MINDSET	K	K	K	K	K	K	S	S	S	S	S	S
	8	CO2	PROJECT & RISK MANAGEMENT	K	K	S	S	S	S	S	S	S	S	S	S
	9	SO1	BUSINESS IMPROVEMENT TECHNIQUES	K	K	S	S	S	S	K	K	S	S	S	S
	10	SO2	BUSINESS CHANGE MANAGEMENT	K	K	S	K	K	S	S	S	S	S	S	S
SUPPORTING	11	SO3	THINKING GENERAL LEAN	A	A	K	A	K	K	A	A	K	K	K	K
	12	SO4	CONTINOUS IMPROVEMENT (CI) FUNDAMENTAL	A	A	K	A	A	K	A	A	K	K	K	K
	13	SO5	PRACTICAL PROBLEM SOLVING (PPS)	A	A	K	A	A	K	A	A	K	K	K	K

INDUSTRY STIMULATION AND FUTURE SKILLS Competence Model

Taking competence further by linking it to strong deliverables of proof points and scale down to work measurable tasks and activities. Below shows an example of the Industry Stimulation and Future Skills professional.

	Competences	Criteria / Proof Points	Detailed Proof Points	Evidence Type
	POLICY, REGULATION & INCENTIVES FOR INDUSTRY GROWTH	Industry Policy Development	Demonstrates ability to formulate industry-growth policies based on national economic priorities, market evidence, sector challenges and clearly defined outcomes.	Approved industry policies; policy papers; strategies; Cabinet/ministerial submissions; policy briefs
		Incentive Policy Design	Designs appropriate combinations of tax incentives, grants, subsidies, financing, guarantees etc	Incentive frameworks; program design documents; eligibility criteria; funding schemes; incentive guidelines

		Competition & Market Development	Evaluates whether policies and incentives encourage competition, new market entry and productive firms.	Competition assessment; market studies; entry/exit analysis; competition-authority feedback; policy reviews
		Economic Impact & Value Creation	Demonstrates that policies contribute to measurable economic outcomes such as investment, GDP contribution, employment etc	Economic impact studies; GDP/productivity analysis; investment statistics; employment data; sector-performance reports
	DIGITAL ECONOMY STRATEGY & MARKET INTELLIGENCE	Digital Economy Strategy Formulation	Develops evidence-based strategic objectives, priorities, interventions, targets and expected outcomes.	Approved strategy; strategic framework; policy paper; ministerial submission; strategy presentation
		Market Intelligence & Market Sizing	Market size, growth rates, segments, demand patterns, competitive dynamics and emerging opportunities etc.	Market intelligence report; market-sizing model; sector analysis; industry database; market dashboard
		Economic Contribution Analysis	Measures the contribution of the digital economy and ICT/digital industries to GDP, productivity, employment, investment, exports etc	Economic impact study; GDP analysis; productivity report; employment statistics; economic model
		International Benchmarking & Best-Practice Analysis	Benchmarks national digital-economy performance, strategies and interventions against peer and leading economies.	Benchmarking study; country comparison; international index analysis; best-practice report
		Digital Trade & Export Market Intelligence	Assesses digital exports, cross-border digital services, target markets, trade barriers and opportunities.	Digital trade analysis; export-market study; market-access assessment; export statistics
		Industry Development Strategy	Defined target segments, growth objectives, interventions, stakeholders, KPIs and expected economic outcomes.	Approved strategy; industry development plan; policy paper; sector roadmap; ministerial submission
		Industry Baseline & Gap Assessment	Assesses current industry size, maturity, capabilities, constraints and growth barriers.	Baseline study; gap analysis; industry diagnostic; maturity assessment; sector report

	INDUSTRY DEVELOPMENT & ECOSYSTEM ENABLEMENT	Startup & Scale-up Ecosystem Enablement	Designs and supports incubation, acceleration, funding, mentoring, market access and scale-up mechanisms that enable technology startups to grow domestically and internationally.	Startup framework; accelerator program; startup pipeline; scale-up program; ecosystem performance data
		Stakeholder Engagement & Ecosystem Orchestration	Builds sustained relationships across government, industry, academia, investors and support institutions.	Stakeholder engagement plan; governance model; RACI; consultation reports; committee records
		Ecosystem Program Design & Implementation	Converts ecosystem priorities into executable programs with clear objectives, beneficiaries, ownership, funding, milestones and performance indicators.	Program charter; implementation roadmap; business case; action plan; progress report
		Industry & Ecosystem Performance Measurement	Defines and monitors indicators covering business growth, startups, scale-ups, investment, employment, productivity, exports, innovation, local content and ecosystem participation.	KPI framework; ecosystem dashboard; industry scorecard; baseline/target report
		Investment Intelligence	Conducts market sizing, demand analysis, competitive benchmarking and opportunity assessment.	Investment opportunity assessments; market studies; sector analysis; investment pipeline; opportunity maps; benchmarking reports; investment prospectus
		Investment & Financial Appraisal	Credible business cases and evaluates the commercial and economic feasibility of investment opportunities.	Business cases; feasibility studies; financial models; ROI/NPV/IRR analysis; cost-benefit analysis; due-diligence reports; investment committee papers
		Commercialization	Business models, value propositions, pricing/revenue models, go-to-market strategies and scaling pathways.	Commercialization strategy; Business Model Canvas; go-to-market plan; pricing/revenue model; IP commercialization plan; licensing agreements etc

	INVESTMENT, COMMERCIALIZATION & VALUE CREATION	Investment Mobilization	Compelled investment propositions and engages local and international investors. Identifies appropriate funding mechanisms etc	Investor presentations; investment prospectus; funding strategy; investor engagement records; PPP/JV agreements; MoUs; investment agreements; evidence of capital committed
		Economic & Local Value Creation	Investments generate wider national economic benefits beyond direct financial returns.	Economic impact assessments; local-content plans; SME/startup participation records; jobs created; Omanisation indicators; GDP/GVA contribution analysis
		Value Realization	Measurable financial, economic and strategic KPIs for investments and commercialization initiatives.	Benefits-realization plan; KPI dashboard; portfolio performance reports; post-investment reviews; benefits register; actual-vs-target analysis; economic impact reports;
	INNOVATION, R&D & EMERGING TECHNOLOGIES	Emerging Technology Foresight & Intelligence	Evaluated technology maturity, potential disruption, market relevance, adoption horizon and strategic implications to identify priority technologies and opportunities.	Technology horizon-scanning reports; technology radar; trend analysis; international benchmarking; foresight studies; technology maturity assessments; emerging technology watchlists
		R&D Strategy & Priority Setting	Defines and prioritizes R&D areas based on national/sector challenges, economic opportunities, technology trends and strategic objectives.	R&D strategy; research agenda; technology roadmaps; R&D portfolio; priority-setting framework; research funding plans; approved R&D programs
		Innovation Development & Experimentation	Converted ideas and emerging technologies into testable solutions through structured innovation processes, pilots, prototypes, proofs of concept, regulatory sandboxes and experimentation environments.	Proofs of concept; prototypes; pilot reports; sandbox results; innovation challenge outputs; test results; demonstration projects; pilot evaluation reports
		R&D & Innovation Ecosystem Development	Effective collaboration among government, industry, universities, research institutions, startups, technology companies and international partners.	Research collaboration agreements; MoUs; joint R&D programs; innovation hub/CoE documentation; university-industry partnerships; ecosystem maps; stakeholder engagement records; joint publications/projects

		Technology Transfer, Adoption & Scaling	Identified promising R&D and innovation outputs and supports their transition from research or experimentation into operational and commercial applications.	Technology-transfer agreements; Technology Readiness Level (TRL) assessments; adoption roadmaps; IP/licensing records; scale-up plans; deployment evidence; industry adoption cases; commercialization referrals
		Innovation & R&D Impact Realization	Establishes measurable indicators to evaluate whether R&D and emerging-technology investments generate intended technological, economic and strategic value.	Innovation KPI dashboard; R&D performance reports; patents/IP records; adoption metrics; economic impact assessments; benefits-realization reports; startup/spin-off records; productivity/value assessments; portfolio reviews
	SOCIO-ECONOMIC IMPACT & INCLUSION	Socio-Economic Impact Assessment & Intelligence	Measures potential and actual impacts on GDP/GVA, productivity, employment, wages, business growth, competitiveness and social outcomes.	Socio-economic impact studies; economic models; baseline assessments; cost-benefit analysis; sector studies; impact dashboards; statistical analysis; policy impact assessments
		Employment, Future Skills & Workforce Development	Identified how digitalization, emerging technologies and industry growth will create, transform or displace jobs. Forecasts future skills demand and identifies capability gaps.	Workforce studies; skills-gap assessments; occupational forecasts; future-skills frameworks; training strategies; workforce development plans; employment data; reskilling/upskilling program results
		Digital & Economic Inclusion	Identified groups, communities, businesses or regions at risk of being excluded from digital and economic opportunities. Develops interventions addressing barriers such as affordability, accessibility, digital literacy, skills, geography and market access.	Digital inclusion strategy; inclusion assessments; accessibility studies; digital-literacy programs; affordability analysis; participation statistics; inclusion KPIs; beneficiary surveys
		SME, Startup & Local Enterprise Participation	Developed mechanisms enabling SMEs, startups and local technology companies to participate in digital economy opportunities, government programs and industry value chains.	SME/startup development programs; local-content plans; procurement participation data; startup/SME growth statistics; market-access initiatives; supplier-development programs; ecosystem reports

		Regional & Community Economic Development	Assessed geographic distribution of digital investment, infrastructure, employment and business opportunities. Evaluated regional disparities and promotes balanced and sustainable digital economic development.	Regional development plans; governorate-level economic data; geographic impact assessments; investment distribution reports; regional employment statistics; regional digital-development initiatives; GIS/economic opportunity maps
		Socio-Economic Value & Inclusion Realization	Measured results such as jobs created, workforce participation, SME growth, income opportunities, productivity, regional investment, skills development and inclusion.	Socio-economic KPI dashboard; benefits-realization reports; impact evaluations; employment statistics; SME/startup performance data; regional indicators; inclusion metrics; beneficiary surveys; actual-vs-target reports

ii) Digital Lean

Lean principles have played a significant role in driving efficiency across industries through their emphasis on cost reduction, focus on waste elimination, and reliance on letting customer demands. Lean can work in whatever domain it is applied because it provides a data-based approach to decision-making, emphasizing the tracking of root causes. Lean is often considered optimal for identifying hidden issues and emphasizes continuous improvement.

Digital Lean is not a new set of lean principles, but it enhances lean principles to make their application more powerful. Digital Lean uses Industry 4.0 and other digital tools to provide more accurate, precise, and timely information about operations. It not only helps realize lean principles but also increases the impact of core lean tools, such as Kanban, which we will discuss later. Moreover, the increased availability of high-frequency data from Industry 4.0 technologies, coupled with growing processing power, has led to new analytics and insights that were virtually impossible several years ago. Though technology is playing a crucial role, the focus on value first, technology second.

Benefits of Digital Lean

When digital lean is implemented successfully, organizations can expect to reduce costs and improve quality, in turn leading to better productivity and a stronger return on investment (ROI) when compared with individual digital or traditional lean improvement projects implemented in isolation.

Below shows the example on how digital lean complements and enhances traditional Lean.

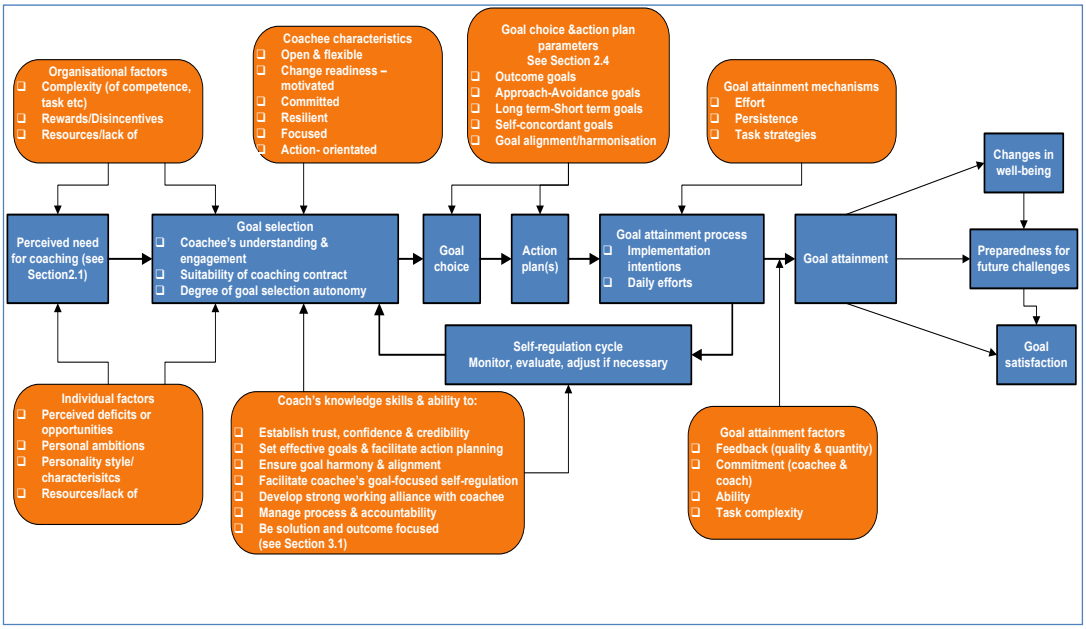
	LEAN / CONTINUOUS IMPROVEMENT		ADVANCED ANALYTICS	
	Techniques	**Example**	**Description**	**Example**
DIGITAL FUNDAMENTALS - (OPPORTUNITIES)	LEAN principles have played a significant role in driving efficiency across organizations through their emphasis on cost reduction, focus on waste elimination, and reliance on letting customer demands drive processes.	**Overproduction** Traditional lean mitigates the overproduction caused by the synchronization between demand and supply, including delayed demand signals and rigid processes constraints. **Defects** Poor product design and process control increase defects across the value stream, causing rework or scrap. Traditional lean can help reduce defects by establishing standards in the way assets are maintained, processes are defined, and products are designed.	Digital lean is not a new set of lean principles, but it enhances lean principles to make their application more powerful. While systems of record, such as enterprise resource planning, often report on operations as they impact company and plant financials, many digital lean systems of innovation produce detailed information on all aspects of a process. Digital lean uses Industry 4.0 and other digital tools to provide more accurate, precise, and timely information about operations.	**Overproduction** Digital lean can provide real-time visibility into the value stream to proactively adjust capacity, avoiding the building of goods that are not required. **Defects** Digital lean helps identify the precise asset, process step, or product feature that is causing defects and reducing first-pass yield.
DIGITAL TECHNOLOGIES (TECHNOLOGY)	**Kanban** A signaling mechanism used to control work and indicate the need for resource replenishment process status **Heijunka** A traditional scheduling methodology for multiproduct environments, where production is "leveled" by strategically alternating the product in a given period.	**Kanban** Bins are filled with in- process components at a workstation. Once parts/raw materials or are consumed to a predetermined level, operators from previous manufacturing steps realize they have to replenish the bin. **Heijunka** Establishing the size of production runs on the Heijunka "wheel" is often done periodically due to the complication of calculating the ideal run size for each turn of the mix to be manufactured wheel.	IoT Plays a invaluable role in support the digital Lean in the introduction and adoption of smart sensors, equipment, factories etc. AR/VR wearables allows simulation before the product is manufactured, run scenarios that aid the business visualize value.	**Kanban** • Auto-ID technology such as RFID sensors can be applied to track unit-level parts/material consumption in real time, triggering replenishment activity automatically. • Technologies, such as the digital twin and machine learning, can simulate and optimize Kanban bin quantities such as stock and delivery frequency. **Heijunka** Advanced analytics can stabilize planning by using historical data from previous production runs to create optimized schedules based on machine availability, process quality, and resource requirements.

iii) Coaching

Ministry will follow the coaching framework that is intended to make such mind-set transitions easier by setting out exactly what is required by all parties involved in coaching, suggesting how to shape coaching activities and providing tools for evidence recording and outcomes measurement. Below is the coaching programme that will enable effective goal setting and clear outcomes.

Technical coaches will play a critical role to ensure on-the-job learning is effective and, with tangible results. Job tasks will be the main driver to measure the effectiveness of the program and how the learner is able to execute its delivery.

Coaching Model



iv) Culture

A learning culture refers to a community of workers eager and interested in learning. It is one that "supports an open mindset, an independent quest for knowledge, and shared learning directed toward the mission and goals of the organization". Building a learning culture can help you transform your workforce's potential. A truly transformative learning culture improves employee engagement, resilience, and motivation. It supports creativity and innovation and helps your workforce keep pace with technological evolution. We identify how to nurture a learning culture to sustain our organizational learning strategy.

"A learning culture is owned by everyone and built by everyone; it cannot be imposed."

Quote by Naomi Lockwood

With the introduction of new skills and possible new jobs, rolling this model will rely heavily on managing cultural changes. The solution is not only reskilling on technical skills for a specific new job but focusing on longer-term employability by upskilling with more universally transferable skills. The changing nature of how learning requires that learning moves from the traditional mindset of “knowing it all”, with planned learning programs, to an agile culture of lifelong learning that is continuous and digitally enabled, self-driven and personalized.

"**Know it all**" mindset	>	"**Learn it all**" mindset
Planned learning programme	>	Lifelong learning culture
Periodic learning	>	Continuous, digitally enabled learning
Company-directed learning	>	Self-driven learning
Homogenous learning	>	Personalized learning

SUCCESION PLAN

An organizational succession plan is a governance-driven framework that evaluates capacity (future potential), achievements (performance), and relationships (leadership behavior) while incorporating structured capability gap analysis to design focused development pathways that prepare internal talent for future strategic roles.

The Succession Plan has identified Director and Director General roles as critical positions due to their direct impact on strategic delivery, governance oversight, operational performance, and institutional sustainability. These roles are pivotal in ensuring business continuity, driving transformation initiatives, and maintaining leadership stability.

Accordingly, the succession planning focus is concentrated on building a strong, ready leadership pipeline for these two levels.

The succession framework is derived from four integrated assessment dimensions:

1. **Capacity (Future Potential)** – Evaluates the individual’s ability to assume broader responsibilities, manage complexity, lead transformation, and operate at higher strategic levels.
2. **Achievements (Performance Results)** – Assesses demonstrated delivery against targets, operational excellence, strategic contributions, and measurable value creation.
3. **Relationships (Leadership & Influence)** – Examines leadership behaviour, stakeholder engagement, collaboration, trust-building, and cultural alignment.
4. **Staff Development Gap Analysis** – Identifies competency gaps between current capability profiles and the requirements of Team Leader and Director roles, forming the basis for targeted development interventions.

General Succusion Plan Template

Criteria	Definitions	Staff 1	Staff 2	Staff 3	Staff 4	Staff 5	Staff 6	Weight (%)
Sum Total	Assessment Results Agreegation	32	36	53	37	39	37	50
Capacity	Analysing & Strategic, Thinking Developing Solutions	8	12	16	12	16	16	20
Acheivements	Delivering Results Learning & Adaptability	9	12	6	9	12	12	15
Relatioships	Building Relationships Teamwork & Values Difference	6	9	12	6	9	6	15
Total	Resuls aggregation with all dimensions above	55	69	87	64	76	71	100
Rank	Succesion plan priority based on the current status	6	4	1	5	2	3	

The gap analysis serves as a core input into succession decisions by highlighting readiness levels and defining structured development pathways, including leadership training, stretch assignments, mentoring, and exposure to cross-functional responsibilities.

This integrated approach ensures that succession planning is not replacement-driven, but capability-driven — systematically preparing high-potential talent to assume critical leadership roles while aligning development investments with long-term strategic objectives.

In summary, the succession plan strengthens organisational resilience by:

- Securing leadership continuity for critical positions
- Aligning development with future capability requirements
- Building a sustainable leadership bench
- Supporting strategic transformation objectives

TRANING PROGRAM

The Communication and Information Technology (ICT) professional Staff Development Training Program is a structured capability-building initiative designed to strengthen the institutional capacity required to design, govern, and implement digital policies and regulatory frameworks. The program aims to equip staff within the Communication and Information Technology (ICT) with the strategic, technical, and leadership competencies necessary to support national digital transformation and deliver effective governance outcomes.

The program is aligned with the evolving demands of the digital economy and focuses on building a future-ready policy workforce capable of addressing complex regulatory challenges, technological disruptions, and cross-sector collaboration requirements.

a) Policy and Governance Competences

Competences	Training Area	Example Training Program	Institution / Provider
Strategy and Policy Development	Digital Strategy & Transformation	Digital Transformation Strategy	MIT Sloan School of Management
	Digital Government Strategy	Digital Government Leadership Programme	Oxford Internet Institute
	Public Policy Design	Public Policy Analysis & Design	Harvard Kennedy School
	Technology & Policy	Technology and Public Policy Program	Stanford University
Governance and Institutional	Digital Governance Leadership	Digital Government Leadership Programme	Oxford Internet Institute
	Public Sector Governance	Executive Program in Public Leadership	Harvard Kennedy School
	Digital Government Transformation	Digital Government Transformation	OECD
	ICT Governance & Regulation	ICT Policy and Regulatory Training	International Telecommunication Union
	Public Sector Institutional Design	Governance and Institutional Reform	World Bank
	Digital Governance Strategy	Digital Transformation & Governance	MIT Sloan School of Management
Operational and Implementation	Digital Transformation Implementation	Leading Digital Transformation	MIT Sloan School of Management
	Public Sector Digital Implementation	Digital Government Transformation	OECD
	ICT Policy Implementation	ICT Policy and Regulatory Training	International Telecommunication Union
	Operational Excellence & Process Design	Operations Strategy and Execution	INSEAD
	Public Sector Program Delivery	Public Sector Leadership and Delivery	Harvard Kennedy
Digital and Technical	Digital Technology & Data Strategy	Data Strategy and Digital Transformation	Harvard Business School
	AI Policy & Technology Governance	AI Policy and Governance	Oxford Internet Institute
	Cybersecurity & Digital Risk	Cybersecurity for Policy Leaders	Stanford University
	Digital Infrastructure & Connectivity Policy	ICT Infrastructure and Digital Development	International Telecommunication Union
	Data Governance & Digital Economy	Data Governance and Digital Economy Policy	OECD
Ethical and Societal	Responsible Technology Governance	Ethics of Technology	University of Oxford
	Responsible AI Policy	Responsible AI: Ethics and Governance	MIT Sloan School of Management
	Data Ethics & Digital Rights	Data Ethics and Responsible Innovation	Harvard Kennedy School
	Inclusive Digital Transformation	Digital Inclusion and Digital Society	OECD
	Global AI Ethics Governance	AI Governance and Responsible Innovation	World Economic Forum
International Collaboration	International Public Policy & Diplomacy	Executive Program in Public Leadership	Harvard Kennedy School
	Digital Economy & International Policy	Digital Economy Policy Program	OECD
	ICT Regulation & Global Cooperation	ICT Policy and Regulatory Training	International Telecommunication Union
	Digital Development & Global Partnerships	Digital Development Program	World Bank
	Technology Policy & Global Governance	Technology and Public Policy Program	Stanford University

b) Industry Stimulation and Future Skills Competences

Competences	Training Area	Example Training Program	Institution / Provider
POLICY, REGULATION & INCENTIVES FOR INDUSTRY GROWTH	Industrial Policy Design & Implementation	Diversification and Industrial Policy for Sustainable Growth	IMF – Middle East
	Investment Policy & Investment Attraction	Investment policy, promotion, facilitation and FDI frameworks	OECD / World Bank Group Academy
	Trade Policy & Market Access	Trade Policy Course	World Trade Organization
	Policy Monitoring, Evaluation & Impact Assessment	Measuring policy additionality, economic impact, productivity, jobs and investment outcomes	OECD/World Bank group
DIGITAL ECONOMY STRATEGY & MARKET INTELLIGENCE	Digital Economy Strategy & Policy	ICT Policy Planning for Good Governance	ITU Academy
	Digital Economy Market Intelligence	Digital market structure, market sizing, ecosystem mapping, competitive landscape and market	World Bank group
	Digital Economy Measurement & Indicators	Measuring the Digital Economy – ICT indicators, digital adoptione etc	ITU Academy
	International Benchmarking & Best Practices	Digital economy benchmarking, international policy comparison and identification of replicable practices	OECD/World Bank group
	Strategic Foresight	Strategic foresight, horizon scanning, scenario development and implications for government policy	OECD
	Industry & Private Sector Development	Private Sector Development & Competitiveness – industry development, market constraints and enabling environment	World Bank Group
	Industry Ecosystem Development	Ecosystem mapping, stakeholder analysis, ecosystem gaps, institutional coordination and intervention design	OECD

	INDUSTRY DEVELOPMENT & ECOSYSTEM ENABLEMENT	Cluster Development & Industry Specialization	Cluster policy, industry specialization, regional ecosystems and competitiveness	OECD
		Industry Investment & FDI Enablement	nvestment attraction, investment facilitation, FDI linkages and strategic investor development	UNCTAD
		Startup & Scale-up Ecosystem Development	Startup ecosystem design, incubation, acceleration, scale-up support and internationalization	UNCTAD
	INVESTMENT, COMMERCIALIZATIO N & VALUE CREATION	Investment Strategy & Policy	Investment policy design, strategic investment priorities, investment climate and sustainable investment	UNCTAD
		Investment Promotion & Facilitation	Investment targeting, investor facilitation, aftercare, investor journey and strategic project development	UNCTAD
		Business Models & Commercialization Strategy	Business-model design, market validation, go-to-market strategy, pricing, revenue models and scaling	WIPO Academy
		Innovation-to-Market Management	Moving R&D from concept → prototype → pilot → commercialization → scale	WIPO Academy
		Investment Impact & Value Realization	Measuring investment additionality, ROI, jobs, GDP contribution, productivity, exports and socioeconomic impact	World Bank Group Academy
		Innovation Policy & Strategy	Science, Technology & Innovation (STI) Policy – innovation systems, policy instruments, governance, funding and mission-oriented innovation	OECD
		R&D Strategy & Portfolio Management	R&D portfolio prioritization, research funding models, technology readiness, program governance and impact measurement	OECD

	INNOVATION, R&D & EMERGING TECHNOLOGIES	Technology Assessment & Readiness	Technology Readiness Levels (TRL), feasibility assessment, technology maturity, adoption barriers and investment readiness	OECD
		Patent & Technology Intelligence	Patent landscape analysis, technology trends, competitor monitoring, state-of-the-art and freedom-to-operate analysis	WIPO
		Innovation & R&D Impact Measurement	R&D KPIs, innovation additionality, patents, commercialization, productivity, economic value and socioeconomic impact	OECD
	SOCIO-ECONOMIC IMPACT & INCLUSION	Socio-Economic Impact Assessment	Economic and Social Impact Assessment – GDP, productivity, employment, income and distributional effects	World Bank Group Academy
		Inclusive Economic Growth	Economic Policies for Inclusive and Job-Rich Growth – macroeconomic, sectoral and labour-market policy	ILO / ITCILO
		Inclusive Digital Market Development	Bridging the Mobile Gender Gap – policy interventions addressing barriers to digital adoption	ITU Academy / GSMA
		Inclusive Investment & Local Economic Development	Employment-Intensive Investment – integrating employment, skills and inclusive growth into investment programs	ILO / ITCILO
		Impact Monitoring, Evaluation & Policy KPIs	Socio-economic KPIs, theory of change, impact evaluation, distributional analysis and policy effectiveness	World Bank Group Academy / ILO

c) Artificial Intelligent and Advanced Technology Competences

Competences	Training Area	Example Training Program	Institution / Provider
AI Policy and Regulatory	AI Policy Fundamentals	AI Policy for Government Leaders	Organisation for Economic Co-operation and Development
	AI Regulatory Frameworks	AI Regulation and Compliance Program	European Institute of Public Administration
	AI Standards & Assurance	AI Standards and Conformity Assessment	International Organization for Standardization / International Electrotechnical Commission
	AI Impact Assessment	Algorithmic Impact Assessment and Public Sector AI	Government of Canada
	AI and Competition Policy	AI Market Regulation and Competition Policy	Organisation for Economic Co-operation and Development
Ethical & Responsible AI Governance	Responsible AI Foundations	Responsible AI: Principles and Practices	The Alan Turing Institute
	AI Ethics & Public Policy	Ethics of Artificial Intelligence	UNESCO
	AI Fairness & Bias Mitigation	Fairness, Accountability and Transparency in AI	AI Now Institute
	Human-Centered AI	Human-Centered Artificial Intelligence Executive Program	Stanford Human-Centered AI
	AI Risk & Safety Governance	AI Risk Management Framework Training	National Institute of Standards and Technology
	Data Ethics & Privacy	Data Ethics, Privacy and Responsible Data Use	The GovLab
	AI Assurance & Auditing	AI Assurance and Governance Certification	International Organization for Standardization
	AI Standards & Compliance	ISO/IEC 42001 AI Management Systems	International Organization for Standardization / International Electrotechnical Commission
	International AI Ethics & Governance	Global AI Ethics and Governance	International Telecommunication Union

AI Data Governance and Sovereignty	Data Governance Foundations	Data Governance Fundamentals	Data Management Association International
	AI Data Governance	Data Governance for Artificial Intelligence	The Alan Turing Institute
	Data Sovereignty & Digital Sovereignty	Data Sovereignty and National Digital Governance	Organisation for Economic Co-operation and Development
	Privacy & Data Protection	Data Privacy and Protection Program	International Association of Privacy Professionals
	Data Architecture & Interoperability	Government Data Architecture and Interoperability Frameworks	The Open Group
	AI Data Lifecycle Management	AI Data Lifecycle and Governance	Massachusetts Institute of Technology
	Data Security & Protection	Data Security Governance for Leaders	ISACA
Ai Risk, Safety And Assurance	AI Risk Management Fundamentals	AI Risk Management Framework (AI RMF) Training	National Institute of Standards and Technology
	AI Safety & Assurance	AI Safety Fundamentals	The Alan Turing Institute
	AI Assurance & Auditing	AI Assurance Practitioner Program	ISACA
	AI Compliance & Controls	AI Governance, Risk and Compliance (GRC)	ISACA
	AI Ethics, Risk & Safety	Ethics, Safety and Assurance for AI Systems	Oxford Internet Institute
	High-Risk AI Regulation	Governance of High-Risk AI Systems	European Institute of Public Administration
Ai Economic & Innovation Enablement	AI and Digital Economy Strategy	AI for Economic Growth and Competitiveness	World Bank
	AI Innovation Policy	Innovation Policy for Emerging Technologies	Organisation for Economic Co-operation and Development
	AI Commercialization	Commercializing AI Research and Innovation	Massachusetts Institute of Technology
	AI Investment Attraction	AI Investment Promotion and Digital Economy Development	United Nations Conference on Trade and Development

	AI Productivity and Value Realization	AI Business Value and Productivity Transformation	Microsoft
	AI for Industry Transformation	AI for Manufacturing, Energy and Logistics Transformation	World Economic Forum
	AI Economic Impact Assessment	Measuring AI Economic and Social Value	World Bank
	Public-Private Partnerships for AI	AI Ecosystem Partnerships and Collaboration Models	World Economic Forum
	AI Innovation Leadership	Executive Program in AI Innovation Leadership	Harvard Business School
	International AI Policy	AI Policy and International Cooperation	International Telecommunication Union
	International Technology Governance	Emerging Technology Governance Program	World Economic Forum
International Collaboration Ai	AI Standards & Global Frameworks	International AI Standards and Conformity Assessment	International Organization for Standardization / International Electrotechnical Commission
	AI and Digital Trade	Digital Trade, Data Flows and AI Governance	World Trade Organization
	International Negotiation Skills	Strategic Negotiation and International Agreements	Harvard Kennedy School
	Public-Private Global Partnerships	Building Global Digital Partnerships	World Economic Forum
	Strategic Foresight & Global AI Trends	Global AI Futures and Strategic Foresight	Singapore Civil Service College

RESOURCING STRATEGY

The Resourcing Strategy is designed to strengthen capability while ensuring operational efficiency and long-term sustainability. It reflects the evolving maturity of the workforce within the Communication and Information Technology (ICT) sector, where foundational capabilities have been established and the focus is now shifting toward strategic depth, specialization, and leadership readiness.

1.Workforce Maturity in Communication and Information Technology (ICT) sector

The ICT workforce is transitioning from foundational capacity building to advanced policy leadership. As capability matures, emphasis is placed on:

- Strengthening strategic policy design and regulatory foresight
- Enhancing governance oversight and institutional coordination

2. Contracting Routine Tasks

To optimize resource allocation and improve agility, routine and repetitive operational tasks are strategically outsourced.

3. Cross-Posting & External Exposure

As part of staff development and succession readiness, cross-posting and external exposure are embedded into the resourcing model. This includes:

- Temporary secondments to other ministries or regulatory bodies
- Exposure to private sector and international best practices
- Participation in cross-government transformation initiatives
- Engagement in international policy forums

4. Short-Term Contract

Professional coaching is integrated into the staff development roadmap to accelerate leadership maturity. Embedding coaches ensures that development is continuous, personalized, and aligned with strategic objectives rather than ad-hoc training interventions. It is recommended to exercise short term contract for external coaches for duration of 1 to 2 years with an objectives of transferring knowledge to Communication and Information Technology (ICT) sector seniors in order to embed coaching as the ways of working.

RETENTION PROGRAM

The Retention Program is a strategic workforce sustainability framework designed to secure institutional knowledge, strengthen capability depth, and ensure long-term leadership continuity. It moves beyond traditional retention approaches by integrating four interconnected dimensions: **Retain, Retrain, Renew, and Recruit**.

RETAIN - Protect & Motivate Critical Talent

Safeguard high-performing and high-potential employees, particularly in critical roles such as Team Leaders and Directors. Retention is not only about compensation — it is about ensuring employees see a future within the organization.

RECRUIT -Strategically Fill Critical Gaps

Attract external expertise where internal capacity or specialization gaps exist. Recruitment is strategic, not volume-based — focusing on future capability needs rather than short-term headcount expansion.

RENEW - Refresh & Modernize Capability

Continuously modernize workforce skills, culture, and mindset to align with strategic transformation. Renewal strengthens adaptability and prepares leaders for emerging governance challenges.

RETRAIN - Close Capability Gaps

Upgrade existing workforce capabilities to meet evolving strategic and policy demands. Retraining ensures internal talent remains relevant in the face of digital transformation and regulatory evolution.

Dimension	Strategic Question	Impact
Retain	**How do we protect our critical talent?**	Stability
Retrain	**How do we upgrade existing capability?**	Readiness
Renew	**How do we modernize mindset and culture?**	Agility
Recruit	**Where do we need external expertise?**	Strategic Strength

DEVELOPMENT STRATEGY

The Staff Development Strategy aims to build a future-ready workforce capable of responding to rapidly evolving market dynamics, technological disruption, and stakeholder expectations, while delivering greater national value with optimized resources.

The strategy focuses on equipping staff with the competencies, mindset, and tools required to:

- Adapt quickly to market and industry changes

- Deliver more outcomes with limited financial resources
- Support national economic diversification and digital transformation
- Align with shareholder and government expectations of efficiency and value creation
- Build a workforce capable of continuous learning and innovation

Ultimately, the strategy transforms the workforce into a high-performance, agile, and digitally fluent talent pool capable of responding to industry dynamics and policy priorities.

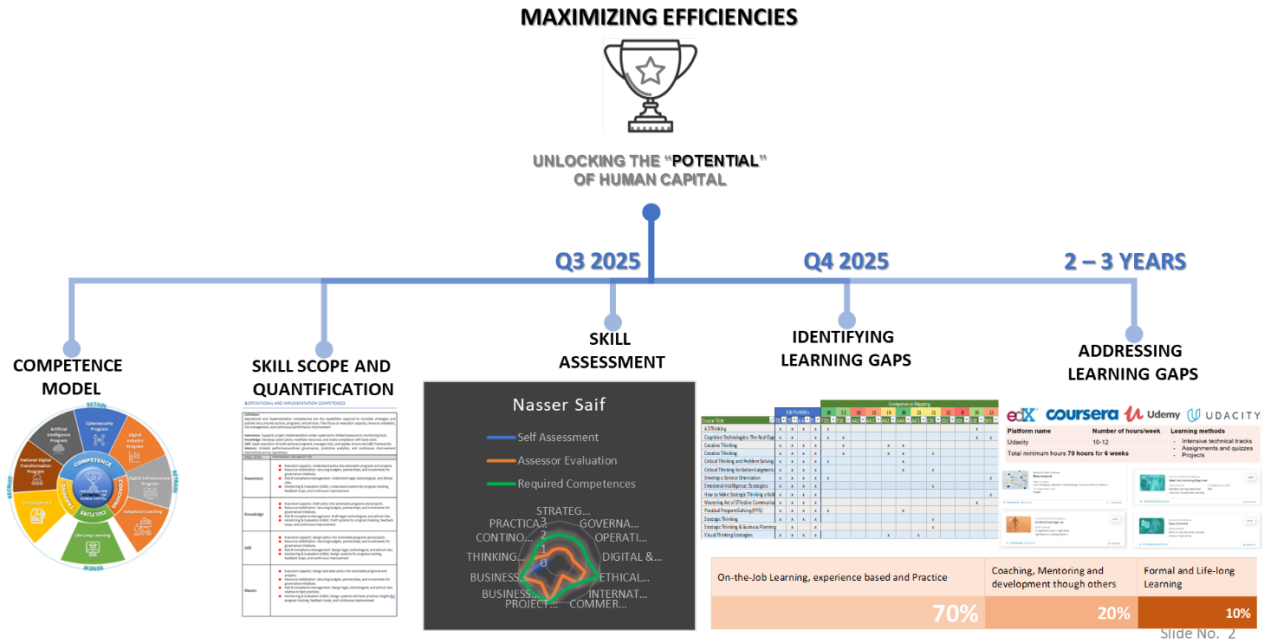
	Strategic Driver	Description
	Adapting to Market Dynamics	Workforce must understand evolving market conditions, technology trends, and emerging digital business models.
	Agility and Adaptive Competences	Staff must be able to respond quickly to policy, technological, and economic changes.
	Delivering More with Less Resources	Institutions must improve productivity, efficiency, and value creation despite budget constraints.
	Preparing Workforce for Industry Transformation	Employees must possess future skills aligned with digital economy, innovation, and emerging technologies.

DEPLOYMENT MODEL

The Deployment Model provides a structured and continuous approach to developing workforce capabilities that align with institutional strategy, market dynamics, and evolving industry requirements. The model ensures that organizations systematically build, assess, and enhance staff competences, enabling the workforce to adapt to technological change, economic shifts, and stakeholder expectations while delivering greater value with optimized resources.

The deployment model is built around five integrated stages that create a continuous improvement cycle for workforce capability development.

Stage	Description	Key Outcomes
Competence Creation	Define the strategic competence framework aligned with institutional mandate, market dynamics, and industry transformation needs.	Clear capability framework aligned with strategic priorities
Competence Assessment	Evaluate current workforce capabilities through structured assessments, surveys, and performance evaluations.	Understanding of current workforce capability baseline
Gap-to-Potential Analysis	Identify the gap between existing competences and the required future capability levels.	Identification of priority capability gaps
Capability Development Roadmap	Develop structured development plans to close capability gaps through targeted initiatives.	Clear roadmap for workforce capability development
Coaching and Advanced Training	Implement development programs including coaching, mentoring, and specialized training programs.	Continuous workforce capability improvement

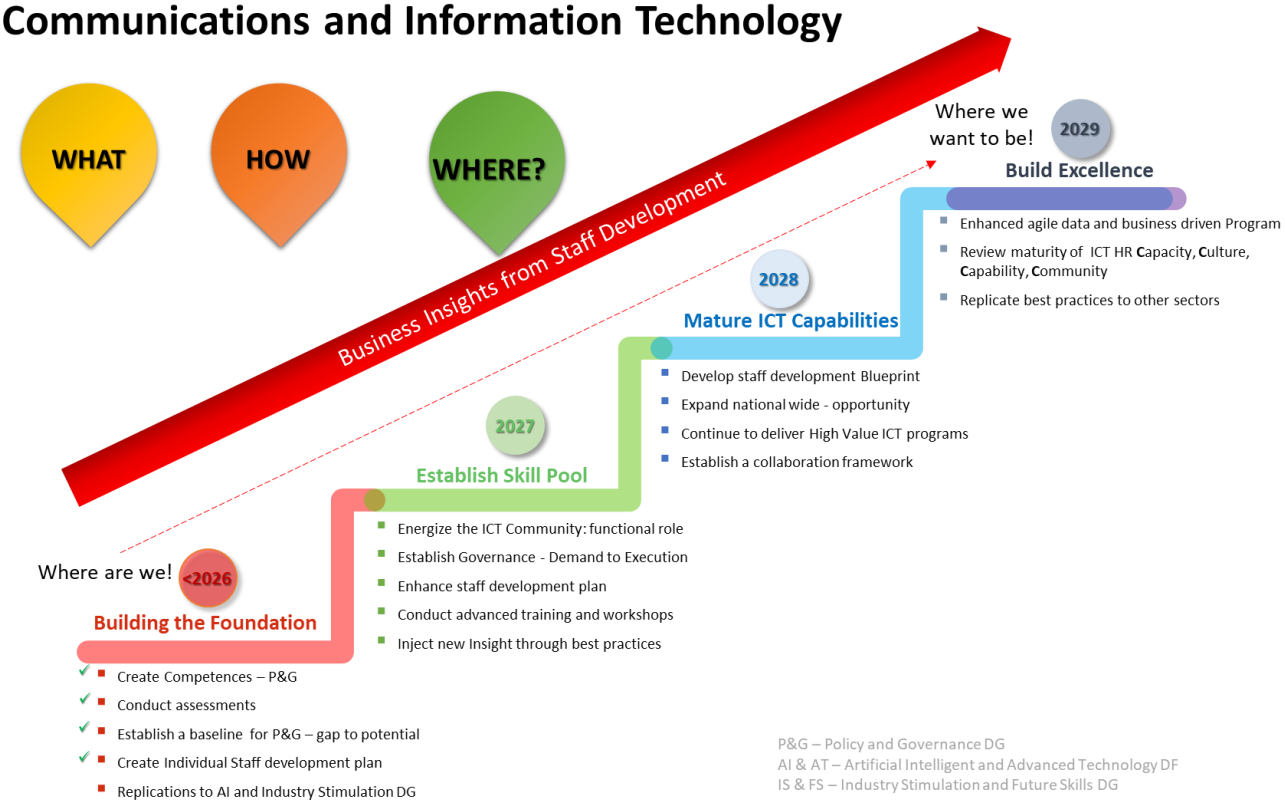


The Staff Development Framework adopts the internationally recognized 70–20–10 learning model, which emphasizes experiential learning, collaborative development, and structured training to build a highly capable, adaptive, and future-ready workforce. This framework ensures that staff development is embedded in daily work practices while also providing structured opportunities for coaching and continuous professional education.

This framework ensures that staff development becomes an integrated, continuous process embedded within everyday work practices, enabling the workforce to evolve alongside technological advancements, economic transformation, and institutional priorities

STAIRCASE AND ROADMAP

Communications and Information Technology



P&G – Policy and Governance DG
AI & AT – Artificial Intelligent and Advanced Technology DF
IS & FS – Industry Stimulation and Future Skills DG

Appendix 1: POLICY AND GOVERNANCE COMPETENCES

1.STRATEGY & POLICY DEVELOPMENT

Definition:
Strategy and policy competences refer to the ability of institutions and professionals to design, align, and implement evidence-based policies that support national priorities, address societal needs, anticipate future challenges in governance and digital transformation.

Awareness: Understands basic policy concepts and national strategies; relies on external guidance.
Knowledge: Drafts policies with some alignment to national priorities and conducts limited impact analysis.
Skill: Designs comprehensive, evidence-based, forward-looking policies that integrate benchmarks and KPIs.
Mastery: Shapes predictive, globally benchmarked policies; demonstrates thought leadership in anticipating emerging policy needs.

SKILL LEVEL	PROFICIENCY OR ABILITY TO:
Awareness	■ Policy Formulation: Aware of evidence-based policies aligned with national and sectoral priorities. ■ Vision & Strategy Alignment: Understand governance initiatives align with long-term digital transformation or socio-economic strategies. ■ Regulatory Foresight: Understand emerging issues (AI ethics, data sovereignty, cybersecurity, etc.) and integrating them into policy. ■ Benchmarking & Best Practices: understand international standards, ITU/UN recommendations, and peer practices to guide local policy.
Knowledge	■ Policy Formulation: Ability to draft evidence-based policies aligned with national and sectoral priorities. ■ Vision & Strategy Alignment: Articulate governance initiatives align with long-term digital transformation or socio-economic strategies. ■ Regulatory Foresight: Anticipating emerging issues (AI ethics, data sovereignty, cybersecurity, etc.) and integrating them into policy. ■ Benchmarking & Best Practices: Using international standards, ITU/UN recommendations, and peer practices to guide local policy.
Skill	■ Policy Formulation: Design evidence-based policies aligned with national and sectoral priorities. ■ Vision & Strategy Alignment: Demonstrate the governance initiatives align with long-term digital transformation or socio-economic strategies. ■ Regulatory Foresight: design with an anticipation of emerging issues (AI ethics, data sovereignty, cybersecurity, etc.) and integrating them into policy. ■ Benchmarking & Best Practices: design using international standards, ITU/UN recommendations, and peer practices to guide local policy.

Master	■ Policy Formulation: Steer to design evidence-based policies aligned with national and sectoral priorities. ■ Vision & Strategy Alignment: Steer and demonstrate the governance initiatives align with long-term digital transformation or socio-economic strategies. ■ Regulatory Foresight: Steer with anticipation of emerging issues (AI ethics, data sovereignty, cybersecurity, etc.) and integrating them into policy. ■ Benchmarking & Best Practices: Steer using international standards, ITU/UN recommendations, and peer practices to guide local policy.

2.GOVERNANCE & INSTITUTIONAL

Definition:
Governance and institutional competences are the capabilities required to design, establish, and manage effective governance structures and institutional arrangements that ensure transparency, accountability, inclusivity, and coordination in policy-making and implementation.

Awareness: Recognizes governance structures but has limited involvement in institutional processes.
Knowledge: Contributes to defining roles and supporting stakeholder coordination.
Skilled: Manages governance structures, ensures transparency and accountability, and leads stakeholder engagement.
Mastery: Designs adaptive governance systems, fosters institutional resilience, and advises on global governance frameworks.

SKILL LEVEL	PROFICIENCY OR ABILITY TO:
Awareness	■ Governance Structures: Understanding clear bodies (committees, regulators, agencies) with mandates and accountability. ■ Stakeholder Coordination: Understand mechanisms for government–private sector–civil society–academia collaboration. ■ Transparency & Accountability: Understand decision-making and reporting mechanisms are open, auditable, and trusted. ■ Legal & Regulatory Frameworks: Describe and understand laws/regulations for ICT and digital economy.
Knowledge	■ Governance Structures: Draft clear bodies (committees, regulators, agencies) with mandates and accountability. ■ Stakeholder Coordination: Map mechanisms for government–private sector–civil society–academia collaboration. ■ Transparency & Accountability: Knowledgeable decision-making and reporting mechanisms are open, auditable, and trusted. ■ Legal & Regulatory Frameworks: Competence in drafting, interpreting, and updating laws/regulations for ICT and digital economy.
Skill	■ Governance Structures: Design clear bodies (committees, regulators, agencies) with mandates and accountability. ■ Stakeholder Coordination: Design mechanisms for government–private sector–civil society–academia collaboration.

	■ Transparency & Accountability: Demonstrate decision-making and reporting mechanisms are open, auditable, and trusted. ■ Legal & Regulatory Frameworks: Competence in designing, interpreting, and updating laws/regulations for ICT and digital economy.
Master	■ Governance Structures: Steer with global view of clear bodies (committees, regulators, agencies) with mandates and accountability. ■ Stakeholder Coordination: Steer with best practices insights mechanisms for government–private sector–civil society–academia collaboration. ■ Transparency & Accountability: Demonstrate decision-making and reporting mechanisms are open, auditable, and trusted. ■ Legal & Regulatory Frameworks: Competence in designing, interpreting, and updating laws/regulations for ICT and digital economy with industry insights.

3.OPERATIONAL AND IMPLEMENTATION COMPETENCES

Definition:
Operational and implementation competences are the capabilities required to translate strategies and policies into concrete actions, programs, and services. They focus on execution capacity, resource utilization, risk management, and continuous performance improvement.

Awareness: Supports project implementation under supervision; limited exposure to monitoring tools.
Knowledge: Develops action plans, mobilizes resources, and tracks compliance with basic tools.
Skill: Leads execution of multi-sectoral programs, manages risks, and applies structured M&E frameworks.
Mastery: Embeds performance-driven governance, predictive analytics, and continuous improvement mechanisms across operations.

SKILL LEVEL	PROFICIENCY OR ABILITY TO:
Awareness	■ Execution Capacity: Understand policy into actionable programs and projects. ■ Resource Mobilization: Securing budgets, partnerships, and investments for governance initiatives. ■ Risk & Compliance Management: Understand legal, technological, and ethical risks. ■ Monitoring & Evaluation (M&E): Understand systems for progress tracking, feedback loops, and continuous improvement.
Knowledge	■ Execution Capacity: Draft policy into actionable programs and projects. ■ Resource Mobilization: Securing budgets, partnerships, and investments for governance initiatives. ■ Risk & Compliance Management: Draft legal, technological, and ethical risks. ■ Monitoring & Evaluation (M&E): Draft systems for progress tracking, feedback loops, and continuous improvement.
Skill	■ Execution Capacity: Design policy into actionable programs and projects. ■ Resource Mobilization: Securing budgets, partnerships, and investments for governance initiatives.

	■ Risk & Compliance Management: Design legal, technological, and ethical risks. ■ Monitoring & Evaluation (M&E): Design systems for progress tracking, feedback loops, and continuous improvement
Master	■ Execution Capacity: Design and steer policy into actionable programs and projects. ■ Resource Mobilization: Securing budgets, partnerships, and investments for governance initiatives. ■ Risk & Compliance Management: Design legal, technological, and ethical risks relative to best practices. ■ Monitoring & Evaluation (M&E): Design systems with best practices insights for progress tracking, feedback loops, and continuous improvement

4.DIGITAL & TECHNICAL COMPETENCES

Definition:
Digital and technical competences are the capabilities required to understand, regulate, and leverage digital technologies within governance systems. They enable policymakers and institutions to address data, cybersecurity, interoperability, and emerging technologies while ensuring resilience and innovation in public policy

Awareness: Has basic awareness of ICT policy issues (e.g., broadband, e-government).
Knowledge: Applies policies on data governance, cybersecurity, or interoperability in specific contexts.
Skills: Integrates emerging technologies (AI, IoT, 5G) into comprehensive policy frameworks.
Mastery: Anticipates disruptive technologies (quantum, space, bio-digital) and designs globally adaptive regulatory systems.

SKILL LEVEL	PROFICIENCY OR ABILITY TO:
Awareness	■ Data Governance: Understand competence in data protection, open data, privacy, and cross-border flows. ■ Technology Awareness: Understanding enabling technologies (cloud, 5G, AI, IoT) and their policy implications. ■ Cybersecurity & Resilience: Understand the Integration security-by-design principles into governance. ■ Interoperability & Standards: Understand systems and institutions can work across borders and sectors.
Knowledge	■ Data Governance: Draft competence in data protection, open data, privacy, and cross-border flows. ■ Technology Awareness: draft enabling technologies (cloud, 5G, AI, IoT) and their policy implications. ■ Cybersecurity & Resilience: Integrating security-by-design principles into governance.

	■ Interoperability & Standards: Ensuring systems and institutions can work across borders and sectors.
Skill	■ Data Governance: Design in data protection, open data, privacy, and cross-border flows. ■ Technology Awareness: Design enabling technologies (cloud, 5G, AI, IoT) and their policy implications. ■ Cybersecurity & Resilience: Integrating security-by-design principles into governance. ■ Interoperability & Standards: Ensuring systems and institutions can work across borders and sectors.
Master	■ Data Governance: Embed best practices competence in data protection, open data, privacy, and cross-border flows. ■ Technology Awareness: Steer the enabling technologies (cloud, 5G, AI, IoT) and their policy implications. ■ Cybersecurity & Resilience: Integrating security-by-design principles into governance with industry insights. ■ Interoperability & Standards: design systems and institutions can work across borders and sectors.

5.ETHICAL & SOCIETAL COMPETENCES

Definition:
Ethical and societal competences are the capabilities required to ensure that governance and policies are inclusive, fair, rights-based, and socially responsible. They emphasize public trust, citizen-centric approaches, and the long-term societal value of governance decisions.

Awareness: Understands inclusion concepts but applies them superficially.
Knowledge: Designs initiatives considering accessibility and basic rights.
Skills: Embeds ethics, human rights, and equity principles into policies and governance systems.
Mastery: Shapes societal trust and digital sovereignty frameworks, balancing innovation with long-term public value.

SKILL LEVEL	PROFICIENCY OR ABILITY TO:
Awareness	■ Inclusivity & Accessibility: Understand policies bridge digital divides (rural, gender, disability, socio-economic). ■ Ethics & Human Rights: Understand safeguarding fairness, privacy, and freedom of expression in governance. ■ Public Value Orientation: Centering governance on citizen trust, service quality, and societal impact. ■ Change Management: Support cultural adaptation in institutions and society.

Knowledge	■ Inclusivity & Accessibility: Draft policies bridge digital divides (rural, gender, disability, socio-economic). ■ Ethics & Human Rights: Safeguarding fairness, privacy, and freedom of expression in governance. ■ Public Value Orientation: Centering governance on citizen trust, service quality, and societal impact. ■ Change Management: Driving cultural adaptation in institutions and society
Skill	■ Inclusivity & Accessibility: Design policies bridge digital divides (rural, gender, disability, socio-economic). ■ Ethics & Human Rights: Safeguarding fairness, privacy, and freedom of expression in governance. ■ Public Value Orientation: Centering governance on citizen trust, service quality, and societal impact. ■ Change Management: Driving cultural adaptation in institutions and society.
Master	■ Inclusivity & Accessibility: Ensuring policies bridge digital divides (rural, gender, disability, socio-economic). ■ Ethics & Human Rights: Safeguarding fairness, privacy, and freedom of expression in governance. ■ Public Value Orientation: Centering governance on citizen trust, service quality, and societal impact. ■ Change Management: Driving cultural adaptation in institutions and society.

6.INTERNATIONAL COLLABORATION COMPETENCES

Definition:
International collaboration competences are the capabilities required to engage effectively with regional and globa partners, harmonize policies with international standards, and shape global governance frameworks. They emphasiz cross-border cooperation, negotiation, and alignment with international best practices to strengthen national and globa digital ecosystems.

Awareness: Follows international developments but engages passively.
Knowledge: Participates in regional/global forums and contributes to negotiations.
Skills: Aligns national governance frameworks with international standards and builds global partnerships.
Mastery: Leads international negotiations, shapes global norms, and represents thought leadership in digital governance

SKILL LEVEL	PROFICIENCY OR ABILITY TO:
Awareness	■ Global Engagement: Understanding international organizations (ITU, OECD, WTO, etc.) and treaties. ■ Cross-border Coordination: Harmonizing standards, spectrum, data flows, and cyber cooperation.

	■ Diplomatic & Negotiation Skills: Balancing national interests with global governance frameworks. ■ Partnership Development: Building alliances with private sector, development banks, and NGOs.
Knowledge	■ Global Engagement: Participation in international organizations (ITU, OECD, WTO, etc.) and treaties. ■ Cross-border Coordination: Harmonizing standards, spectrum, data flows, and cyber cooperation. ■ Diplomatic & Negotiation Skills: Balancing national interests with global governance frameworks. ■ Partnership Development: Building alliances with private sector, development banks, and NGOs.
Skill	■ Global Engagement: Participation in international organizations (ITU, OECD, WTO, etc.) and treaties. ■ Cross-border Coordination: Harmonizing standards, spectrum, data flows, and cyber cooperation. ■ Diplomatic & Negotiation Skills: Balancing national interests with global governance frameworks. ■ Partnership Development: Building alliances with private sector, development banks, and NGOs.
Master	■ Global Engagement: Participation in international organizations (ITU, OECD, WTO, etc.) and treaties. ■ Cross-border Coordination: Harmonizing standards, spectrum, data flows, and cyber cooperation. ■ Diplomatic & Negotiation Skills: Balancing national interests with global governance frameworks. ■ Partnership Development: Building alliances with private sector, development banks, and NGOs.

Appendix 2: ARIFICIAL INTELLGENT AND ADVANCED TECHNOLOGY

1. AI POLICY & REGULATORY

Definition:
AI Policy & Regulatory Literacy is the ability of government professionals to understand AI technologies and their societal, economic, and legal implications sufficiently to design, assess, and implement effective AI policies, regulations, and governance mechanisms.

Awareness: Understands basic AI concepts (ML, generative AI) and recognizes why AI requires governance.

Knowledge: Can explain AI risks and use cases in simple policy terms. Supports drafting AI policy briefs, regulatory comparisons, and background notes under guidance. **Skill**: Leads development of national AI regulatory strategies. Aligns AI governance across sectors and ensures coherence with national laws, economic priorities, and institutional mandates. Advises senior leadership. **Mastery**: Shapes national AI regulatory direction and represents the country in international AI policy forums. Anticipates future regulatory needs and defines long-term AI governance models.	
SKILL LEVEL	PROFICIENCY OR ABILITY TO:
Awareness	■ Knows key AI terminology ■ Understands that AI affects privacy, fairness, and safety ■ Recognizes that different AI systems carry different risks.
Knowledge	■ Explains AI lifecycle in non-technical terms ■ Supports regulatory benchmarking (EU AI Act, OECD, etc.) ■ Helps identify sectors where AI oversight may be required ■ Draft AI risk classification frameworks ■ Drafts AI governance guidelines or regulatory consultation papers ■ Support impacts of regulatory options on innovation and SMEs
Skill	■ Leads cross-ministry AI regulatory alignment ■ Designs national AI regulatory roadmaps ■ Balances economic growth, innovation, and protection objectives ■ Advises ministers, undersecretaries and senior executives on AI policy decisions
Master	■ Represents the country in global AI governance negotiations ■ Anticipates frontier AI regulatory challenges (foundation models, autonomous systems) ■ Shapes regional or international AI governance norms

2. ETHICAL & RESPONSIBLE AI GOVERNANCE

Definition:
Ethical & Responsible AI Governance is the ability of government professionals to design, implement, and oversee policies, frameworks, and institutional mechanisms that ensure AI systems are developed and used in ways that are fair, transparent, accountable, safe, and aligned with societal values and human rights.

This competency ensures that AI deployment supports public trust, social stability, and inclusive economic progress, while preventing harm, discrimination, and misuse.

Awareness: Understands that AI can create ethical, social, and rights-related risks but has limited ability to apply governance or policy solutions.
Knowledge: Contributes and support ethical AI policy activities and contribute to responsible AI documentation under guidance.
Skilled: Leads national implementation of responsible AI governance and aligns ethical AI requirements across institutions and sectors.
Mastery: Shapes national AI trust strategy and contributes to international responsible AI governance and norm-setting.

SKILL LEVEL	PROFICIENCY OR ABILITY TO:
Awareness	■ Aware that AI can cause bias, discrimination, and harm ■ Understands basic ideas of fairness, transparency, and accountability ■ Recognizes ethical concerns in AI discussions ■ Understands why responsible AI principles are needed
Knowledge	■ Supports development of ethical AI guidelines and checklists ■ Contributes to AI impact assessment templates ■ Helps identify high-risk AI use cases needing oversight ■ Participate in drafting responsible AI policy notes ■ Supports stakeholder consultations on AI ethics
Skill	■ Designs national Responsible AI principles and governance frameworks ■ Develops algorithmic accountability and human oversight requirements ■ Defines ethical review and risk assessment processes ■ Leads development of responsible AI guidelines for public sector and industry ■ Designs AI ethics impact assessment methodologies ■ Leads cross-government responsible AI governance programs ■ Designs national AI ethics oversight bodies or review boards ■ Aligns ethical AI requirements with national laws and sector regulations ■ Advises senior leadership on sensitive AI deployments
Master	■ Shapes national AI trust and ethics agenda ■ Represents the country in international AI ethics and governance negotiations ■ Anticipates emerging ethical challenges from frontier AI systems ■ Influences regional or global responsible AI standards ■ Chief advisor on AI ethics to ministers, undersecretaries or national leadership ■ Leads international cooperation on responsible AI governance

3. AI DATA GOVERANCE AND SOVEREIGNTY

Definition:
Data Governance & Sovereignty for AI is the ability of government professionals to design and oversee policies, regulatory frameworks, and institutional mechanisms that ensure data used for AI is lawfully managed, securely protected, high-quality, appropriately shared, and aligned with national sovereignty, privacy, and economic interests.

This competency ensures that AI development and deployment are built on trusted data ecosystems that balance innovation with national control, security, and citizens' rights

Awareness: Understands that AI depends on data and that data governance, privacy, and sovereignty issues exist, but has limited ability to apply policy or governance solutions.
Knowledge: Support development of AI-related data governance policies and contribute to documentation under guidance.

Skill: Leads national policy and institutional alignment on AI-related data governance and sovereignty matters. **Mastery**: Embeds performance-driven governance, predictive analytics, and continuous improvement mechanisms across operations.	
SKILL LEVEL	PROFICIENCY OR ABILITY TO:
Awareness	■ Recognizes types of data (personal vs non-personal) ■ Aware that data protection and sovereignty matter in AI ■ Understands that poor data quality affects AI outcomes
Knowledge	■ Supports drafting data classification and sharing policies ■ Assists in aligning AI use cases with data protection requirements ■ Contributes to discussions on cross-border data considerations ■ Contributor to AI data governance and consultation processes
Skill	■ Designs national AI data governance strategy aligned with digital economy goals ■ Aligns cross-border data rules with national sovereignty and trade priorities ■ Coordinates data governance roles across ministries, regulators, and security bodies ■ Advises senior leadership on sensitive data and AI sovereignty risks
Master	■ Defines long-term national strategy for AI data sovereignty and strategic data assets ■ Represents the country in international data governance and digital trade negotiations ■ Anticipates geopolitical, economic, and security implications of AI data flows ■ Influences regional or global standards on AI data governance

4.AI RISK, SAFETY AND ASSUARANCE

Definition:
AI Risk, Safety & Assurance is the ability of government professionals to identify, assess, mitigate, and oversee risks arising from AI systems, and to design governance mechanisms that ensure AI operates in a safe, secure, reliable, and controlled manner, particularly in high-impact or critical use cases.

This competency ensures AI deployment does not threaten public safety, national security, economic stability, or fundamental rights, while maintaining trust in AI-enabled systems.

Awareness: Understands that AI systems can fail or cause harm and that safety and risk management are necessary, but has limited ability to apply governance or assurance mechanisms.
Knowledge: Support AI risk and safety policy work and contribute to documentation and analysis under guidance.
Skills: Leads national strategy and institutional alignment for AI risk governance, particularly for high-risk and critical-sector AI systems.
Mastery: Shapes national AI safety strategy and contributes to international AI safety governance, standards, and resilience initiatives.

SKILL LEVEL	PROFICIENCY OR ABILITY TO:
Awareness	■ Recognizes basic AI risks such as bias, errors, and misuse ■ Understands that higher-risk AI systems require stronger oversight ■ Can follow AI risk and safety discussions.

Knowledge	■ Assists in identifying high-risk AI use cases ■ Supports development of AI risk assessment templates ■ Contributes to drafting safety guidelines and oversight checklists ■ Contributor to AI safety and risk policy development processes
Skill	■ Establishes national AI safety oversight and assurance mechanisms ■ Coordinates AI risk governance across ministries and sector regulators ■ Advises senior leadership on systemic and critical AI risks ■ Designs national response mechanisms for AI-related incidents
Master	■ Defines long-term national AI safety and resilience strategy ■ Represents the country in international AI safety and risk governance forums ■ Anticipates emerging risks from frontier AI systems ■ Influences regional or global AI safety standards and cooperation.

5.AI ECONOMIC & INNOVATION ENABLEMENT

Definition:
AI Economic & Innovation Enablement is the ability of government professionals to design and implement policies, regulatory environments, incentives, and institutional mechanisms that stimulate AI-driven innovation, investment, productivity, and economic diversification, while ensuring alignment with national development priorities.

This competency ensures AI is leveraged as a strategic economic enabler, transforming it from a digital tool into a source of sustainable growth, competitiveness, and new revenue streams.

Awareness: Understands that AI can drive economic growth and innovation but has limited ability to design policies or programs that enable AI markets.
Knowledge: Support AI economic and innovation policy initiatives and contribute to documentation and analysis under guidance.
Skills: Leads national alignment of AI policy with economic diversification, industrial strategy, and competitiveness goals.
Mastery: Shapes national AI economic positioning and contributes to international AI innovation cooperation and competitiveness strategy.

SKILL LEVEL	PROFICIENCY OR ABILITY TO:
Awareness	■ Aware that AI affects productivity and competitiveness ■ Understands that AI ecosystems require supportive policies ■ Can follow discussions on AI innovation strategy.
Knowledge	■ Assists in identifying priority sectors for AI adoption ■ Supports development of AI innovation policy briefs ■ Contributes to research on AI ecosystems, startups, and market trends
Skill	■ Designs national AI industry development strategies ■ Aligns AI innovation policy with trade, investment, and SME strategies ■ Uses government procurement as a catalyst for AI markets ■ Advises senior leadership on AI's role in GDP growth and economic transformation.

Master	■ Defines long-term national AI competitiveness and global positioning strategy ■ Represents the country in international AI economic and innovation forums ■ Anticipates global AI market shifts and strategic opportunities ■ Influences regional or global AI innovation ecosystems and partnerships

6.INTERNATIONAL COLLABORATION AI

Definition:
Multi-Stakeholder & International AI Coordination is the ability of government professionals to engage, align, and collaborate with domestic stakeholders (industry, academia, civil society, regulators, and public institutions) and international partners to develop coherent, interoperable, and future-ready AI governance, standards, and innovation ecosystems.

This competency ensures AI policy is not developed in isolation, but instead reflects diverse societal interests, supports economic collaboration, and aligns with global norms and cross-border realities.

Awareness: Understands that AI governance requires coordination beyond a single institution and that international developments influence national policy.
Knowledge: support stakeholder engagement and contribute to international AI policy tracking under guidance.
Skills: Leads national strategy for multi-stakeholder collaboration and international AI engagement.
Mastery: Shapes national AI diplomatic positioning and plays a leadership role in international AI governance and cooperation.

SKILL LEVEL	PROFICIENCY OR ABILITY TO:
Awareness	■ Aware of key stakeholder groups involved in AI ■ Understands that AI policy has global dimensions ■ Can follow discussions involving consultations or international cooperation.
Knowledge	■ Assists in organizing AI consultations and workshops ■ Supports preparation of stakeholder feedback summaries ■ Monitors international AI policy developments and benchmarks. ■ Contributor to stakeholder engagement and international alignment processes
Skill	■ Establishes national AI advisory councils or multi-stakeholder governance bodies ■ Aligns AI governance across government institutions and regulators ■ Represents government in regional AI cooperation initiatives ■ Ensures national AI frameworks are interoperable with global standards.
Master	■ Represents the country in global AI governance negotiations and standard-setting forums ■ Builds strategic international AI alliances and cooperation frameworks ■ Influences development of regional or global AI governance norms ■ Aligns international AI engagement with national economic, security, and policy priorities

Appendix 3: INDUSTRY STIMULATION AND FUTURE SKILLS

1. POLICY, REGULATION & INCENTIVES FOR INDUSTRY GROWTH

Definition:
Policy, Regulation & Incentives for Industry Growth is the competence to design, implement, and continuously adapt regulatory frameworks and incentive mechanisms that stimulate digital industry development, innovation, and investment.

It focuses on creating an enabling environment where businesses can start, scale, and compete—through agile regulation, pro-innovation policies, and targeted incentives aligned with national priorities such as Oman Vision 2040.

SKILL LEVEL	PROFICIENCY OR ABILITY TO:
Awareness	■ Understands basic regulatory concepts and the role of policy in economic development. ■ Aware of general business regulations and licensing requirements. ■ Limited exposure to incentive mechanisms or policy design
Knowledge	■ Supports drafting or reviewing policies and regulations under guidance. ■ Participates in designing basic incentives (grants, subsidies, tax benefits). ■ Understands regulatory challenges affecting startups and digital businesses. ■ Contributes to stakeholder consultations and feedback processes
Skill	■ Designs and implements agile regulatory frameworks (e.g., sandboxes, startup-friendly policies). ■ Structures targeted incentive programs (tax incentives, procurement policies, innovation funding). ■ Balances innovation, competition, and compliance in policy-making. ■ Conducts impact assessments to evaluate policy effectiveness and industry outcomes.
Master	■ Shapes future-ready, adaptive regulatory ecosystems that anticipate technological and market changes. ■ Influences national and international policy agendas for digital industry development. ■ Designs high-impact incentive systems that attract global investment and stimulate innovation at scale. ■ Positions the country as a leading, business-friendly digital economy with world-class regulatory practices.

2. DIGITAL ECONOMY STRATEGY & MARKET INTELLIGENCE

Definition:
Digital Economy Strategy & Market Intelligence is the competence to analyze digital markets, identify high-value opportunities, and design forward-looking strategies that position digital sectors as key drivers of economic growth and diversification. It combines data-driven insights, global benchmarking, and sector prioritization to guide policy, investment, and industry development aligned with national agendas such as Oman Vision 2040.

SKILL LEVEL	PROFICIENCY OR ABILITY TO:
Awareness	■ Understands fundamental concepts of the digital economy and key sectors (e.g., ICT, e-commerce). ■ Has limited exposure to market data and relies on existing reports. ■ Recognizes the importance of digital transformation but cannot translate it into strategy
Knowledge	■ Conducts basic market analysis and identifies emerging digital opportunities. ■ Supports development of sector-specific strategies with guidance. ■ Uses benchmarking data from peer countries to inform recommendations. ■ Demonstrates awareness of value chains (e.g., cloud, fintech, AI).
Skill	■ Designs comprehensive digital economy strategies aligned with national priorities. ■ Performs advanced market intelligence (trend analysis, demand forecasting, competitiveness assessment). ■ Identifies priority sectors and investment opportunities based on data-driven insights. ■ Integrates global best practices and adapts them to local context.
Master	■ Shapes predictive, future-oriented strategies that anticipate global digital shifts. ■ Positions the country as a competitive digital hub through differentiated strategy. ■ Influences national and international policy agendas using deep market insights. ■ Drives continuous strategy evolution using real-time data, analytics, and global intelligence networks

3. INDUSTRY DEVELOPMENT & ECOSYSTEM ENABLEMENT

Definition:
Industry Development & Ecosystem Enablement is the competence to design, build, and scale a dynamic digital industry ecosystem by fostering startups, SMEs, innovation platforms, and public–private partnerships. It focuses on creating the conditions for digital industries to grow, collaborate, and compete, aligned with national economic priorities such as Oman Vision 2040.

This competence integrates ecosystem design, stakeholder orchestration, and program execution to stimulate sustainable digital industry growth and local value creation.

SKILL LEVEL	PROFICIENCY OR ABILITY TO:
Awareness	■ Understands the concept of digital ecosystems (startups, SMEs, incubators). ■ Has limited involvement in ecosystem initiatives or industry programs. ■ Recognizes the importance of collaboration but lacks practical application
Knowledge	■ Supports implementation of ecosystem initiatives (incubators, accelerators, SME programs). ■ Engages with stakeholders (startups, academia, private sector) under guidance. ■ Contributes to sector-specific programs (e.g., logistics tech, fintech). ■ Understands mechanisms like sandboxes and innovation hubs
Skill	■ Designs and manages integrated ecosystem programs (clusters, accelerators, PPP initiatives). ■ Builds multi-stakeholder partnerships across government, private sector, and academia. ■ Enables local content development and supports scaling of startups and SMEs. ■ Aligns ecosystem initiatives with national economic and sector strategies
Master	■ Shapes a self-sustaining, globally competitive innovation ecosystem. ■ Attracts international startups, investors, and technology leaders. ■ Drives ecosystem maturity through policy influence, funding models, and global integration. ■ Positions the country as a regional or global hub for digital innovation.

4. INVESTMENT, COMMERCIALIZATION & VALUE CREATION

Definition:
Investment, Commercialization & Value Creation is the competence to attract, structure, and deploy investments, while enabling the commercialization of digital solutions, products, and intellectual property (IP) to generate measurable economic value.

It focuses on transforming innovation into scalable businesses, revenue streams, and national economic impact—aligned with diversification priorities such as Oman Vision 2040.

SKILL LEVEL	PROFICIENCY OR ABILITY TO:
Awareness	■ Understands basic investment concepts (public funding, grants, private investment). ■ Has general awareness of digital business models (e.g., e-commerce, SaaS). ■ Limited exposure to commercialization processes or value measurement.
Knowledge	■ Supports investment initiatives (grants, innovation funds, startup funding programs). ■ Contributes to early-stage commercialization efforts (pilots, prototypes). ■ Understands key digital business models (platforms, subscription, data-driven services). ■ Participates in measuring basic outputs (e.g., number of startups funded).
Skill	■ Designs and manages investment frameworks (VC attraction, PPPs, FDI strategies). ■ Enables scaling and commercialization of digital solutions and IP. ■ Applies financial and economic analysis to evaluate return on investment (ROI). ■ Tracks economic value metrics (GDP contribution, job creation, productivity gains)
Master	■ Shapes a globally competitive investment ecosystem attracting international capital. ■ Drives end-to-end commercialization pipelines (R&D → product → market → export). ■ Establishes advanced value measurement frameworks (digital GDP, export growth, innovation indices). ■ Positions the country as a hub for digital investment and high-value innovation.

5. INNOVATION, R&D & EMERGING TECHNOLOGIES

Definition:
Innovation, R&D & Emerging Technologies is the competence to drive research, foster innovation ecosystems, and enable the adoption and commercialization of advanced technologies (e.g., AI, IoT, blockchain, robotics).

It focuses on building national innovation capacity, strengthening academia–industry–government collaboration, and translating research into economic value and competitive advantage, aligned with diversification priorities such as Oman Vision 2040.

SKILL LEVEL	PROFICIENCY OR ABILITY TO:
Awareness	■ Understands basic concepts of innovation and emerging technologies.

	■ Aware of national or global trends in R&D and technology development. ■ Limited involvement in innovation or research initiatives
Knowledge	■ Supports innovation initiatives (labs, pilot projects, technology trials). ■ Participates in research collaborations with academia or partners. ■ Understands mechanisms such as innovation hubs, sandboxes, and testbeds. ■ Contributes to early-stage experimentation and proof-of-concepts.
Skill	■ Designs and manages innovation programs and R&D initiatives aligned with national priorities. ■ Facilitates academia–industry–government collaboration for technology development. ■ Enables technology adoption and scaling (AI, IoT, smart solutions). ■ Supports IP creation, patents, and commercialization pathways.
Master	■ Shapes a globally competitive innovation ecosystem with strong R&D output and commercialization. ■ Drives leadership in emerging technologies (AI, quantum, deep tech). ■ Establishes national innovation systems with strong IP generation and export potential. ■ Positions the country as a regional/global hub for advanced technology and research excellence.

6. SOCIO-ECONOMIC IMPACT & INCLUSION

Definition:
Socio-Economic Impact & Inclusion is the competence to ensure that digital industry growth delivers equitable economic value and societal benefits, including job creation, SME participation, and inclusive access to opportunities.

It focuses on embedding inclusion, fairness, and measurable socio-economic outcomes into digital industry policies and programs—aligned with national priorities such as Oman Vision 2040.

SKILL LEVEL	PROFICIENCY OR ABILITY TO:
Awareness	■ Understands basic concepts of inclusion and socio-economic impact. ■ Aware of digital divide challenges (e.g., rural access, gender gaps). ■ Limited involvement in designing inclusive programs or measuring impact.
Knowledge	■ Supports initiatives aimed at job creation, SME development, and digital inclusion. ■ Contributes to programs targeting youth, women, and underserved groups. ■ Uses basic indicators (e.g., participation rates, training numbers). ■ Participates in stakeholder engagement to understand societal needs
Skill	■ Designs and implements inclusive digital industry programs (local content, SME empowerment). ■ Embeds socio-economic impact metrics (jobs, productivity, regional development). ■ Aligns policies with economic diversification and social equity goals. ■ Evaluates outcomes and adjusts programs to improve inclusion and impact.

Master	■ Shapes national frameworks ensuring digital industry growth is inclusive and sustainable. ■ Drives high-impact job creation strategies and equitable wealth distribution. ■ Establishes advanced impact measurement systems (digital economy contribution, inclusion indices). ■ Positions the country as a model for inclusive and sustainable digital transformation

Appendix 4: COMMON COMPETENCES

7.COMMERCIAL MINDSET

Definition: A digital commercial mindset refers to the strategic and practical ability to convert digital transformation investments into sustained economic value by enhancing cost competitiveness, applying market intelligence, and building digital solutions that evolve from internal enablement to commercial digital services, platforms, and new revenue streams **Awareness**: Understands basic concepts, terminology, and examples **Knowledge**: Applies tools with guidance; supports initiatives **Skills**: Independently delivers outputs and measurable value **Mastery**: Leads portfolios/programs; optimizes value and scalability, Shapes strategy, ecosystems, and new revenue industries	
SKILL LEVEL	PROFICIENCY OR ABILITY TO:
Awareness	■ Understands market intelligence concepts, trends, and competitors ■ Understands customer journey and product-thinking basics ■ Understands ROI, payback, cost-benefit logic ■ Understands cost competitiveness and productivity levers ■ Understands commercialization concepts and digital business models ■ Understands Agile/MVP basics ■ Understands governance, privacy, and cyber principles ■ Understands key stakeholder roles and communication basics ■ Understands dashboards and data basics
Knowledge	■ Collects competitor/market data using templates ■ Supports journey mapping and user research ■ Contributes to business cases and benefit estimates ■ Identifies basic efficiency opportunities ■ Supports pilots and early monetization approaches ■ Participates in Agile teams; supports delivery activities ■ Applies policies/templates; escalates risks ■ Supports stakeholder communication and coordination ■ Uses dashboards for basic reporting
Skills	■ Produces opportunity assessments (TAM/SAM/SOM), prioritizes opportunities ■ Designs customer-centric digital services/products with clear value proposition ■ Builds business cases (ROI/NPV/IRR), defines benefits realization KPIs ■ Quantifies cost-to-serve, builds productivity baseline and improvement plan ■ Designs monetization models (subscription/transaction/API/data products) ■ Runs MVPs and experiments; iterates based on user/data insights ■ Designs governance controls for digital products; manages vendor SLAs ■ Leads alignment workshops and cross-functional delivery

	■ Applies analytics for customer/value decisions and experiments
Mastery	■ Shapes national/enterprise market intelligence direction and future digital industry positioning ■ Sets product strategy, platform direction, and ecosystem product standards ■ Shapes investment strategy; drives sustainable revenue growth and economic value outcomes ■ Defines long-term cost competitiveness strategy and transformation economics ■ Establishes digital industry ecosystems; drives exportable digital services and national/enterprise digital economy growth ■ Institutionalizes Agile-at-scale and continuous improvement culture ■ Shapes governance frameworks enabling innovation + trust + commercialization ■ Creates strategic alliances; shapes public-private ecosystem and investment attraction

8.PROJECT & RISK MANAGEMENT

Definition: The management of a project which includes initiating, planning, executing, monitoring & controlling and closing by acquiring and utilizing the necessary resources and skills, within agreed parameters of cost, time and quality to meet identified business objectives. Methods, techniques and knowledge for the assessment and management of business risk aligned to information assets that support business processes.	
SKILL LEVEL	PROFICIENCY OR ABILITY TO:
Knowledge	■ Demonstrate your understanding of Agile verses Waterflood. ■ Demonstrate knowledge of project management terminology, processes, standards, and tools, and apply them under supervision. ■ Participate in scope definition and management. ■ Participate in defining, sequencing, and estimating activity durations. ■ Participate in total project cost estimation, and associated approval and monitoring processes. ■ Participate in quality management planning. ■ Draft a resource plan, acquire resources, and assign to tasks. ■ Explain the methods and techniques of risk assessment and management ■ Identify the potential impact of known risks. ■ Identify threats and vulnerabilities that may expose assets to disruptions and incidents, describe and select internal mitigating controls.
Skill	■ Develop detailed scope description and agree via formal scope acceptance process. ■ Create and follow a Project Management Plan that breaks the agreed scope of work into executable components and time frames.

	■ Define, sequence and estimate required resource and activity durations to form a baseline schedule; subsequently estimate total project costs. ■ Monitor status and manage baseline schedule changes. ■ Obtain authorized budget; monitor project status to manage baseline cost changes. ■ Define project quality requirements; follow audit quality compliance processes. ■ Assess project environment to establish & implement an appropriate project management governance framework. ■ Conduct risk assessments & perform risk analysis to identify & anticipate risks. ■ Plan risk responses and monitor & control risks for the project. ■ Proactively identify new threats and vulnerabilities. ■ Decide on risk management responses across the business. ■ Manage business risk and internal control evaluation activities. ■ Act as role model to others on identifying and managing business risk.

9.BUSINESS IMPROVEMENT TECHNIQUES

Definition: Use Business Analysis Techniques to discover and model information to appropriately understand and document the business operations and its needs.	
SKILL LEVEL	PROFICIENCY OR ABILITY TO:
Knowledge	■ Describe process design with respect to the overall process lifecycle (Design, Manage, Improve, Sustain). ■ Conduct a structured assessment of a business process and relate it to the organizational or strategic context. ■ Conduct an "as-is" process assessment, establish requirements for the "to-be" process ■ Explain when and how to use different types of business analysis techniques. ■ Apply basic business analysis, process modelling and design techniques. ■ Understand different modelling techniques and tools; can explain how they are applied. ■ Employ relevant standards and methodologies to define business requirements. ■ Articulate the distinction between functional and non-functional requirements. ■ Routinely apply process improvement tools (e.g., LEAN or Six Sigma) to business processes. ■ Evaluate a situation and can brainstorm multiple potential solutions under direction. ■ Present relevant information and make low complexity decisions. ■ Contribute to the development of a change plan, intervention, or solution.
Skill	■ Employ a range of business analysis techniques across a variety of projects. ■ Facilitate stakeholder meetings. ■ Lead business analysis teams. ■ Select best techniques for discovering stakeholder requirements; explain to business partners how and why these techniques are being used.

	■ Apply multiple modeling techniques to analyze and document business requirements. ■ Review requirements with stakeholders. ■ Able to align and secure the buy-in of multiple stakeholders to deliver the recommended business process improvements. ■ Create solution acceptance criteria and validate solution with the business; define necessary supporting materials. ■ Evaluate a situation, seek multiple potential solutions, think creatively. ■ Be a certified Lean Practitioner. ■ Analyze relevant information, form comparisons and tradeoff between options. ■ Make medium-complexity decisions. ■ Apply process modelling and design techniques to deliver measurable business value. ■ Successfully lead and deliver significant process improvement projects.

10.BUSINESS CHANGE MANAGEMENT

Definition: Understands and applies change concepts, principles, processes, tools and methodologies, behaviours, and skills necessary to effectively identify, initiate, manage, and influence the people-side of change to achieve required business results.	
SKILL LEVEL	PROFICIENCY OR ABILITY TO:
Knowledge	■ Recognizes importance off and the need for change management. ■ Recognizes critical business issues leading to change and acknowledges how change impacts organizational capabilities including organizational structure, processes, culture (and behavior's), people and leadership. ■ Can describe and explain the concept of change and change management. ■ Can explain how change management should be implemented (principles, planning, or managed to realize business benefits. ■ Contributes to the development of change strategies (including scoping and approach), and the design/delivery of change plans and interventions. ■ Understands the range of stakeholder engagement and communication channels and can explain and assist in using tools and techniques as appropriate for the audience and/or initiative. ■ Recognizes the importance and understands value of identifying and analyzing and subsequently engaging and influencing stakeholders being impacted by change. ■ Conducts training needs analysis and identifies specific training needs resulting from change programs. ■ Can facilitate development of stakeholder inventory (including leaders/sponsors), contribute to stakeholder analysis and is aware of the need for different approaches for different leadership/stakeholder groups.
Skill	■ Anticipates major changes affecting the organisation and successfully develops and implements change strategies and plans to achieve desired business results. ■ Initiates the business implementation plan, including all the activities that the business needs to do to prepare for a change. ■ Applies change concepts, methodologies and techniques and experience to design, plan and implement appropriate change strategies.

	■ Anticipates alignment/integration requirements within programme (or across multiple programs / projects) and coordinates/intervenes as required to mitigate unnecessary business disruption. ■ Able to manage central programme and simultaneously direct, coordinate and/or influence associated regional change initiatives ■ Conducts impact assessments to identify change gaps and subsequently defines change strategy, scope, and implementation plans. ■ Assesses business change track record and change readiness to assess business's ability (saturation level) to absorb upcoming change. Defines activities to close any gaps prior to implementation. ■ Can competently apply the behaviour's and skills necessary for managing change. ■ Involves the right people at the right time throughout the programme by developing, managing, and delivering stakeholder engagement strategies and plans. ■ Determines why, with whom, how and when to intervene (individual, team and organisation). ■ Recognizes the dual role of leaders in managing change as well as recipients of change and ensures engagement plans reflect appropriate engagement approaches. ■ Identifies stakeholder expectations and concerns and incorporates these into planning and decision-making processes. ■ Effectively uses a variety of media and communication methods to reinforce key messages and engage audiences. ■ Prepares detailed communication plans (including communication governance; objectives; target audiences; key messages; timing/frequency; delivery channels; media; etc.). ■ Develops detailed training plans and coordinates delivery of (or delivers) training. ■ Identifies areas (and individuals) that are resistant to change and implements specific plans to facilitate buy-in, understanding, and commitment. ■ Monitors and reports progress on change interventions, including business readiness targets, business engagement activity, deployment activities, and key operational metrics. ■ Coaches and challenges others on behaviour's and actions to support change. ■ Maintains and communicates understanding (and demonstrates application) of trends and developments in the field of change management.

11.A3 THINKING GENERAL LEAN

Definition:
Lean is a management philosophy and methodology focused on maximizing customer value while minimizing waste. It seeks to deliver more value with fewer resources by streamlining processes, eliminating non–value-adding activities, and empowering people to continuously improve operations.

Lean A3 is commonly used as a structured problem-solving and continuous improvement tool used in Lean management, traditionally used to document the process. It provides a standardized, visual, one-page format for defining a problem, analyzing root causes, developing countermeasures, and tracking implementation
Awareness: Understands Lean/A3 concepts and terminology
Knowledge: Applies A3 with templates and coaching
Skills: Independently delivers A3s with measurable results

Mastery: Institutionalizes Lean management system and CI culture	
SKILL LEVEL	PROFICIENCY OR ABILITY TO:
Awareness	■ Knows what A3 is and why it's used ■ Understands "go see" and data collection basics ■ Understands VOC and customer value ■ Knows common RCA tools ■ Understands targets/KPIs conceptually ■ Knows difference between solution and countermeasure ■ Understands PDCA cycle ■ Understands standard work basics ■ Understands benefits categories (time, cost, quality) ■ Understands A3 narrative flow ■ Understands team roles
Knowledge	■ Uses A3 structure to describe a problem ■ Collects baseline data with guidance ■ Helps gather VOC and simple requirements ■ Performs 5 Whys with coaching ■ Defines basic targets with help ■ Proposes countermeasures from known patterns ■ Runs small PDCA steps with support ■ Documents simple standard work ■ Tracks benefits with basic reporting ■ Presents A3 using template ■ Participates in workshops ■ Uses digital forms/tools for data capture
Skill	■ Frames problems clearly (what/where/when/impact) and aligns scope ■ Maps current state (process, flow, constraints) using facts ■ Translates VOC into CTQs/service levels and measurable targets ■ Confirms root causes with evidence; avoids "jump to solution" ■ Sets SMART target condition tied to baseline and value ■ Selects countermeasures with impact/effort and risk logic ■ Executes implementation plan with owners, dates, controls ■ Creates control plans (process controls, audit checks) ■ Quantifies benefits (before/after), verifies sustainability ■ Communicates logically, aligns stakeholders, handles objections ■ Facilitates A3 sessions; manages conflict constructively ■ Integrates dashboards, analytics, workflow automation into A3
Mastery	■ Sets org-wide problem-solving standards and cascades strategic A3s ■ Builds a culture of fact-based management and visual performance ■ Establishes enterprise customer-value standards and service governance ■ Builds RCA discipline across the organization; audits RCA quality ■ Sets strategic KPI architecture linked to strategy deployment (Hoshin) ■ Defines standard countermeasure libraries and decision governance ■ Institutionalizes PDCA management cadence and learning system ■ Builds Lean management system (LMS) with auditing and governance ■ Drives enterprise CI portfolio value and continuous improvement maturity

	■ Establishes A3 as the standard language for leadership decisions ■ Builds cross-functional CI operating model and capability building ■ Builds “digital Lean” ecosystem for enterprise-wide CI at scale

12.CONTINOUS IMPROVEMENT (CI) FUNDAMENTALS

Definition: Continuous Improvement is a systematic, ongoing effort within Lean management to identify, reduce, and eliminate waste while improving processes, products, and services. It focuses on making small, incremental changes driven by employees at all levels to increase efficiency, enhance value for customers, and sustain long-term organizational growth. **Awareness**: Understands CI concepts and basic Lean language **Knowledge**: Applies CI methods with guidance; participates in initiatives **Skills**: Independently leads CI improvements with measurable results **Mastery**: Institutionalizes Lean Management System; drives culture & strategy deployment	
SKILL LEVEL	PROFICIENCY OR ABILITY TO:
Awareness	■ Knows Lean purpose (customer value, waste reduction) ■ Understands customer value concept ■ Understands process mapping basics ■ Recognizes common wastes ■ Knows 5 Whys / Fishbone ■ Understands Kaizen concept ■ Understands standard work idea ■ Understands KPIs and baselines ■ Understands PDCA cycle ■ Knows common tools by name ■ Understands leader role in CI ■ Knows CI links to strategy ■ Understands digital can support CI
Knowledge	■ Uses Lean language (waste, flow, pull) in daily work ■ Collects VOC and service issues ■ Builds simple process maps ■ Identifies wastes with checklists ■ Applies RCA with coaching ■ Participates in Kaizen workshops ■ Documents basic work steps ■ Tracks KPIs in a simple way ■ Runs small PDCA steps with support ■ Applies 1–2 tools with guidance ■ Supports team CI actions ■ Contributes to CI plans ■ Uses basic digital tools (dashboards, forms)
Skill	■ Demonstrates CI behaviors; applies principles to decisions ■ Translates VOC into CTQ/service levels and targets ■ Leads end-to-end value stream mapping (VSM) and identifies bottlenecks ■ Quantifies wastes (time, rework, backlog) and removes root causes

	■ Validates root causes with data; avoids “solution jumping” ■ Facilitates Kaizen; delivers quick wins with KPIs ■ Creates standard work + visual controls; trains users ■ Builds KPI trees (input→process→output→outcome) and verifies benefits ■ Executes PDCA with owners, timelines, risk controls ■ Selects and applies the right tool for the problem ■ Leads CI teams; develops capability in others ■ Manages CI backlog/portfolio aligned to KPIs ■ Uses data/automation to remove waste and improve flow
Mastery	■ Shapes CI culture and behaviors across the organization ■ Establishes enterprise service standards and customer-value governance ■ Sets value stream governance and operating model ■ Builds organization-wide waste visibility and prevention system ■ Establishes enterprise problem-solving standards (A3 as default) ■ Institutionalizes Kaizen cadence and CI communities of practice ■ Establishes Lean management routines and visual performance governance ■ Drives enterprise CI portfolio value and performance management system ■ Institutionalizes learning system and continuous improvement engine ■ Defines organization tool standards; integrates with strategy and governance ■ Builds enterprise CI academy and leadership model ■ Designs CI governance model and Hoshin system for the organization ■ Builds integrated CI + digital transformation operating model

13.PRACTICAL PROBLEM SOLVING

Definition:
Lean Practical Problem Solving (PPS) is a structured, step-by-step method used in Lean management to identify the root cause of a problem, implement effective countermeasures, and sustain improvements. It emphasizes a logical, visual, and team-driven approach that applies Lean principles to eliminate waste and create lasting solutions.
Awareness: Understands basic Lean problem-solving concepts and terms
Knowledge: Applies tools with templates and coaching
Skills: Independently solves problems with verified results
Mastery: Institutionalizes problem-solving as the management system standard

SKILL LEVEL	PROFICIENCY OR ABILITY TO:
Awareness	■ Recognizes problems vs symptoms ■ Understands what “good problem statement” is ■ Understands “go see” principle ■ Knows baseline and KPI terms ■ Knows RCA tools ■ Understands process steps ■ Understands countermeasure concept

	■ Understands PDCA ■ Understands action plans ■ Understands standard work ■ Understands A3 layout and visuals ■ Understands team roles ■ Understands “benefits” concept ■ Understands coaching importance
Knowledge	■ Logs issues using basic criteria ■ Writes basic problem statements ■ Participates in gemba walks ■ Collects data using check sheets ■ Performs 5 Whys with coaching ■ Draws simple process maps ■ Suggests countermeasures from known patterns ■ Runs small PDCA with support ■ Creates simple actions with owner/date ■ Documents simple standard work ■ Uses A3 template to present ■ Supports workshops ■ Tracks basic before/after ■ Shares basic knowledge
Skill	■ Prioritizes using impact, frequency, risk ■ Defines clear scope, boundaries, and constraints ■ Leads gemba; captures facts (time, defects, flow) ■ Establishes baseline, measures variation, validates data ■ Confirms root causes using evidence ■ Maps process end-to-end; identifies constraints/bottlenecks ■ Selects countermeasures using impact/effort, risk, feasibility ■ Designs tests/pilots; validates improvements with data ■ Delivers implementation, manages dependencies and risks ■ Creates control plan, visual controls, audit checks ■ Communicates problem logic end-to-end; makes decisions easier ■ Facilitates sessions; manages conflict constructively ■ Quantifies benefits (quality, cost, time) and verifies ■ Mentors peers on tools and discipline
Mastery	■ Establishes enterprise problem portfolio and escalation model ■ Aligns problem statements to strategy (Hoshin) and policy objectives ■ Institutionalizes gemba as leadership routine; builds transparency culture ■ Sets performance measurement architecture and governance ■ Sets RCA quality standards and audits; prevents “blame culture” ■ Defines value stream governance and systemic flow improvement ■ Establishes standard countermeasure libraries and approval governance ■ Institutionalizes experimentation and learning system at scale ■ Establishes execution discipline and accountability management ■ Builds Lean Management System with audits, routines, and governance ■ Makes A3 the organizational language for decision-making ■ Establishes cross-functional problem-solving operating model ■ Drives portfolio value, reporting, and strategic impact tracking

	■ Establishes CI academy and certification pathways

APPENDIX 5 – SOCIAL SKILLS

These courses outline below designed to complement the technical competences to maximize it knowledge throughput.

Social Skill Training	Definition	Objectives	Example Training Providers
Analytical Thinking and Innovation	Ability to systematically analyze information, identify patterns, and develop innovative solutions that create organizational and societal value.	• Strengthen analytical reasoning and structured thinking • Improve data-driven decision making • Encourage innovative solutions for complex challenges • Enhance evidence-based policy development	Massachusetts Institute of Technology, Stanford University, INSEAD, Coursera
Active Learning and Learning Strategies	Capability to continuously acquire new knowledge, apply learning strategies, and adapt skills in response to evolving work environments.	• Develop continuous learning capabilities • Improve learning agility and adaptability • Promote lifelong learning culture • Strengthen knowledge acquisition and retention	Harvard University, edX, LinkedIn Learning, IE Business School
Complex Problem-Solving	Ability to analyze multifaceted problems, evaluate multiple variables, and develop integrated strategic solutions.	• Improve structured problem-solving capability • Enhance cross-disciplinary thinking • Strengthen systemic analysis • Support strategic decision making	London Business School, University of Cambridge, Duke University, Boston Consulting Group
Critical Thinking and Analysis	Ability to objectively evaluate information, challenge assumptions, and make sound judgments based on	• Strengthen analytical evaluation skills • Improve evidence-based decisions • Enhance strategic reasoning capability • Develop sound policy judgement	University of Oxford, Yale University, The Open University, Coursera
Creativity, Originality, and Initiative	Ability to generate original ideas, innovate solutions, and proactively initiate improvements and new	• Encourage innovation culture • Improve creative thinking capability • Support entrepreneurial mindset • Enhance opportunity identification	IDEO U, Stanford d.school, Royal College of Art, MIT Sloan School of Management
Leadership and Social Influence	Ability to guide, inspire, and influence individuals and teams to achieve shared goals and organizational transformation.	• Develop leadership capability • Improve communication and influence • Strengthen stakeholder engagement • Support change management	Harvard Business School, INSEAD, IMD Business School, Center for Creative Leadership
Technology Design and Programming	Ability to design digital solutions and develop systems using programming, digital technologies, and software engineering	• Improve digital technology literacy • Develop programming and system design capability • Support digital innovation • Enable technology-driven solutions	Massachusetts Institute of Technology, Stanford University, Udacity, Pluralsight
Resilience, Stress Tolerance and Flexibility	Ability to adapt to change, manage pressure effectively, and maintain productivity in uncertain environments.	• Strengthen resilience and adaptability • Improve stress management capability • Enhance flexibility in dynamic work environments • Promote wellbeing and sustainable productivity	University of Pennsylvania, Harvard Medical School, MindGym, Deloitte Leadership Academy
Emotional Intelligence	Ability to recognize, understand, and manage one's emotions while effectively interacting with others.	• Improve interpersonal communication • Strengthen empathy and collaboration • Enhance leadership effectiveness • Promote positive workplace culture	Yale Center for Emotional Intelligence, Six Seconds, Harvard Business School, Daniel Goleman Emotional Intelligence Programs
Reasoning, Problem-Solving and Ideation	Ability to logically analyze problems, generate ideas, and develop structured solutions to complex	• Improve logical reasoning • Enhance ideation capability • Strengthen strategic thinking • Support innovative problem-solving	Stanford University, MIT Sloan School of Management, IDEO U, Coursera

GLOSSARY

Acronyms and Abbreviations	
3CT	Competence, Coaching, Culture, Training
4R	Retain, Retrain, Recruit, Renew
4IR	Fourth Industrial Revolution
AI	Artificial Intelligence
AR	Augmented Reality
CI	Continuous Improvement
CI	Competitive Intelligence
DL	Deep Learning
DM	Data Management
E2E	End to End Process
FTE	Full Time Equivalent
IP	Intellectual Property
KDP	Kernel Density Plot
ML	Machine Learning
PaaS	Platform as a Service
SME	Subject Matter Expert
VR	Virtual Reality