WORLD GOVERNMENTS SUMMIT 2026

REPORT

Anchoring Degrees, Accelerating Skills: Policies Towards A Stackable, Skills-First Ecosystem

in collaboration with

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The Next Generation of Governments

The World Governments Summit is a global platform dedicated to shaping the future of governments worldwide. Each year, the Summit sets the agenda for the next generation of governments with a focus on how they can harness innovation and technology to solve universal challenges facing humanity.

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The Summit is a gateway to the future as it functions as the stage for analysis of future trends, concerns, and opportunities facing humanity. It is also an arena to showcase innovations, best practice, and smart solutions to inspire creativity to tackle these future challenges.

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Executive Summary

Rapid technological, economic, and demographic shifts mean governments are navigating labor markets where skills evolve faster than degree development and delivery cycles. The choice is not degrees or skills; it is a flexible approach to skills development: verifiable, portable, stackable credentials that travel with people and align dynamically to work.

By 2030, the World Economic Forum projects the creation of 170 million new jobs as a result of structural changes in the labor market, with nearly 40% of existing skills expected to become outdated.[1] The WEF's Putting Skills First initiative has also highlighted that adopting a skills-first model one that prioritizes competencies over credentials —could enable more than 100 million people worldwide to join the workforce[2].

This paper sets out a practical path that aims to accelerate the necessary shift in which formal 'skills accelerators' become a critical part of the new educational ecosystem. We propose:

- A framework for effectively building stackable credentials—we call this the STACK framework (Signal, Trust, Accelerate, Culture, Knit)
- Supporting steps to build an ecosystem capable of leveraging stackable credentials effectively we call this the ALIGN framework (Align Strategy & Stakeholders, Learning Design for Industry, Integrated Technology, Governance, Navigation & Portability)

We also set out actions for key stakeholders within the ecosystem: highlighting the demand, building trust in stackable credentials, paying for results, and scaling work-integrated learning. To enable the shift, we also outline actions for building the credentials and the ecosystem to ensure ownership and sustainability.

The test of success is simple: securing better jobs quickly—measured via employment, wage growth and mobility. Together, these mechanisms will strengthen national economic resilience and ensure that education systems continuously adapt to evolving industry needs and meet future skills demands.

Introduction

Artificial intelligence and digital technologies are redefining how people learn and work. In 2025, the World Economic Forum estimated that 59% of the world's workforce will require training by 2030 to keep up with evolving skills demands driven by the adoption of artificial intelligence (AI).[3] In AI-exposed jobs, for example, the skills employers seek are changing 66% faster than in less-exposed roles, as seen in PwC's 2025 Global AI Jobs Barometer.[4]

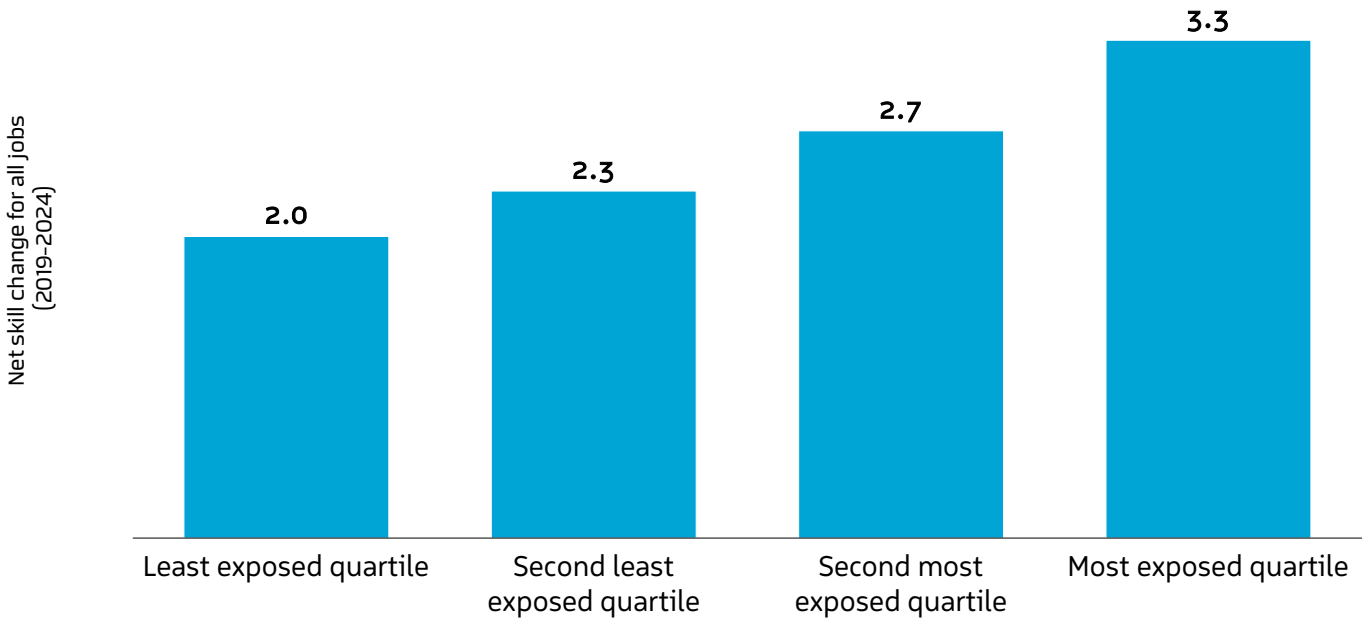
AI is the primary force for change

Skills sought by employers are changing 66% faster in the most exposed vs least exposed jobs, up from 25% in 2024

66%

The skills sought by employers are changing 66% faster in jobs most vs least exposed to AI.

More than 2.5x faster than last year



Source: The Fearless Future: PwC's 2025 Global AI Jobs Barometer

So, while degrees remain vital anchors of credibility and deep expertise, traditional degree development and delivery cycles cannot always keep pace with the velocity of this transformation. The growing gap between what education provides and what employers need is reflected in the Hult International Business School's 2024 workforce survey,[5] where 98% of business leaders reported difficulty finding talent, even as 89% said they avoid hiring recent graduates. Employers now place a premium on transferable capabilities — communication, critical thinking, and AI literacy.

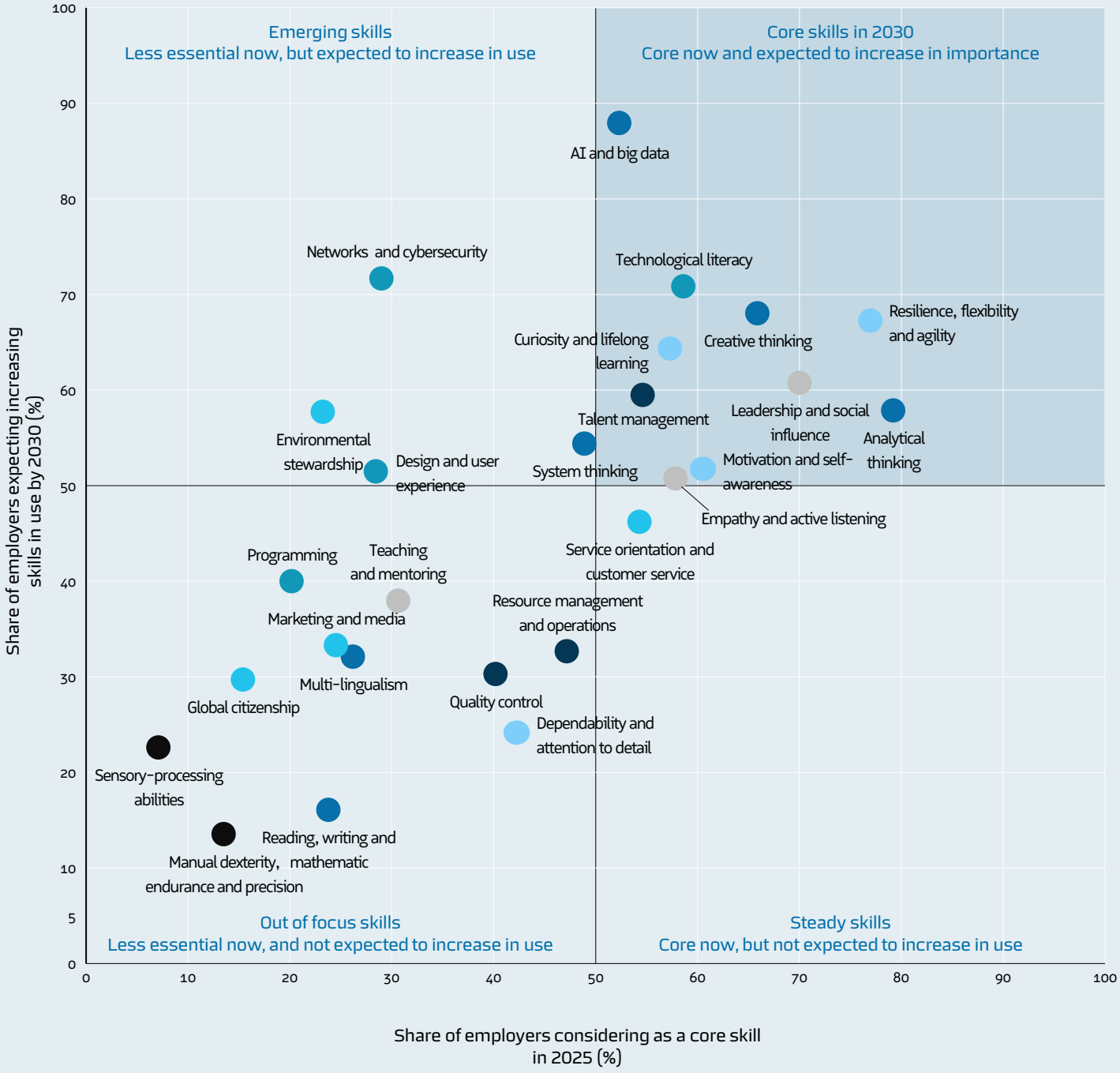
Policymakers are responding to this shift. The OECD's 2025 *Empowering the Workforce in the Context of a Skills-First Approach* finds that a skills-based talent strategy, underpinned by micro-credentials and recognition of prior learning, improves labor-market alignment and workforce participation.[6]

Integrating stackable learning into higher education is increasingly essential for adaptability and economic resilience.

Yet even with these efforts, predicting the jobs of tomorrow is difficult, and deciding what to teach today is an ever-moving target. As Mohammad Al Gergawi, UAE Minister of Cabinet Affairs and Chairman of the World Governments Summit Organization, recently observed "Continuous education is essential... in five years, there will be new advancements and challenges. We must commit to lifelong learning, read constantly, and adapt our approaches as things evolve."[7] In today's environment of rapidly evolving skills needs, continuous learning that is responsive to the pace of change will need to draw on the stackable micro-credential model at least as much as on traditional further degree learning.

Core skills in 2030

Visualizing how skills rank in importance and emergence, underscoring the need for adaptable lifelong learning approaches



Source: WEF Future of Jobs Report 2025

Degrees remain the anchor qualification, complemented by skills

Degree-level qualifications continue to provide the foundation for quality and mobility, strengthening knowledge and deep expertise. Yet in fast-changing roles an increasing value is assigned to stackable, verifiable credentials that act as a living currency—refreshed continuously, portable across sectors and trusted by employers. Together, degrees and skills form a complementary ecosystem where anchored knowledge meets adaptive capability, enabling people and economies to stay relevant in an era of rapid change.

The 2022 PwC report Unleashing The Skills Economy calls on educators and citizens to build a coordinated, AI-enabled skills ecosystem that keeps pace with the speed of change.[8] The call is to act to use real-time labor-market intelligence and AI-driven analytics to identify emerging skill needs, align learning supply, and measure outcomes transparently. It urges policymakers to design incentives, standards, and governance frameworks that make stackable, verifiable, and portable credentials the backbone of a skills-first economy where learning is continuously updated, recognized across borders and directly linked to jobs, wages, and mobility. Degrees remain the cornerstone of higher education, but the new operating system of growth is built on trusted, data-driven skills portability.

Such credentials must be supported by policy that sets standards and incentives for data, governance, and culture, so that the entire workforce can continuously learn, earn, and be recognized for their achievements in an AI-disrupted economy.

In this paper we argue that there is an important role for governments to set policies and rules, for employers to support the shift to a skills-first economy, and for education providers to redesign provision for a world of changing skills and transformative technologies. Meanwhile, the 'third sector' including non-profits, labor unions, foundations and community partners, has a critical role in enlarging the scope of change – and individual learners too have to respond to the challenge, contributing to the emerging ecosystem of lifelong learning.

The responsibility for driving change falls to a wide range of stakeholders

How can governments, employers, education professionals and the 'third sector' work in concert to create a credentialling system that is responsive to the real world?

- Governments can champion collaboration, build a **live labor market radar**, and create a 'skills observatory' that blends administrative records with real-time vacancy and skills data from multiple sources. They need to make **work-based learning** mainstream by supporting quality and verifiability and **institutionalize portability** by issuing a citizen skills wallet based on interconnectivity.
- Employers can work to make skills-first approaches a reality, investing **where value is created**, measuring and supporting the skills acquisition process by sharing and publishing progress. That includes credential-to-job conversion and wage-uplift results.
- Education providers need to **co-design** learning for real-world roles. They can **issue credentials people can trust and stack**, awarding digitally verifiable credentials while **refreshing fast-moving curricula**, updating programs to reflect dynamic skills trends and refocusing on ongoing professional development, including AI literacy.
- The third sector (**non-profits, labor unions, foundations, and community partners**) is indispensable in ensuring that the skills-first transition is inclusive and equitable. Critically, these actors can feed **ground-level insights back to policymakers and employers**, tracking participation, completion, and impact to ensure that strategies remain responsive to real-world needs.
- Individual learners have responsibility for their **personal learning stack** and for making the most of opportunities to convert continuous learning into recognized credit. Keeping a verifiable digital skills wallet will signal competencies across sectors and borders. Sustaining their lifelong learning will mean continually updating their knowledge and skills, staying curious and adaptable, and engaging in meaningful learning pathways that support their personal growth and long-term employability.

A skills-first ecosystem thrives on the interdependence of governments, employers, education providers, the third sector, and individual learners—each reinforcing the other's efforts. Governments set the enabling framework that employers leverage to align hiring and workforce development with transparent, portable credentials. Education providers co-design programs with employers, ensuring curricula reflect real-time labor market signals while issuing stackable, verifiable credentials that feed into government systems. The third sector acts as the connective tissue, bridging gaps in access and equity by mentoring learners, advocating for ethical practices, and channeling ground-level insights back to policymakers and institutions. Meanwhile, individual learners complete the loop by actively curating their learning stacks and signaling competencies across borders.

Part 1

Skills In The Transition Era

In a global economy reshaped by rapid technological, economic, and demographic shifts, the development and distribution of relevant skills have become one of the primary concerns of policymakers and business leaders.

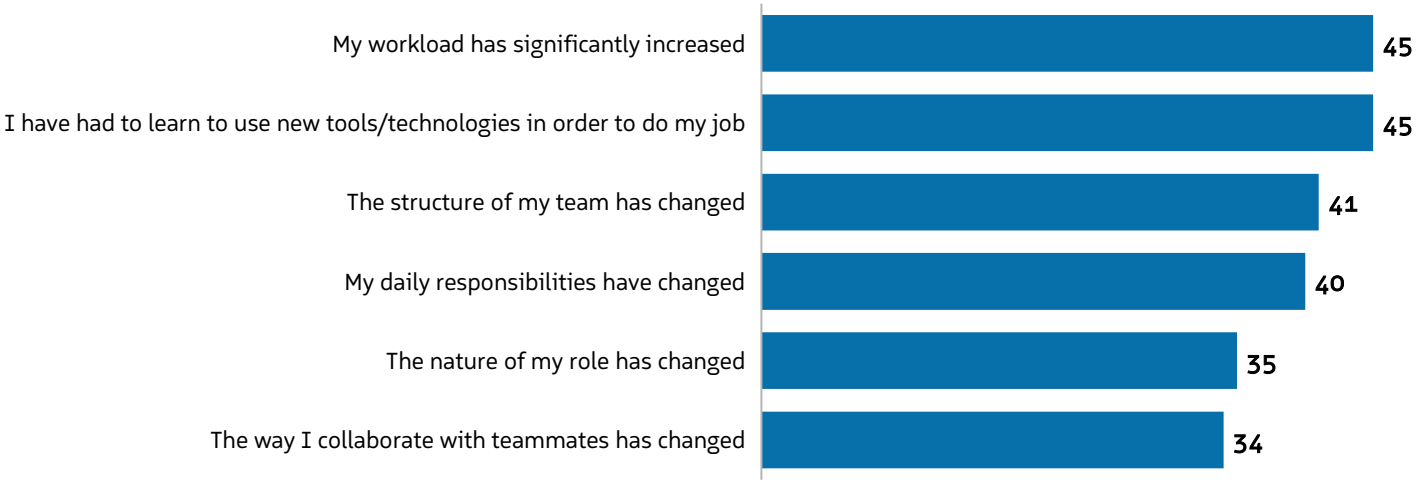
Alternative and supplementary skill-creation approaches are already emerging, including lifelong learning and micro-credential-based training, but they remain piecemeal and insufficiently systematized. Therefore, policymakers, educational institutions, private sector providers and consumers of skills need to collaborate to create ways of mobilizing funding and formalizing 'stackable' credential creation that matches the pace of change in the digital economy.

Work is changing fast, and the forces shaping the future of work are now defined by five interconnected megatrends:

- **AI and automation**, which are transforming productivity, job design, and skills demand
- **Digitalization,** enabling hyperconnectivity and data-driven decision-making
- **Decarbonization,** driving the creation of green industries and skills for sustainable growth
- **Demographic shifts**, including ageing populations in some economies and youth surges in others
- **Geoeconomic realignment**, as supply chains, trade, and talent flows reorganize in a more multipolar world

Workplace roles are changing rapidly

Question: To what extent if any do the following statements describe changes you have experienced in your role in the last 12 months?



Source: PwC Global Workforce Hopes and Fears Survey 2024

PwC's Global Workforce Hopes & Fears Survey 2024 revealed that 45% of workers have had to learn new skills within the past year to stay relevant. The result is a cycle where skills refresh every 12–18 months in many roles—a pace that traditional degrees cannot match on their own. The system response is clear: complement degrees with verifiable, stackable credentials that are recognized in hiring, making learning portable and continuously updated. In this new model, degrees remain vital, but skills are the dynamic currency that keeps people and economies in motion:

Micro-credentials are the keystones of skills-based learning. They are record of short, highly focused learning events, and must align with a recognized common definition. They can be assessed against transparent and clearly defined standards such that they are quality assured, and deliver defined outcomes, providing the learner with specific knowledge, skills and competences.

Workplace learning is the primary (but not the only) way to acquire micro-credentials. It is performance and output-based and is co-assessed by employers and recognized external standards bodies while the learner continues to work.

Verification of micro-credentials can take place through a transparent, shareable and recognized system, including e-sealed and machine-verifiable credentials, with a public verifier and a revocation list that allows credentials that are no longer current to be nullified and recorded.

Portability is important to allow micro-credentials to build towards higher awards (through 'stacking') and to be recognized across different systems.

AI is already reshaping careers

Question: Thinking about the potential impact of generative AI tools on your career, to what extent do you agree or disagree with the following statements?

Source: PwC Global Workforce Hopes and Fears Survey 2024

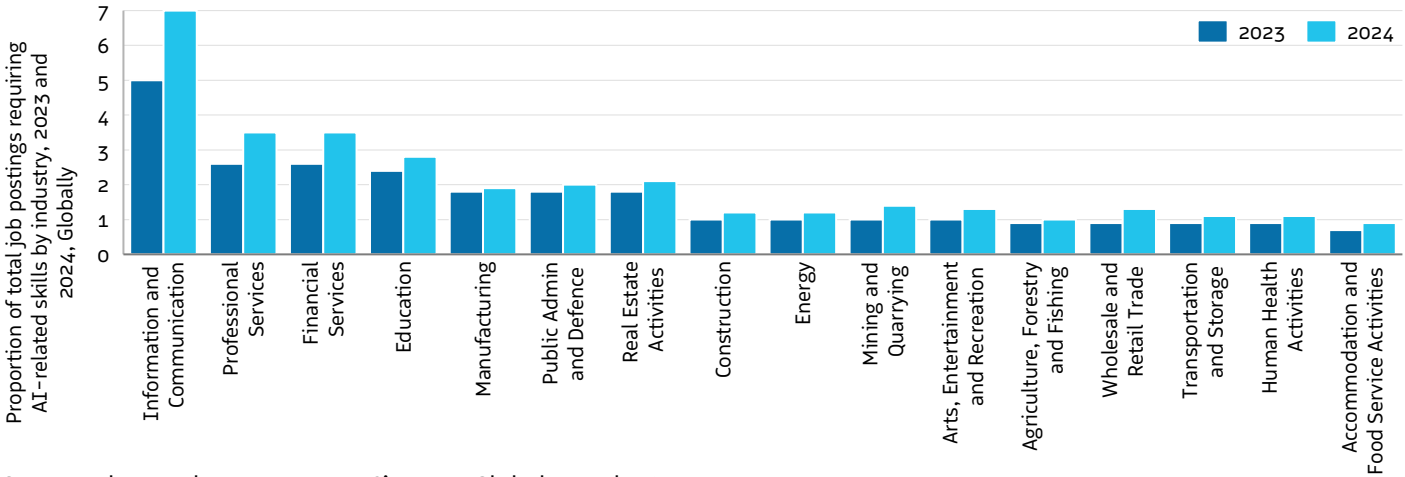
The World Economic Forum (WEF), in its authoritative 2025 Future of Jobs report, predicts skills gaps are now considered the biggest barrier to business transformation with 63% of employers identifying them as a major barrier over the 2025 to 2030 period.[9] More than three-quarters of all employers plan to prioritize upskilling their workforce, with 70% expecting to hire staff with new skills. The fastest-growing skillsets in demand are in Big Data, financial technology and AI and machine learning. By 2030, the World Economic Forum predicts that digital skills in AI, Big Data, networks and cybersecurity will have become 'core skills' for most organizations and businesses. Moreover, WEF also expects that creative thinking, curiosity and the ability to pursue lifelong learning will become core skills.

At the center of the megatrends reshaping work is artificial intelligence. AI no longer sits alongside other drivers; it amplifies and integrates them, speeding up the pace of change and redefining how work, learning and productivity evolve across every sector.

As a result, AI is already the most potent factor in changing skills demand, as we have seen in PwC's 2025 Global AI Jobs Barometer. The development of skills through workplace learning and the creation of associated micro-credentials is relevant and necessary in many roles, including non-technology ones, and it is the implementation of AI across sectors that is the clearest force for change and for a new approach to building work-related skills and codifying them. The AI effect is not confined to a narrow subset of industries, with AI-related skills demand visible in all industries. To futureproof organizations and businesses, government and business leaders are investing heavily in advanced people strategies to understand what skills they have today, what they need tomorrow, and how they're going to support people to upskill.'

Demand for AI skills

Job postings show demand for AI skills is accelerating across all industries



Source: The Fearless Future: PwC's 2025 Global AI Jobs Barometer

The focus on such skills is global. The WEF's 2025 Future of Jobs report says that upskilling is identified as a top three priority across all geographies, and in economies at all income levels, with employers in high-income economies (87%) only slightly ahead of those in upper-middle-income (84%) and lower-middle-income (82%) ones. On average, in all economies, companies say that 59% of their workforce is likely to need re-skilling by 2030 – although they expect that, given current availability and cost of reskilling, not all those workers will actually gain the skills they need.

Employers are key stakeholders

Employers are aware that they need to provide rolling lifelong learning for employees. The PwC Hopes & Fears survey shows that the availability of learning is becoming a critical retention issue, with 67% of employees saying that they are likely to switch employers within a year in search of opportunities to learn new skills. The PwC 2025 Global AI Jobs Barometer argues that rapid skills change is being enabled by AI, which helps people rapidly build and command expert knowledge (a phenomenon sometimes called the 'democratization of expertise'). It also argues that strong demand for people with AI skills may accentuate the willingness of employers to look beyond a limited pool of workers with formal training.

Research published by the Harvard Business School and the Burning Glass Institute shows that some companies are beginning to place less emphasis on formal degree requirements in hiring, marking the early stages of a gradual shift toward skills-based hiring.[10] Between 2014 and 2023, the number of job postings that removed degree requirements increased almost fourfold. However, the research finds that this change has not yet translated into widespread practice when it comes to candidates actually selected for roles. In most cases, employers continue to treat degrees as a baseline qualification, suggesting that degrees still function as a primary signal of capability and risk reduction, even in roles where demonstrated skills may be more relevant.

According to WEF's 2025 Future of Jobs Report, when asked about public policy interventions with the highest perceived potential to increase access to talent over the 2025 to 2030 period, employers identified funding for reskilling and upskilling (55%) and provision of reskilling and upskilling (52%) as the two most crucial policy measures. Yet while businesses say they need better access to publicly funded skills development, that does not yet translate into an expectation of skills funding: only 20% of businesses expect to benefit from fully state-funded training.

Part 2

International Examples Of Standards And Recognition

The skills challenge is universal: no region is immune to the effects of technology and demography on what kind of employees companies and institutions need, and what kind of experiences and skills will be required. Several countries, regional organizations and global multilateral organizations have made advances in redefining skills needs for their own economies. These initiatives recognize that the perceived need for new skillsets that are evolving fast is causing both employers and employees to look for new ways to foster and capture those skills. Traditional degree-focused tertiary education models are being supplemented by approaches such as lifelong learning and the rise of micro-credentials, as recognition grows that 'stackable' credentials are becoming a necessity in a world where the skill lifecycle is shortening.

In the **UK**, the Skills and Productivity Board (established in 2020, now succeeded by the Unit for Future Skills) has reviewed several national 'skills taxonomies' in an attempt to develop a baseline of best practice in defining the skills needed in the new economy.[11] These taxonomies include the US Occupational Information Network (O*NET) – a skills taxonomy which provides measures of skills, abilities, work activities, training and job characteristics for almost 1,000 different jobs and which is the main source of occupational competency information in the USA,[12] as well as the European Skills, Competences, Qualifications and Occupations (ESCO) framework,[13] the Australian Skills Framework for the Information Age,[14] the Singapore Skills Taxonomy,[15] and the UK Nesta skills taxonomy.[16] The review concludes that while no taxonomy is perfect for all purposes, a workable skills taxonomy can be derived from combining existing approaches.

The **OECD** has recognized that matching market demand for new types of skills demands a new approach to qualifications in hiring.[17] [18] It says that while governments need to enable and adopt a skills-based talent strategy, to do so they will need to confront challenges limiting the effectiveness of micro-credentials. They will also need to review policy options to improve the micro-credentials system while developing outreach strategies to build a more diverse workforce equipped with the technology and digital skills needed across sectors.

There has already been a global effort to define and formalize micro-credentials in the skills market. An initiative from **UNESCO** defines macro-credentials as degrees, diplomas, certificates and licenses, often awarded by accredited, recognized or regulated educational and other institutions or organizations.[19] It contrasts micro-credentials as records of focused learning achievement verifying what the learner knows, understands or can do, with standalone value but which may also contribute to or complement other micro-credentials or macro-credentials.

The **EU** has embarked on developing a common definition for micro-credentials to allow member states, stakeholders and providers (from education and training institutions to private companies) to develop and use micro-credentials in a coherent way.[20] The EU considers that building trust in the

concept of micro-credentials is important, and that micro-credentials will not become mature until credential 'portability' is established through a system of verification.

UNESCO also identifies an increasing number of examples of education and industry providers partnering to offer employment-focused micro-credentials: for example Northeastern University and IBM have a partnership that allows individuals with an IBM-issued badge to receive graduate credit;[21] the British Accreditation Council, the International Labour Organization, and the World Bank also offer credential certificates or promote the micro-credential concept.[22, 23] UNESCO argues that these are examples of a shift from a supply-driven to a demand-driven system of skills certification in which industry creates demand, supplementing and enlarging the credentials available from traditional providers.

Highlight: Singapore

According to the WEF Future of Jobs Report 2025, awareness of the importance of skills in a global economy that is changing radically is acute in Singapore, where 64% of employers expect their business to be impacted by geoeconomic fragmentation, twice the global average. Notably, 97% of companies plan to prioritize upskilling as their key workforce strategy, significantly above global levels (43% on average).

Singapore has officially recognized the importance of micro-credentials for the local economy: a government initiative called Skills Future Singapore has been established to promote lifelong learning,[24] and the Singapore Institute of Technology offers 'competency-based stackable micro-credential pathways' (CSM) in IT, tech, and sustainability, focusing on in-demand skills like AI and software engineering, while Singapore Polytechnic provides micro-credentials for HR professionals and in areas such as sustainable engineering, aligning with industry standards.[25]

Robin Ngan, Director of SITLEARN, the lifelong learning division of the Singapore Institute of Technology says 'Traditional degrees alone can no longer meet the fast-changing needs of industry or learners … The future belongs to agile education systems that can deliver relevant skills continuously and flexibly and cater to the needs of companies and working adults.'

Ngan adds that lifelong learning and micro-credentials are not a replacement for traditional universities, but an enhancement of their offer, adding that CSM demonstrates how universities can become skills integrators and aggregators by recognizing that micro-credentials are demand-led and industry-responsive when mapped to national skills frameworks.

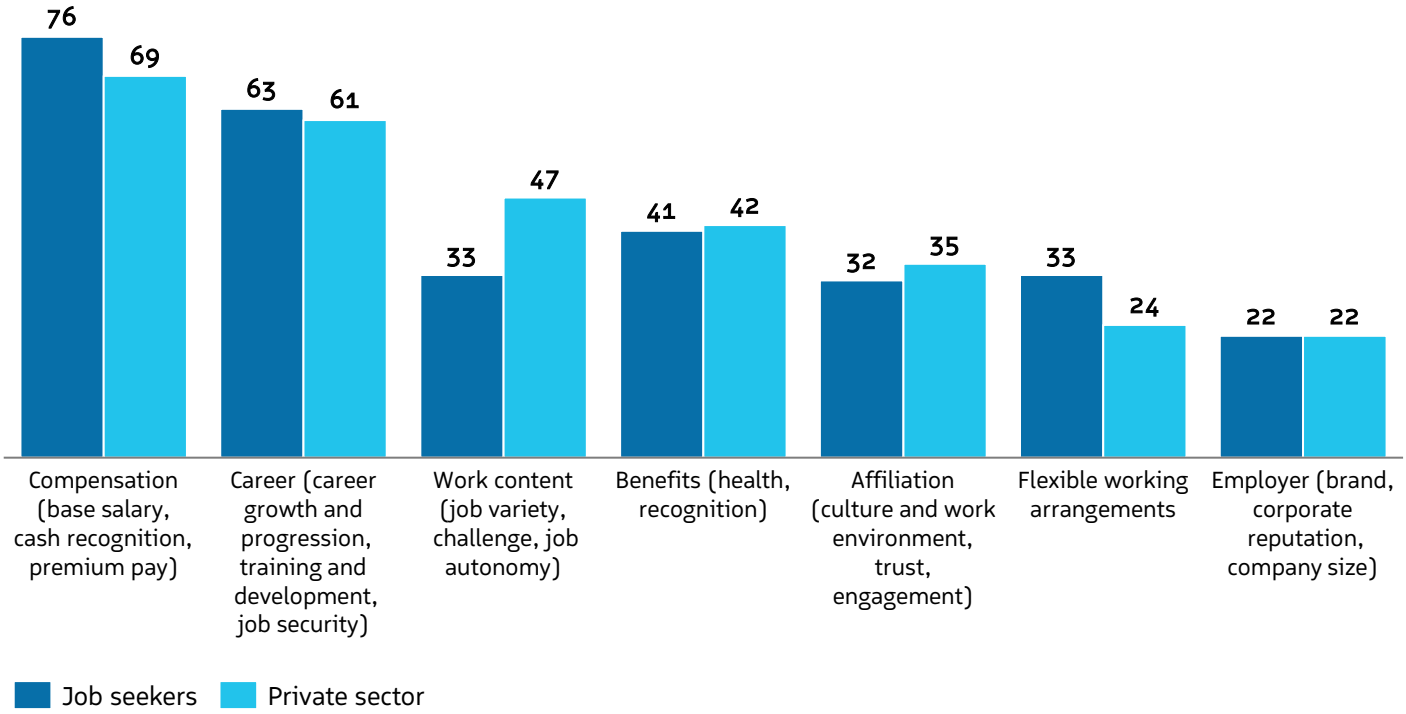
In the **Middle East** favorable demographics combined with a high level of policy support for economic transformation and digital skills training mean that the prospects for a rapid formation of a micro-credential ecosystem supported by new or existing institutional skills accelerators are highly positive.

According to the WEF, talent availability is driven by demographics – and in the Middle East, where populations remain relatively young, this is positive for the availability of skills that are current and aligned with business needs, a fact reflected in employer expectations. Employers in countries such as Egypt, Morocco, Bahrain, Saudi Arabia and the UAE display high levels of optimism about talent availability, expecting hiring conditions to improve by 2030.

In the UAE, employees are highly likely to cite the opportunity for continuing skills acquisition as a primary reason for seeking work with a specific employer. Employer brand, work flexibility and corporate culture all count for less than skills development. Only pay levels count for more – and the power of pay as a talent attractor is only marginally higher than the power of skills development and training.

UAE employees are highly motivated by skills training

Question: Which of the following factors do you believe has the greatest influence on your choice to pursue specific employment?



Source: PwC Emiratisation Survey 2025 [note: survey polled UAE citizens only]

The Middle East region is home to some of the world's most pro-active skills policies, framed within specific national transformation plans. These include Saudi Vision 2030 and UAE Centennial 2071, which include roadmaps for lifelong training and readiness for a full digital future.

Digital skills acquisition in the UAE has already been recognized and institutionalized in the 'One Million Arab Coders' initiative established in Dubai, and this has proved a model for other countries, including Uzbekistan, Ghana and Rwanda.[26]

The GCC countries are focusing on AI skills in particular, as evidenced by initiatives such as the Abdulla Al Ghurair Foundation for Education, which works to help ensure that young people develop industry-relevant skills through short courses and "nano" degrees or the Mohamed bin Zayed University of Artificial Intelligence in Abu Dhabi, the world's first graduate-level AI university, which is training specialists in AI disciplines (from machine learning to robotics) to drive innovation.[27, 28, 29] By 2031, the UAE's private sector is expected to invest AED 335 billion in AI.[30]

Part 3

A Blueprint For Change

There is widespread recognition that traditional educational models are not fully meeting the skills needs of the changing economy, as evidenced in the initiatives at country, regional and global level outlined in the previous chapter. While traditional degree-level learning remains vital in a skills-first economy, it also needs to be enriched and extended by continuing learning that functions on a much shorter cycle, and which generates a series of recognized, validated and portable credentials. Stakeholders in education, business and government need a new and structured framework to think through how to assess where they stand in terms of need and capability, and how to design solutions that are evidence-based and aligned with emerging or recognized standards.

We propose a **Skills Readiness and Design Framework** informed by recent research and thinking that can meet these needs.

The framework is designed to support policymakers in developing a skills-first ecosystem with stackable credentials. It will enable governments to standardize skills definitions and validations, and will help meet learner concerns about the growing automation of training and certification by implementing human-centered safeguards and assessment standards. It will create trust by creating micro-credentials that are quality assured, portable and recognized across systems and borders.

Stackable credentials are key

There are two dimensions to the Skills Readiness and Design Framework. First, building micro-credentials and accelerating their recognition and systematization: this is what we call the STACK framework, bringing together the ideas of Signal, Trust, Accelerate, Culture and Knit.

The STACK framework

Five dimensions of credential stacking

S Signal	T Trust	A Accelerate	C Culture	K Knit
Each credential must clearly show which roles and skills it serves	Credentials must be verifiable, portable, and transparent	Credentials should be priced and structured for modular uptake, with funding models that reward verified outcomes	Employers must integrate credential-building into work	Credentials must connect to others so learners can build progressive stacks for specialization (depth) or breadth

Source: PwC

Credential stacking is the process of acquiring and combining multiple complementary skills and knowledge areas to create a unique and valuable skill set.

These skill sets are progressive over time; they respond to changing goals and technologies, and they are flexible enough to be specialized or broad-based. They may be developed and credentialled in the workplace, or in formal learning settings, including as part of degree courses. They allow layering of different abilities that, when combined, offer a greater advantage in the job market and for career advancement. Creating such a universal architecture is demanding: instead of trying to create such an ecosystem top-down, it can be useful to identify what the inner drivers of the ecosystem should be. We use the acronym STACK as a ready guide.

S

Signal the demand. Each credential should clearly show which roles and skills it serves. Such a signal works in the context of a shared, near-real-time picture of which roles and credentials are needed, where, and how fast requirements are changing. To achieve this, it is necessary to blend official statistics with real-time vacancy and credential data; refresh shortage and over-supply lists quarterly; publish a simple indicator of "credential velocity" in AI-exposed roles and regional indicators for green credentials; and map national terminology to international credential taxonomies so signals travel across borders.

T

Trust the credential. Credentials need to be verifiable, portable and transparent. They need to be backed by digital verification and clear quality standards, including a national policy for micro-credentials (covering learning outcomes, assessment, workload or level, and quality assurance) with e-sealed, machine-verifiable digital credentials created in publicly funded learning. Credentials depend on a public verification service and a transparent revocation process, and trust can be enhanced by developing cross-border recognition through accreditation harmonization together with accepted data privacy practices and transparent compliance processes. Credit banking should also enable micro-credentials to accumulate into credential portfolios as well as diplomas and degrees.

A

Accelerate the uptake. Credentials should be priced and structured for modular uptake, with funding models that reward verified outcomes. Credentials need to be supported by individual learning accounts, employer co-funding, and outcome-based contracts. Publishing provider performance tables helps funding to follow results, while directing additional support to groups and regions where inclusion matters most.

C

Culture of learning is critical. Employers have the opportunity to integrate credential-building into work, ring-fencing time for upskilling, and recognizing verified learning - upskilling should be seen as part of productive work. They may need to redesign hiring, progression and pay around verified capabilities underpinned by stackable credentials; they can also run team-level credential sprints on live work, and track internal mobility, not just course completions.

K

Knit the ecosystem: credentials need to connect to others so that learners can build progressive stacks for either specialization or breadth. Use sector credential accelerators where demand is high and supply is fragmented (for example, in finance, health, energy transition, and digital public administration). Give each accelerator an accredited provider network, and braided finance that tracks each individual source of funding, and ensure that frameworks are in place to measure and publish data on cohort conversion to jobs, wage growth, and career progression to enable continuous improvement.

Credentialling demands a supportive ecosystem

Building a supportive ecosystem is a complex, multi-layered process. It must include setting a clear vision, collaborating across the stakeholder landscape, developing the supporting technologies that credentials will require, as well as creating rules-based trust and breaking down the barriers that may exist between learning and working. This is what we call the ALIGN framework, bringing together overarching strategy alignment, learning design, integrated technology, governance and navigation. We use the acronym ALIGN as a ready guide.

The ALIGN framework

Five dimensions of ecosystem creation

A — Align Strategy	L — Learning Designed for Industry	I — Integrated Technology	G — Governance	N — Navigation and Portability
Create a shared vision and coordinated priorities across government, employers, education providers, and quality assurance bodies	Design programs that are outcome-based, co-created with employers, and result in stackable credentials	Develop technological infrastructure to make the ecosystem secure with verifiable, interoperable, and portable credentials	Convert agreement into action: establish rules that build inter-stakeholder trust and adoption incentives	Make movement between learning and work seamless — across providers, sectors, and borders

Source: PwC

The ecosystem depends on behaviors and habits that promote the value of micro-credentials. It is a real-world elaboration and extension of the concept of 'triple-helix' collaboration, the model of innovation that blends the strengths of education institutions, industry and government.

A

Align strategy: Creating a shared vision and coordinated priorities across government, employers, education providers, and quality assurance bodies. Aligning means creating system coherence to encourage psychological, professional, institutional, cultural, and political alignment. One established pathway is the 'Five Eyes' concept pioneered by Fernando Reimers of Harvard University that offers a lens that surfaces whether solutions are **psychologically** acceptable, **professionally** feasible, **institutionally** governed, compatible with cultural norms, and capable of being **politically** supported.[31] Reimers says that the process of educational change and renewal requires the ability to see through the eyes of others, and that the Five Eyes concept can be used as a tool for testing the viability of collaborative change management in education.

L

Learning designed for industry: Designing programs that are outcome-based, co-created with employers, and resulting in stackable credentials.

Stakeholders, including educators, employers and learners, will need to co-design educational programs that allow learners to interact with multimedia resources, communicate and collaborate. One recognized pathway is to use the '**7Cs**' approach to learning design devised by education theorist Gráinne Conole of the Institute of Learning Innovation at the University of Leicester.[32] This offers a structured path for industry, policymakers and learning designers to collaborate so as to generate skills that can be credentialed and stacked.

I

Integrated technology: Developing technological infrastructure to make the ecosystem secure with verifiable, interoperable and portable credentials. Technology is the domain where data interoperability frameworks are built using well-functioning APIs, digital wallets and secure verification. This part of the ALIGN process is about establishing that credentials can be verified and shared across systems reliably.

G

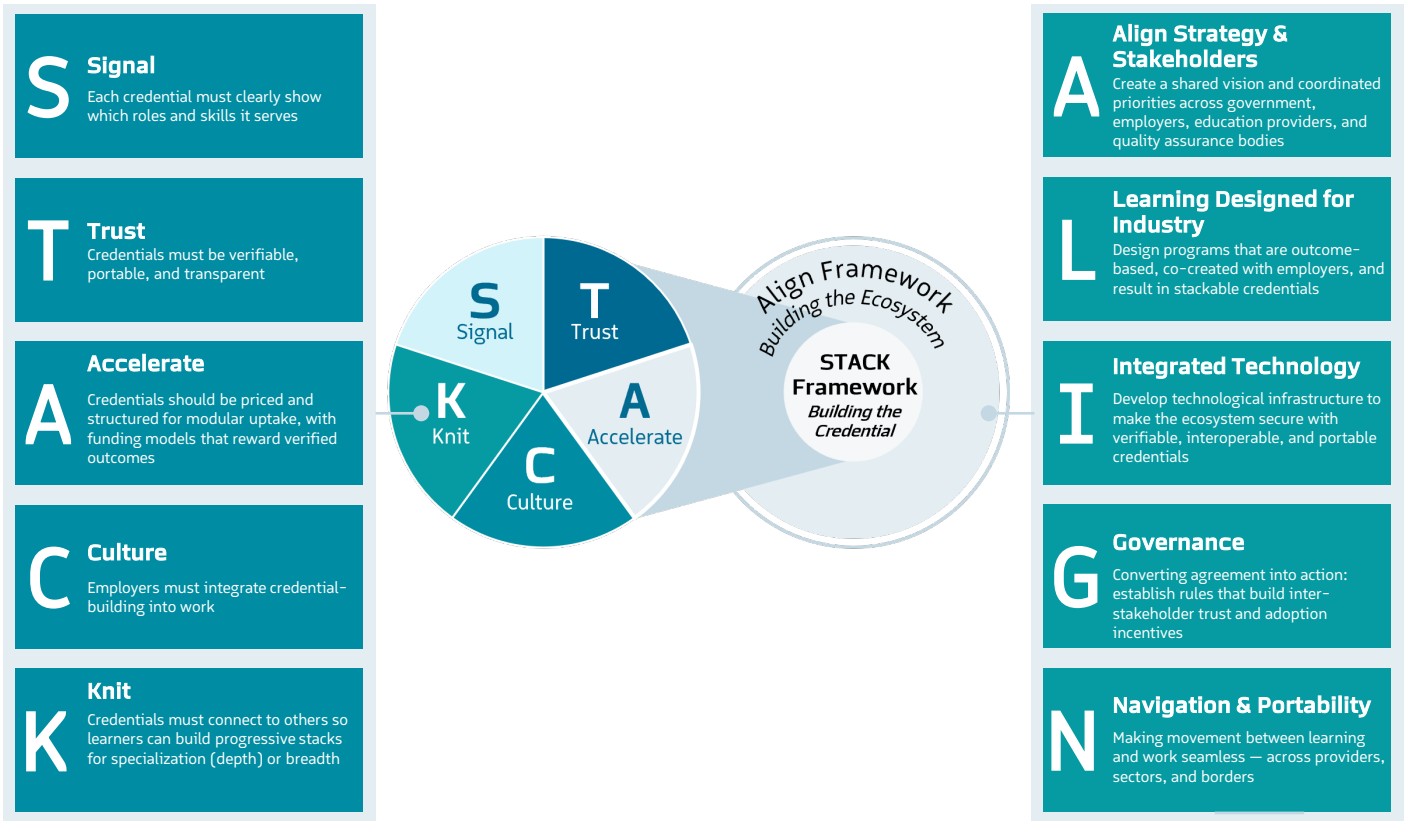
Governance: Converting agreement into action, by establishing rules that build inter-stakeholder trust and adoption incentives. Good governance principles are what will determine adoption. They should deliver credible answers to the

educational cost-benefit challenge that arises from the fact that the costs of reform tend to fall on well-connected interest groups, while the benefits accrue to less organized and motivated interest groups, and that this disparity generates societal vetoes that obstruct change. The need is for policies and educational structures that will establish rules and inter-stakeholder trust so as to support shared costs.

N

Navigation and portability: Making movement between learning and work seamless, across providers, sectors and borders. The challenge of navigation and portability is the challenge of blending conventional education and skills-based learning through creating stacking maps that outline how micro-credentials feed into specializations, which in turn feed into degree or other qualification credits, and through establishing credit transferability such that all types of learning can be mapped to a credit system (including micro-credentials) to enable easier access and recognition of learning. This must include Recognition of Prior Learning and cross-border portability.

The STACK and ALIGN frameworks are not alternatives, but complementary. The credential-building envisioned in STACK delivers usable real-world results when supported by the systemic and behavioral infrastructure envisioned in the ALIGN framework.



Sector Skills Accelerators: the delivery architecture

Governments need to assign responsibility for orchestrating the Skills Readiness and Design Framework. Whether this is a responsibility that should fall to existing departments or be assigned to new skills-focused bodies is an open question, but it is already the case that a network of nascent 'Sector Skills Accelerators' is emerging.

This is supported by initiatives from bodies such as the World Economic Forum, which has established a global Accelerator Network designed to help country-based Sector Skills Accelerators engage in peer-to-peer learning on implementation strategies, navigate public-private partnership roadblocks, and establish best practices, with an Accelerators Playbook that offers step-by-step guidance, case studies and digital interaction and communication tools.[33] These Accelerators could potentially take leadership roles in the creation of a sustainable regional Skills Readiness and Design Framework.

The Sector Skills Accelerator concept is global and has taken root rapidly in the Middle East. For example, **Bahrain** has launched two initiatives to extend education further into people's careers: the Employment Skills Platform to identify skills gaps in the job market, and Hope Talents to elevate international competitiveness and expedite the growth of Bahrain's local talents through training and upskilling.[34] Bahrain's Economic Development Board is also mobilizing multi-stakeholder partnerships to drive progress on reskilling and upskilling, with a particular focus on gender parity - the first Accelerator globally of its kind.

Egypt has launched a Future of Growth Accelerator designed to bring together key leaders from the public and private sector, education institutions and civil society, to identify and co-create innovative strategies to foster balanced growth in the country, in alignment with national priorities and objectives, including Egypt's Vision 2030 and the Sustainability and Financing for Economic Development Framework.[35]

Jordan's Gender Parity Accelerator seeks to close gender gaps in workforce participation, remuneration, leadership, and the future of work. It is led by the Ministry of Planning and International Cooperation, the Crown Prince Foundation and the Business Professional Women's Association Amman.

The **Morocco** Jobs Accelerator was launched in Marrakesh in 2024, focusing on economic inclusion and synergy between academic and international institutions to promote employment and skills.[37]

The **Qatar Skills Accelerator** is a national initiative coordinated by the Future Skills Office designed to empower Qatar's workforce by leveraging skills forecasting, promoting lifelong learning, and multi-sector collaboration.[38]

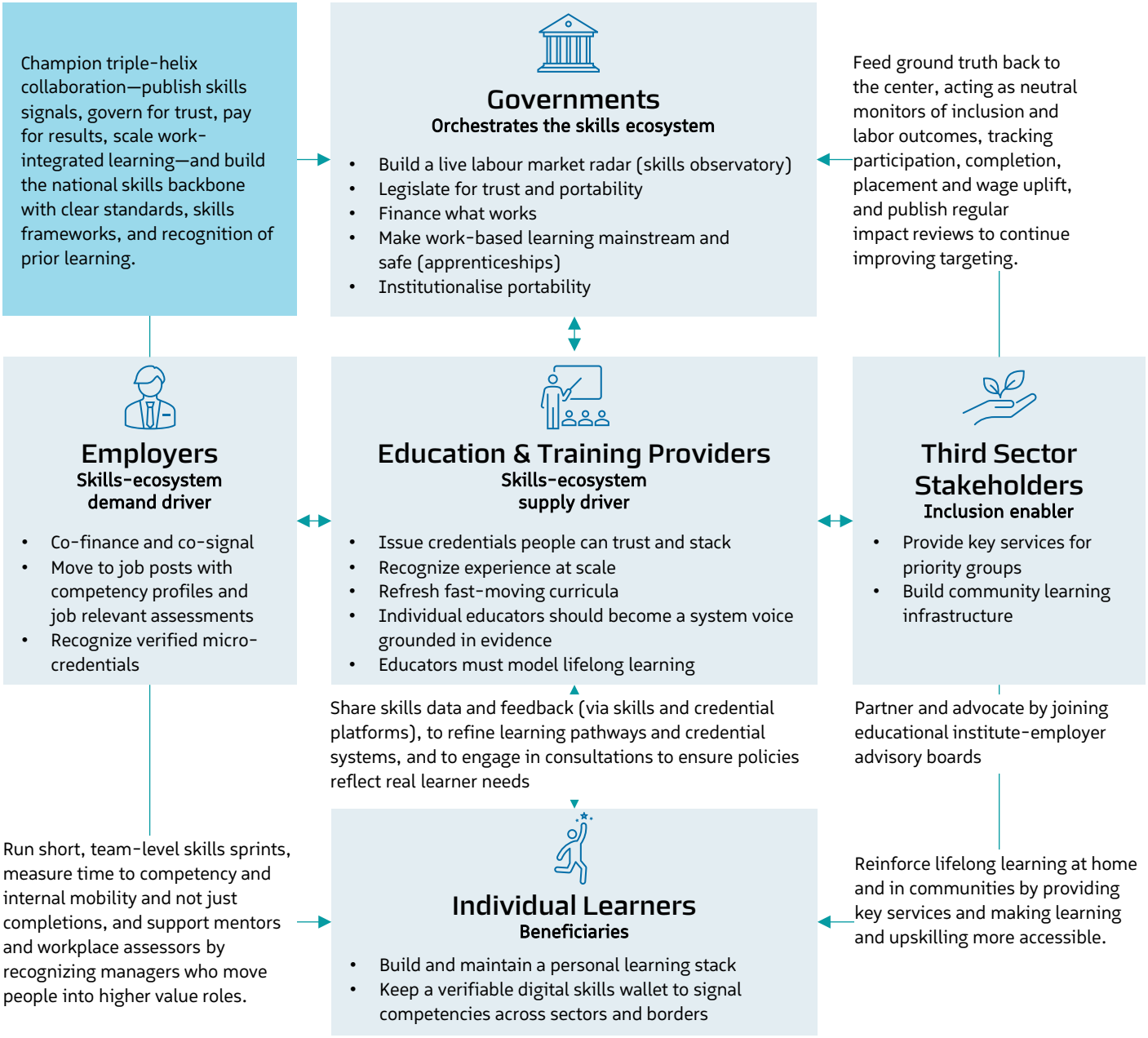
The **UAE Skills Accelerator**, coordinated by the Ministry of State for Higher Education and Advanced Skills, focuses on the creation of national and international platforms to highlight the skills gap and develop practical tools to steer education and training.[39]

If governments are to exploit the potential of such skills accelerators, they will need to define their roles carefully. It is PwC's view that governments do not need to run training institutions; their role is to set the rules, align incentives, and build trust that enables effective outcomes. The right governance models and oversight entities for the skills sector will also need to be in place and ensure provision of labour market data.

Part 4

A Call To Action

Skills Reform Ecosystem



Meeting the skills challenge demands a policy response, but government policy alone is not enough. The creation of skills accelerators can help to orchestrate the frameworks, but responsibility still lies with a broad coalition of stakeholders. This challenge cuts across every sector of the economy and society, so only a whole-society response will be effective. We now call on governments to lead a wide-ranging process of change that will inspire and galvanize participants from business, civil society and education institutions to adopt the STACK and ALIGN frameworks as the blueprints for a revitalized skills economy.

WE CALL ON GOVERNMENTS

To champion 'triple helix' collaboration between government, industry and training providers to meet future needs. This means cross-stakeholder measures that include highlighting the demand, governing for trust, paying for results and scaling work-integrated learning. They will shape the national skills backbone, creating clear standards, skills frameworks and mechanisms for recognition of prior learning to enable skills accelerators to function well.

+ Governments have an important role in providing visibility for the labor market. This can come from a live labor market radar, creating a 'skills observatory' that blends administrative records with real-time vacancy and skills data from multiple sources, publishing quarterly role shortages, data on skill velocity in AI-exposed jobs, and regional green skills indicators while opening the data and the methodology.

+ Legislate to create trust and portability in micro-credentials and require digitally verifiable credentials for publicly funded learning, along with creating a public verifier and revocation list, mandating that micro-credentials can stack into diplomas and degrees via a national credit bank. Ensure the appropriate technological infrastructure is in place to enable such frameworks.

+ Finance what works, identifying sustainable funding mechanisms and launching individual learning accounts co-funded by employers, while adding time-limited tax incentives for small- and medium-sized firms that both adopt new technology and equip their people with credentials. Contract providers on outcomes and publish provider performance tables.

+ Make work-based learning mainstream and safe, extending modern apprenticeships into key growth sectors, including digital and green roles, and embedding equity, safety and quality while ensuring apprenticeships are recorded as digital credentials and stack into higher awards.

+ Institutionalize portability, for example by issuing a citizen skills wallet with open APIs to interconnect with public employment services, job portals, employer systems and university admissions.

The guiding principle for governments is to target policy where it moves the needle. This includes establishing sector skills accelerators with tripartite boards to represent employers, education providers and third-sector stakeholders, vacancy commitments, a standards and data core; braided finance; and quarterly publication of conversion to jobs and wage uplift. They will need to govern for speed and trust, giving a permanent National Skills Accelerator function the authority to highlight and publish evidence of demand, set credential rules, and tie funding to results.

WE CALL ON EMPLOYERS.

Chief executives, people leaders, and human resources functions all need to work to make skills-first a reality. They need to replace blanket degree screens and move to job posts with competency profiles and job relevant assessments, recognizing verified micro-credentials and prior learning in hiring, promotion and pay, so employees see tangible returns on learning.

+ **Invest where value is created**, running short, team-level skills sprints, measuring time to competency and internal mobility and not just completions, and supporting mentors and workplace assessors by recognizing managers who move people into higher value roles.

+ **Co-finance and co-signal**, by co-funding learning accounts, sharing vacancy forecasts and enterprise skill profiles with sector accelerators, publishing credential-to-job conversion and wage-uplift results, and co-owning outcomes dashboards with governments and universities.

This effort will require a mindset change and preparing human resources for teams that are both human and digital. Employers need to update job architectures to match skills, redesign performance and pay around verified capabilities, plan apprenticeships in priority roles, and govern responsible use of automated tools in workflows.

WE CALL ON EDUCATION & TRAINING PROVIDERS.

Universities, technical colleges, institutes and online platforms need to co-design learning for real-world roles, building micro-credentials with employers that align with labor-market signals and use such inputs to guide curriculum refreshes with a focus on priority jobs and transferable skills.

+ **Issue credentials people trust and can stack**, awarding digitally verifiable credentials and guaranteeing stackability with diplomas and degrees through a credit banking system, while ensuring clear progression routes. Publish program-level skills maps, rubrics, and credit policies so learners and employers see exactly what is earned.

+ Providers must **recognize experience at scale**, embedding recognition of prior learning so experienced workers can earn credit quickly.

+ **Refresh fast-moving curricula**, frequently updating programs to reflect dynamic skills trends while publishing mapping of in-demand roles and reporting stacking, placements and wage uplift.

+ Individual educators including teachers and academics need to become **a system voice grounded in evidence,** participating in public debate, running classroom-based research, sharing what works, and feeding findings into institutional and national policy updates.

+ Educators can **model lifelong learning**, pursuing ongoing professional development (including AI literacy) and co-designing learning experiences with students to mirror real-world collaboration.

This change in approach will require providers to leverage digital capabilities and tools strategically, ensuring that tools support rather than replace education and training providers. They will use them to enhance creativity, communication, and collaboration such as implementing human-in-the-loop AI assessments to safeguard fairness and rigor and publishing course-level AI statements to ensure transparency and prevent bias.

WE CALL ON THIRD SECTOR STAKEHOLDERS.

The 'third sector' of non-profits, unions, foundations and community partners have a critical role in bringing in the people who are missing – female returners, young people, older workers, small-firm employees and rural communities – serving as trusted navigators into verifiable credentials pathways.

+ The third sector can **remove practical barriers**, providing key services like mentorship, digital access, career coaching, childcare, transport, and stipends so that underrepresented learners can enter and persist in stackable pathways and micro-credentials.

+ The sector can **build community learning infrastructure**, activating libraries, maker spaces, coding clubs, and intergenerational mentoring circles to extend learning beyond classrooms, reducing access barriers and cultivating a life-long learning culture.

+ The sector can **partner and advocate** by joining educational institute–employer advisory boards, pushing for transparent outcome reporting and responsible AI use in local schools and training programs.

+ The sector has unique potential to **feed ground truth back to policymakers**, acting as neutral monitors of inclusion and labor outcomes, tracking participation, completion, placement and wage uplift, acting as advocates for policies that support inclusive curriculum development, and publishing regular impact reviews to continue improving targeting.

Third sector participation is a powerful way to break the stigma around continuous learning by actively **reinforcing** lifelong learning at home and in communities, encouraging curiosity, adaptability, and continuous skill development in everyday life for people of all ages and demographics. This is where change is built from the bottom up, fostering resilience and social-emotional skills in children and young people through supportive environments, mentoring, and community engagement.

WE CALL ON INDIVIDUAL LEARNERS.

In the demand-led world of skills-first learning, the individual assumes greater responsibility and exercises greater creativity.

+ Learners can **build and maintain a personal learning stack** that combines micro-credentials, work experience and formal study aligned to their career goals, actively using recognition of prior learning to convert informal learning into recognized credit.

+ Learners should **showcase and stay current**, keeping a verifiable digital skills wallet to signal competencies across sectors and borders, committing to continuous upskilling in digital and sustainability domains, and practicing ethical AI use.

Individual learners have an opportunity and a responsibility to contribute to the ecosystem. The opportunity is to share skills data and feedback (via wallets and credential platforms), to refine taxonomies and recognition systems, and to engage in consultations to ensure policies reflect real learner needs.

In Conclusion

Employers consistently name skills gaps as the central obstacle to transformation. In very many roles and in particular AI-exposed jobs, required skills churn faster and verified skills attract a wage premium. Governments and their partners are already building the foundations for trust in a new approach to skills development and recognition, focusing on micro-credential rulebooks that allow portability, public verification for digital credentials, and citizen skills wallets, all so that skills can move and be properly valued in the labor market.

Degrees remain the anchors of higher education—they are essential for foundational knowledge, for the functioning of regulated professions, for research capability, and for international mobility. But the operating currency of hiring, pay and mobility is moving toward verifiable, stackable, portable credentials—especially in the fastest-changing parts of the economy.

The balanced policy answer to this era-defining challenge is not to choose between degrees or skills, but to work towards degrees with skills. This will create greater breadth, depth and relevance of degrees through micro-credentials, apprenticeships and recognition of prior learning, all digitally verifiable and stackable into higher awards.

To avoid fragmentation and credential inflation, governments should hardwire quality (with clear rulebooks and verification), use real-time labor market information (not just annual reviews), and measure outcomes (employment and wage uplift). And they can demonstrate this change by publishing results for transparency and trust.

We also recognize the centrality of real-time data and results transparency so policy can adapt at the speed of technology, and employers can hire for proven capability. Labor market platforms and national statistics offices together provide the data backbone; international bodies provide the methods to benchmark; development institutions provide models to finance for results.

We advocate a skills-first system – based on the framework outlined above – so learning outcomes are trusted, visible, and valued in the labor market. We acknowledge the caution of international organizations about the uneven evidence base for micro-credentials, and the emphasis that stakeholders place on quality and protection in work-based learning; we believe our design addresses both through verification, standards and outcomes-based finance, and can be adapted to diverse national contexts including lower-income or rapidly transforming economies.

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