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Skills-First:
Policy and Impact

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Contents

Preface

Globally, advanced economies and developing economies are grappling with issues related to economic sustainability and competitiveness amidst externalities and domestic challenges. As a corollary, human capital development and future-skilling have come to the fore on the policy agenda. Often, however, issues such as skills mismatch of the economically active and enterprises' inertia to transform their businesses pose challenges to advancing these policy objectives. For the most part, stakeholders have begun to realise that more needs to be done to close the gap between the supply and demand of skills for the economy. This has resulted in numerous efforts across the globe focusing on skills-based and skills-first conceptions, practices and debates.

Singapore is one of the economies that is enthusiastic about building a skills-first economy. The Centre for Skills-First Practices, at the Singapore University of Social Sciences-Institute for Adult Learning, has convened global and local experts to kickstart the Skills-First Working Paper Series. The aim is to elicit discussion and identify progressive organisations and individuals to lead change and forge enduring skills-first practices. In particular, the Skills-First Working Paper Series emphasises an ecosystem approach to tackle interconnected structural inefficiencies. The line-up of the series is as follows:

#1   Skills-First: Are We There Yet? (Published on 19 May 2025)

#2   Skills-First: What Does It Mean for Me? (Published on 21 July 2025)

#3   Skills-First: What Does It Mean for My Organisation? (Published on 19 Aug 2025)

#4   Skills-First: Policy and Impact

#5   Skills-First: Opportunities for Collective Action

#6   Skills-First: A Framework for Action

This fourth paper, "Skills-First: Policy and Impact", examines how skills-first principles can be embedded across the policy ecosystem to address structural inefficiencies, strengthen coordination across industrial, labour and skills policies, and support inclusive and innovation-driven growth.

Each paper will be accompanied by a roundtable discussion to deliberate ideas and distil possible skills-first practices for prototyping.

We aim for the Skills-First Working Paper Series to serve as an important conversation starter to align thoughts on how to approach skills-first from an ecosystem perspective, as well as a springboard for experimentation of needle-moving solutions. We would like to express our gratitude to the co-authors who made time to pen the papers and the participants of the roundtable discussions for their generous sharing.

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Abstract

Economies today face intensifying technological disruption, demographic shifts, and geopolitical fragmentation, exposing the limits of qualification-centric and supply-driven approaches to workforce development. This working paper argues that a skills-first orientation is now essential. A skills-first approach is anchored in a shared language of skills, trusted validation systems, and the understanding that skills are dynamic assets that must be continuously developed, refreshed and deployed. Yet progress is still constrained by persistent structural inefficiencies, including signalling failures, coordination deficits, risk asymmetry, measurement gaps and cultural resistance.

The paper reviews contemporary practices across industrial, labour and skills policy, showing that fragmented interventions reduce system responsiveness and constrain mobility, capability development, and quality job creation. Embedding skills-first principles across policy domains can shift industrial policy towards capability development mandates, strengthen labour policy through proactive mobility support and skills-based hiring, and reorient skills policy towards targeted, demand-aligned capability building.

The paper outlines the multiple roles that governments must play to enable systemic adoption: integrator and convener of coherent policy ecosystems; builder of digital and institutional infrastructure; architect of incentives that reward skills utilisation; regulator of quality and portability; exemplar adopter of skills-first practices; and evaluator of outcomes.

A readiness-to-adoption framework is presented to map the coordination efforts, pre-requisites and capabilities required to operationalise these levers. Lessons from economies taking steps towards coordinated approaches highlight the importance of integrated skills intelligence, multi-stakeholder governance, and stable long-term policy commitments.

The paper concludes by setting out critical questions for policymakers seeking to advance skills-first transitions, including how to redefine success, strengthen market signals for skills utilisation, build foresight as a state capability and align institutional mandates for shared accountability across the skills, labour and industrial policy nexus.

Introduction

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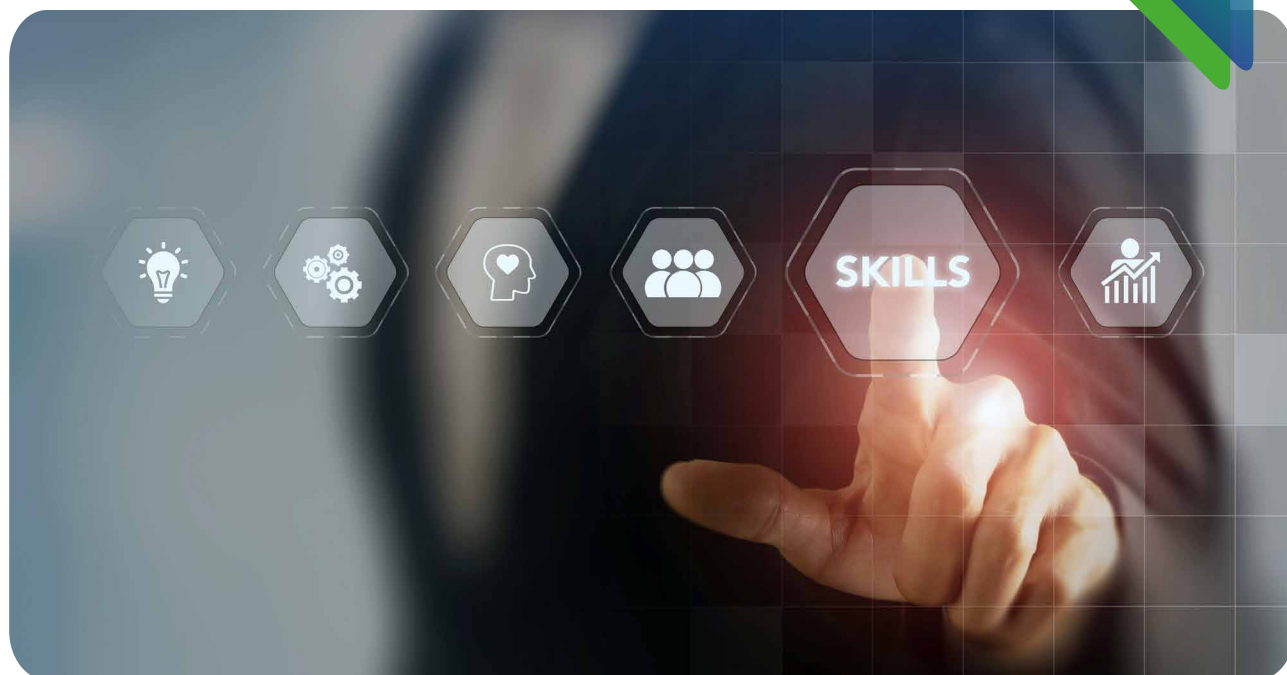
The imperative for a skills-first approach has never been more urgent. As economies worldwide confront unprecedented technological disruption, demographic shifts, and geopolitical fragmentation, traditional qualification-centric systems are proving manifestly inadequate. The fundamental question is no longer whether skills should be prioritised, but whether our policy ecosystems can evolve quickly enough to make skills the principal currency of opportunity and economic value. This requires much more than incremental reform.

As outlined in the Skills-First Working Paper Series, five structural inefficiencies—signalling failures, coordination deficits, risk asymmetry, measurement gaps, and cultural resistance—are systematically undermining progress despite growing momentum behind skills-first approaches (Gog et al., 2025). For individuals, the shift demands lifelong career self-management and the dismantling of psychological, informational, and societal barriers that limit agency (Tay et al., 2025). For employers, it means reframing skills as strategic assets, rewiring people and processes, and building ecosystems where capability, not pedigree, drives hiring, development, and reward (Ong et al., 2025).

Yet neither individuals nor enterprises can succeed in isolation. What is required is nothing less than systemic transformation: embedding skills-first principles across the entire policy ecosystem, from education and training systems to labour market regulation, and industrial strategy. Without an integrated, systems-level approach, fragmented initiatives will yield only incremental gains while the foundations of workforce development remain misaligned with economic needs.

Globally, governments are seeking to integrate skills policy with economic, industrial and innovation policies to drive competitiveness, innovation, and inclusive growth. Singapore's SkillsFuture movement, launched in 2015, tightly couples skills development with economic transformation. It supports skills upgrading with the aim of enhancing worker relevance and employability, while seeking to deepen employer commitment to developing and utilising skills (SkillsFuture Singapore, 2015). Germany's National Skills Strategy, implemented in 2019, aims to promote sustainable employability and career advancement across the population (Federal Ministry of Education and Research, n.d.). According to World Economic Forum and OECD, many industrial strategies now routinely include explicit skills components, particularly focused on anticipating skills needs and fostering cooperation across education, business and research-and-development sectors (OECD, 2025; World Economic Forum, 2025).

However, these challenges are growing. The World Economic Forum's Future of Jobs 2025 predicts that 22% of current jobs will be transformed between 2025 and 2030, with 14% newly created but 8% displaced. Automation and digitalisation eliminate routine tasks while generating new skills demand, yet employers are increasingly offshoring skilled work to high-skill, lower-cost locations, weakening the direct link between national skills investment and domestic job creation (OECD, 2024). Traditional skills strategies struggle to anticipate these shifts with sufficient speed.

Critical policy gaps emerge across three domains.

Skills policy remains largely supply-focused, expanding training access without ensuring that acquired capabilities translate into productive deployment. Labour market policy emphasises employment protection during transitions but lacks mechanisms to proactively enable skills-based mobility and work redesign. Industrial policy incentivises investment and job creation but rarely mandates or rewards domestic capability development as a condition of support. The result is a transformation gap where skills demand outpaces supply in emerging domains, while displaced workers face skills underutilisation, slowing innovation and undermining inclusive growth.

Embedding skills-first principles across the entire policy ecosystem, from education and training systems to labour market regulation, and industrial strategy.

Although the need to upskill and reskill is not new, it has become increasingly difficult for economies to translate these efforts into high-quality job creation and sustained competitiveness, given the acceleration of automation, offshoring, and rapidly shifting skills demands. As the pace of skills change accelerates, with nearly 40% of core job skills expected to change by 2030, adult learning participation has stagnated or declined in many advanced economies, weakening the translation of skills investment into sustained employability and quality job outcomes, as training systems struggle to scale and adapt quickly enough to match accelerating labour-market change (OECD, 2025; World Economic Forum, 2025).

Policy responses are emerging, modularising learning systems, building skills taxonomies and forecasting capabilities, and incentivising workplace learning, but coordination across skills, labour and industrial policy remains fragmented. Some economies are deploying parallel strategies, augmenting domestic capability building with managed foreign talent inflows and value-chain upgrading incentives. Yet without coherent alignment, these levers operate in isolation rather than as mutually reinforcing elements of economic resilience.

The emerging consensus is clear: resilient skills systems must be international in outlook, integrating global talent mobility with domestic skills-first investment to safeguard quality employment amid technological disruption.

But achieving this requires more than policy coordination. It demands a fundamental reorientation towards skills-first principles that make capability, not credentials, the organising logic of workforce development, industrial strategy and labour market regulation.

This paper discusses how skills-first principles can be systematically embedded across policy ecosystems to close these gaps. The paper is structured as follows:

- **Section 2** defines what skills-first means and why it matters now, establishing its foundations.

- **Section 3** reviews contemporary policy perspectives and practices across skills, industrial and labour domains.

- **Sections 4 and 5** explore how skills-first principles transform policy design in each domain and outline government roles as coordinator, convener, systems and capability builder, incentive architect, quality regulator, exemplar adopter, and outcomes evaluator.

- **Section 6** presents a readiness-to-adoption framework mapping the coordination efforts and capabilities required for implementation.

- **Section 7** highlights the institutional conditions required for coordinated skills-first approaches.

- **Section 8** concludes with implementation steps and critical questions for policymakers navigating skills-first transitions: redefining success metrics and assessing progress, making skills utilisation economically rational, building foresight as state capability, and aligning institutional mandates for accountability.

The Need for a
Skills-First Approach

2

The Need for a Skills-First Approach

2.1   Why Skills-First Matters Now

Traditional policy approaches, even well-coordinated ones, are struggling with the unprecedented pace of change in labour market supply and demand. Skills-First approaches can lead to better job matching and adaptability, addressing challenges posed by demographic shifts and the green and digital transitions. The transformation gap is widening: economies face simultaneous skills shortages in emerging domains, and skills underutilisation among displaced workers. Over 60% of employers identify skills gaps as a major barrier to business transformation, with shortages most acute in technology, data and green skills domains (World Economic Forum, 2025). Meanwhile, automation and offshoring decouple skills investment from domestic job creation, weakening the traditional policy feedback loop.

Skills-First offers a set of precision tools to address this challenge. Rather than treating workforce challenges as monolithic "shortages", it enables surgical interventions targeting specific capability gaps, redeployment pathways, and work redesign opportunities. It makes visible the invisible: hidden skills in informal workers, transferable capabilities in displaced employees, and underutilised talent in credential-blind hiring systems.

2.2 Three Foundations

Skills-First represents a fundamental shift in how economies approach workforce development and skills deployment, moving beyond number of jobs, credential-based proxies to a system grounded in a more granular, actionable understanding of human capability. At its core, Skills-First is the systematic practice of identifying, validating, developing, and deploying skills as the primary currency for labour market transactions and policy interventions.

This approach requires three foundations to be put in place:

1   Skills as a Common Language

The first is to establish standardised, machine-readable taxonomies that map jobs to tasks to skills across sectors, providing individuals, employers, education and training providers and policymakers with a shared vocabulary.

This common language transforms abstract notions of "talent shortages" into precise descriptions of capability gaps and deployment inefficiencies in deployment. Established taxonomies such as the European Skills Competencies, Qualifications, and Occupations (ESCO) link skills to competencies and qualifications to occupations, allowing stakeholders in European Unions to tap on the taxonomies (European Commission, 2024).

2   Skills as Validated Signal

The second is to create trusted mechanisms to recognise skills regardless of how they are acquired, whether through formal education, workplace learning, micro-credentials, or work experience.

This validation infrastructure makes skills visible, portable, and actionable in hiring, promotion, and career mobility decisions. In United Kingdom, the Energy Skills Passport is a registry that captures individuals' employment history, skills attainment (certified and verified), and allows personalised recommenders to support career mobility and upskilling planning across the energy industry (OEUK, 2025).

While mechanisms to recognise prior learning already exist in many countries, uptake and impact remain uneven, particularly on the demand side. Evidence from Malaysia, for instance, shows that employer awareness and adoption of recognition of prior experiential learning remain low, highlighting the limits of recognition mechanisms that are weakly integrated into employer hiring, deployment and progression practices (HRD Corp, 2025).

3   Skills as Dynamic Asset

The third is to treat skills not as static inventory but as continuously evolving assets that must be developed, refreshed, and redeployed in response to technological and structural change.

This requires real-time labour market intelligence and adaptive learning ecosystems that anticipate rather than react to disruption. This also requires enterprises to embrace skills as dynamic assets to deploy and enhance as part of business transformation, and individuals in the workforce to proactively develop and manage their portfolio of skills. In Singapore, enterprises can tap on skills-profiling tool TalentTrack to review their current skills stock and plan for work redesign and reskilling based on business transformation needs (SkillsFuture Singapore, 2025). This helps enterprises to deconstruct and reconstruct job roles and skills, unlike a static mapping of jobs to skills.

Contemporary Policy Perspective and Practices

3

Contemporary Policy Perspective and Practices

Governments may deploy a combination of skills, industrial and labour policy levers to further national objectives such as accelerating the green and digital transitions and reducing regional disparities in skills and labour market outcomes. While the policy intent may be common, the implementation often lacks integration across these policy domains, which may result in outcomes such as skills mismatch, compromised labour allocation, or unequal opportunities across regions within the country (Altman & Schrag, 2025; Asian Development Bank, 2025; OECD, 2023). The following section highlights some of the best practices across the three policy domains.

3.1 Industrial Policy Levers

Industrial policy has re-emerged as a key policy tool that integrates business competitiveness with sustainability and social aims (European Commission, 2023; Singapore Economic Development Board, 2025).

Key levers include:

- Strategic investment and tax incentives to accelerate growth sectors such as green and high-tech sectors while encouraging local capability building—for instance, subsidies for firms that incorporate workforce development into green innovation projects.

- Public-private industrial clusters and mission-oriented innovation funds that fuse productivity, skills upgrading, and inclusive employment objectives.

- Infrastructure and Research and Development subsidies supporting regional diversification, ensuring growth benefits small and medium enterprises (SMEs), emerging sectors, and geographic regions beyond urban metropolis hubs.

- Targeted incentives for digital resilience and critical supply chains, such as matched funding for firms that adopt advanced digital manufacturing (Industry 4.0) while strategically prioritising investment that secure and diversify the supply of critical inputs, components or services via nearshoring or strategic partnerships.

In essence, contemporary industrial strategies seek to balance competitiveness and equity, encouraging firms not merely to absorb labour but to co-invest in domestic capability and inclusive growth.

3.2 Labour Policy Levers

Labour market policy reforms have the potential to enable career transition, fair work, and dynamic job mobility (Australian Government Treasury, 2023; Ho & Yang, 2025).

Key levers include:

- Active labour market programmes such as wage subsidies, and temporary income support to foster re-employment and security during career transitions.

- Regulatory reforms, such as revising job classification systems, establishing portable benefits for gig and part-time workers, and introducing standards for fair flexible work, support work (re)design, enable more adaptable job structures, and generate new reskilling/upskilling needs, ensuring that gig, part-time, and hybrid workers have access to fair pay and enhanced opportunities.

- Social dialogue mechanisms involving unions, employers, and government to co-shape work standards that allow flexibility while ensuring fairness and shared prosperity.

- Inclusive workforce policies balancing access to foreign skills with local workforce development and employment.

These labour strategies, if designed and implemented properly, have the potential to better link worker security with business agility, creating a more fair and productive labour market.

Labour market policy reforms have the potential to enable career transition, fair work, and dynamic job mobility.
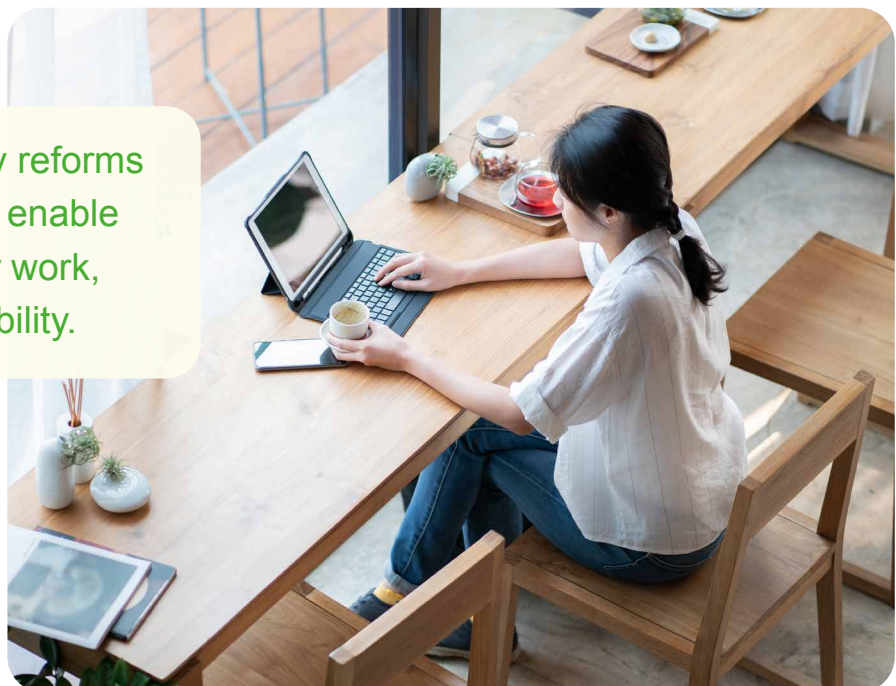
3.3 Skills Policy Levers

Contemporary skills strategies focus on inclusivity, employability, and alignment with structural transformation (CEDEFOP, 2025; ILO, 2025).

Key levers include:

- Lifelong learning and modular learning systems that enable workers to continuously update skills as technology, industries and job requirements evolve. These support workforce adaptability and reduce structural unemployment.

- Targeted upskilling and reskilling investments for vulnerable or informal workers, ensuring that economic transition does not leave disadvantaged groups behind.

- National skills forecasting and sectoral skills coordination, which improve intelligence on emerging skills and competencies needed to support economic and sectoral transformation (e.g. Care, Green and Digital skills).

- Training subsidies that defray out of pocket expenses for employers and workers.

These measures link human capital development directly to innovation-driven growth by lowering barriers to opportunities and enabling broad-based participation in industries going through transformation.

The three sets of policy levers form an ecosystem approach to shared prosperity:

Industrial policy
directs capital towards sustainable and competitive sectors

Labour policy
safeguards fair job access, mobility and protection

Skills policy
ensures employability and adaptability

In this uncertain and rapidly changing economic environment, coordinating around these three policy levers is critical. Yet, in practice, these levers often do not operate as intended. Industrial incentives continue to favour capital deepening over capability development; labour market measures buffer transitions but do not sufficiently enable mobility; and skills policies expand training provision without ensuring that newly acquired capabilities are effectively deployed. The result is a persistent mismatch between policy ambition and market behaviour. Employers face weak or inconsistent signals to invest in workforce development, while individuals, particularly those in mid-career or in vulnerable segments, struggle to translate training into meaningful labour market outcomes. The system is not failing for lack of effort, but for lack of alignment. It is precisely this misalignment that makes a skills-first approach necessary.

Skills-First Across the Policy Ecosystem

Skills-First Across the Policy Ecosystem

For Skills-First to deliver systemic impact, it must be embedded coherently across industrial, labour and skills policy levers. A critical factor for success is policy coordination and integration, yet these are often overlooked, resulting in fragmented interventions.

4.1   In Industrial Policy: From Job Creation to Capability Development Mandates

Industrial policy traditionally incentivises investment and job creation. Skills-First adds an explicit capability development dimension:

- **Skills-Linked Incentives**
  Condition subsidies, tax credits, and strategic investments on employer commitments to develop domestic skills capabilities by enhancing the existing skills stock, not just by expanding headcounts . For instance, the Singapore SkillsFuture Enterprise Credit (up to S$10,000) is unlocked only if employers invest in both Enterprise Transformation (redesigning job/business capability) and Workforce Transformation (training) (SkillsFuture Singapore, 2025).

- **Cluster-Based Skills Ecosystems**
  Embed skills development requirements in innovation cluster funding (i.e., public investments that support groups of firms and institutions working on shared technological or sectoral priorities), creating shared training infrastructure and cross-firm mobility pathways. An example is Canada's Innovation Super Cluster Initiative, a capacity investment stream that allocates budget for capability building programmes (Government of Canada, 2022).

- **Value-Chain Capability Mandates**
  Incentivise lead firms in supported industries to invest in supplier capability development, deepening domestic skills ecosystems rather than offshoring. For instance, Singapore's Partnership for Capability Transfer (PACT) co-funds knowledge transfer from lead enterprises to help its local suppliers upgrade, including training of employees of local suppliers by lead enterprises (Singapore Economic Development Board, 2024).

- **Skills Utilisation Accountability**
  Track not just job creation but skills deployment, e.g. are firms and economies designing jobs that effectively deploy available capabilities towards high value-added quality jobs. The Skills-First Readiness and Adoption Index, jointly designed by OECD and Centre for Skills-First Practices (CSFP) at the Institute for Adult Learning (IAL), is the first attempt to present a comparative benchmarking tool to support skills-first and skills utilisation efforts (OECD & IAL, 2025).

These approaches transform industrial policy from a pure competitiveness play into a vehicle for inclusive capability development and sustainable, high-quality job creation.

4.2 In Labour Policy: From Protection to Proactive Mobility Support

Labour policy conventionally focuses on employment protection and income support during job and career transitions. Skills-First enables proactive career mobility in the following potential ways:

- **Skills-Based Job Matching/Hiring**
  Deploy AI-powered platforms that match workers to opportunities based on demonstrated skills rather than credentials or job history, expanding access for non-traditional candidates. Blind hiring software such as Pinpoint (Pinpoint, n.d.) and Gapjumpers (Women Tech Network, n.d.) are designed to facilitate skills-first hiring by integrating the software into recruitment work flow.

- **Portable Skills Account**
  Create individual skills wallets that aggregate validated competencies from multiple sources, empowering workers to own and signal their capabilities across jobs and sectors. Europass Digital Credential (European Union, n.d.), Skills India Digital Hub (ThePrint, 2024) and Singapore Careers & Skills Passport (SkillsFuture Singapore, 2024) are efforts to centralise skills registry, credential and job matching.

- **Transition Mapping**
  Use skills analytics to identify low-friction re-employment pathways for displaced workers, guiding active labour market programmes towards highest-probability success routes, including stepping-stone jobs that lead to jobs with head-room for growth. In the US, Opportunity@Work's Skills Through Alternative Route (STAR) developed and deployed STARSight (Intelligence Engine), STARSight Connect (Screen-in tool) and STAR Mobility Compass to facilitate effective transition mapping (Opportunity@Work, n.d.).

- **Fair Work Through Skills Use**
  Regulate against systematic skills underutilisation and credential inflation, ensuring job design maximises capability deployment and worker agency. This includes encouraging employers to surface and apply latent skills through cross-department project teams, skills-based task allocation, and structured internal mobility pathways. The CSFP at IAL in Singapore engages employers to re-design work in an inclusive approach to enhance workers' agency and re-design work that supports enterprise transformation (Yang et al., 2025). Public policy can reinforce these practices by providing tools and frameworks for work (re)design, and offering incentives for organisations that demonstrate effective use of their existing skills base.

These interventions shift labour policy from defensive buffering to capability activation, keeping workers employable amid ongoing disruption.

4.3 In Skills Policy: From Supply Expansion to Targeted Capability Building

Traditional skills policy focuses on expanding training supply through subsidies and modularisation of learning to enhance accessibility, while Skills-First transforms this into strategic capability building:

- **Precision Upskilling**
  Use granular skills intelligence to target reskilling investments where capability gaps impede economic transformation. For example, the mass skilling of emerging general purpose AI skills and green skills would benefit from clear signalling of the type of skills and the relevance to work. An example is the Cambodia Digital Economy and Society Policy Framework 2021–2035 which exemplifies this shift towards targeted capability building by explicitly prioritising digital skills development, enterprise digital readiness, and ecosystem-wide coordination to advance the country's long-term vision of a vibrant digital economy (Supreme National Economic Council, 2021).

- **Skills-Based Progression**
  Design modular career-learning pathways that recognise transferable skills and enable mobility within or across sectors, reducing mobility friction. An example is the Singapore Skills and Job Mobility dashboard designed to support individuals who are contemplating career mobility by drawing on their transferable skills, identifying targeted programmes for skills top up and future career pathway (SkillsFuture Singapore, 2024).

- **Validation Infrastructure**
  Invest in digital credentialing systems and assessment platforms that make informal and non-formal learning visible and trusted by employers. In Denmark, a healthcare employer implemented a structured process for validating non-formal and informal learning among IT workers, integrating it into a strategic competence development initiative aligned with workforce planning and career mobility (UNESCO, 2023).

- **Dynamic Forecasting**
  Build real-time labour market intelligence that anticipates skills demand shifts, enabling proactive rather than reactive training interventions. For example, Australia's Jobs and Skills Atlas is an integrated data platform that offers a comprehensive overview of labour market insights at the national, state and regional levels (Jobs and Skills Australia, 2025).
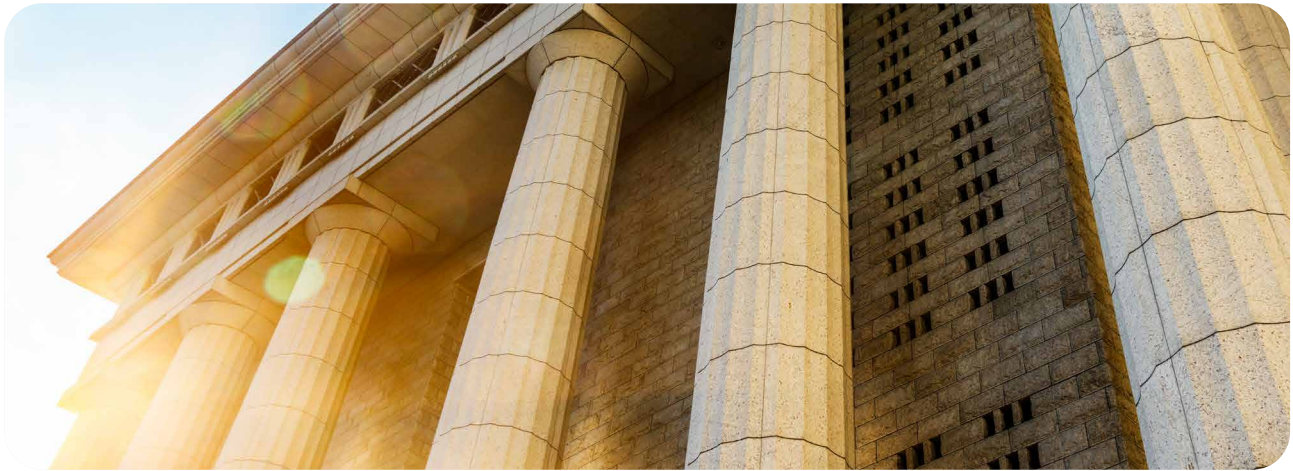
These levers ensure skills investments flow towards high-impact opportunities while empowering individuals to navigate change with portable and recognised capabilities.

Policy Roles for Systemic Enablement of Skills-First Practices

Policy Roles for Systemic Enablement of Skills-First Practices

The Skills-First Readiness and Adoption Index (OECD & IAL, 2025) reflects the importance of a policy-enabling environment to the successful adoption of Skills-First by respective stakeholders. Governments could play multiple roles to enable Skills-First at scale.

As Integrator and Policy Co-ordinator

Strengthen policy coherence across ministries (labour, education, industry, innovation, and migration) is critical, as Skills-First transformation requires whole-of-government alignment. Without integrated governance, overlapping mandates risk diluting accountability and slowing implementation.

Germany's National Skills Strategy provides a strong example of this integrator role, bringing together federal ministries, state governments, employers, and unions to align skills development with labour market needs and industrial transformation. This coordinated governance structure enables joint planning, shared accountability, and more effective deployment of skills policies across the economy (Federal Ministry of Labour and Social Affairs, 2019).

As Convener and Standard-Setter

Lead development of national or regional skills taxonomies that are open-source, interoperable, and continuously updated through multi-stakeholder collaboration.

Jobs and Skills Australia is replacing the Australian Skills Classification with a National Skills Taxonomy, to align workforce capabilities with industry needs and improve occupational mobility (Australian Government & Jobs and Skills Australia, 2024).

The European Commission's ESCO (European Skills, Competences, Qualifications and Occupations) represents a significant cross-country effort to address coordination deficits through the establishment of a common skills language, advancing the principles of skills-first systems. It provides a multilingual classification system containing over 13,939 skills and 3,039 occupations, designed to enhance interoperability between education, employment, and mobility systems (European Commission, n.d.).

The role of convenor is also linked to enabling social dialogue and coordination among all parties involved in the skills ecosystem. Tripartite mechanisms—employers, unions, training providers—are crucial for legitimacy. Skills-First adoption depends on trust and co-ownership. Governments should institutionalise co-designed platforms where labour and business jointly shape taxonomies and validation standards. Norway, Sweden and Singapore are examples of governments paying attention to ensuring tripartite effort and policy cohesion (Alos et al, 2019; European Trade Union Institute, n.d.; Ministry of Manpower, n.d.).

As Systems and Capability Builder

Invest in digital infrastructure for skills signalling, validation platforms, and labour market intelligence systems that no single actor can build alone. Government must ensure that data-driven labour market intelligence systems respect privacy, use AI ethically, and prevent bias in skills recognition (OECD, 2023).

SkillsFuture Singapore has introduced the Jobs-Skills Portal, a national portal offering jobs-skills insights, frameworks and tools to empower individuals, enterprises and training partners to make better informed decisions on jobs and skills (Skillsfuture Singapore, 2025).

In Denmark, Jobindsats, launched in 2007 by the Ministry of Employment, serves as a national statistics portal providing public dashboards on active labour market policies, skills shortages, and recruitment frictions, supporting data-driven decision-making for local job centres and municipalities (Styrelsen for Arbejdsmarked og Rekruttering, 2007).

At the sub-national level, the Alabama Talent Triad in the United States, built through a public–private partnership, has created an integrated skills ontology, credential registry and digital learning-employment record infrastructure that strengthens skills signalling and improves labour market matching across employers, education providers and workers (Alabama Talent Triad, 2023).

As Incentive Architect

Design manpower policies, industrial subsidies, and training co-financing that reward skills development and utilisation outcomes, not just participation metrics. Special attention should focus on underrepresented and less-abled groups and SMEs to avoid widening participation gaps. Governments could use progressive co-funding schemes, tying greater public support to inclusive metrics (e.g., participation of low-skilled adults, people with different ability and older workers).

In Singapore, low-waged workers, SMEs and matured workers are eligible for higher course fees subsidies (SkillsFuture Singapore, 2022).

As Quality Regulator

Establish trust in alternative credentials through accreditation frameworks while reining in credential inflation or the proliferation of low-quality offerings by education and training providers. There is a need for governments to coordinate recognition mechanisms across providers to ensure that micro-credentials remain stackable, portable, and support career mobility. This also includes facilitating the establishment of skills-competencies assessment mechanisms within the ecosystem (OECD, 2023).

New Zealand's national micro-credential framework, introduced in 2018 by the New Zealand Qualifications Authority, integrates micro-credentials into the New Zealand Qualifications and Credentials Framework, ensuring they are subject to the same quality assurance standards as traditional qualifications (New Zealand Qualifications Authority, n.d.).

As Exemplar Adopter

Implement skills-based hiring and progression in public sector employment, demonstrating viability and building market confidence.

For example, the UK Civil Service employs the Success Profiles framework to assess candidates for job roles based on their experience, behaviours, abilities, strengths, and technical skills, moving beyond traditional qualification-based recruitment (Gov.UK, 2018).

In Singapore, the Public Service supports skills-based hiring with most job advertisements no longer stipulating specific educational qualifications. Instead, agencies evaluate candidates based on their competencies, work experience, and fit with job requirements (Public Service Division, 2025).

As Outcomes Evaluator

Establish robust, economy-wide monitoring and evaluation mechanisms to assess whether skills-first policies translate into meaningful outcomes such as quality jobs, and productivity gains. This requires shifting from input metrics (e.g., number of individuals trained) to outcome and impact indicators such as rate of successful redeployment into adjacent occupations and skills utilisation rates. Governments should build integrated data systems that link training, labour market, and firm-level productivity information, enabling continuous oversight of policy effectiveness.

Countries such as Finland and the Netherlands demonstrate the value of strong evaluation cultures in workforce and industrial policies, using longitudinal and administrative data to inform iterative improvements (Government of the Netherlands; n.d.; OECD, 2023).
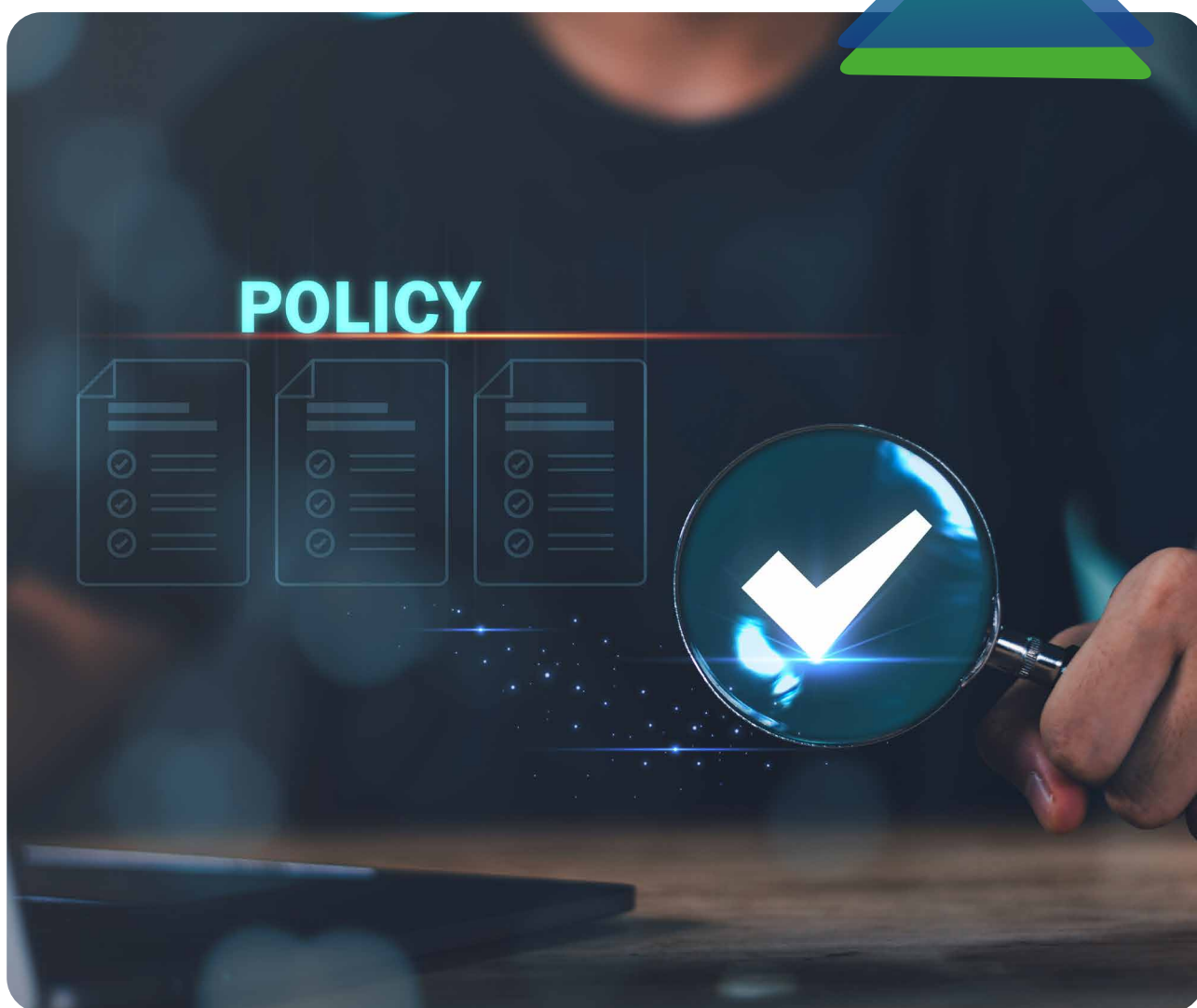
The Path Forward:

From Readiness to Adoption

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From Readiness to Adoption

The policy levers require varying levels of coordination, development and pre-requisite conditions. This section presents a macro-view of the efforts and capabilities needed to implement the various policy levers. The review of the efforts and capabilities is tabled for reference, following input from experts across a number of advanced economies that are at the forefront of skills-first practices.

| Industrial Policy			
Policy Areas	**Pre-Requisite**	**Coordination Effort**	**Capabilities**
Skills-Linked Incentive	Clear understanding of skills stock and high skills outcomes	**Low.** Clear incentive parameters and expected outcomes can be set upfront, with limited need for ongoing cross-agency coordination	**Medium.** Resources and tools must be available to support enterprises in meeting these requirement
Cluster-Based Skills Ecosystem	Clear understanding of skills stock and high skills outcomes	**Medium.** Continuous efforts required to incorporate skills development mandates into existing innovative clusters and actively coordinate these clusters	**Medium.** Requires trained personnel at cluster level and cluster governance capability
Value-Chain Capability Mandate	Sectors with clear domestic value chain	**Low.** Once the value-chain capability is established, lead firms are generally incentivised to invest in capability development of upstream and downstream firms	**Low.** Requires trained personnel at the sectoral level
Skills Utilisation Accountability	Clear definition of quality job and methodology to monitor skills use	**High.** Requires tripartite partnership to monitor the adoption of skills deployment and job redesign	**Medium.** Requires labour inspection capabilities and data analysis to effectively monitor compliance

Labour Policy			
Policy Areas	**Pre-Requisite**	**Coordination Effort**	**Capabilities**
Skills-Based Job Matching/Hiring	National level jobs-skills-tasks taxonomy that is frequently updated, and a trusted digital credentials ecosystem	**High.** Mechanism to partner employment agencies to change practices overtime (e.g., recruitment and job placement systems)	**Medium.** Requires digital platforms to facilitate skills-based job matching and hiring, and data analytics capabilities to monitor compliance
Portable Skills Account	National jobs-skills taxonomy and portable skills account, as well as interoperability standards and data governance frameworks across participating systems	**High.** Requires multiple stakeholders buy-in to participate in the deployment and use of the account	**High.** Multiple systems integration across government agencies and stakeholders required
Transition Mapping	Established national level jobs-skills-tasks taxonomy that is frequently updated and labour market intelligence	**Low.** Digital platform needed for users to plan and use transition mapping	**Low.** Could start off with high demand job roles in tight labour market
Fair Work Through Skills Use	Trusted skills validation system and timely monitory of jobs transformation trends, as well as definitions of skills underutilisation and credential inflation	**High.** Requires sectoral and enterprises buy-in and over-arching system to monitor adoption	**Medium.** Requires incentives and capability development programme, as well as enforcement mechanisms and dispute resolution processes

	Skills Policy		
Policy Areas	**Pre-Requisite**	**Coordination Effort**	**Capabilities**
Precision Upskilling	Establish shared common jobs-skills language and clear understanding of skills demand, including skills forecasting	**Medium.** Requires businesses, chambers, and education and training providers to work hand-in-hand to target specific skills gaps (not for mass skilling)	**Medium.** Stakeholders must understand and forecast jobs and skills demand. They must also be able to design interventions to match supply to demand effectively
Skills-Based Progression Pathways	Clear understanding of jobs-skills adjacencies, as well as occupational standards validated by trusted industry associations	**Medium.** Employers' buy-in is needed. Validation of progression pathways by industry associations, and education and training providers able to deliver skills top-up for successful progression	**Medium.** Workplaces must create opportunities to train workforce on the pathways
Skills Validation Infrastructure	Established national level jobs-skills-tasks taxonomy that is frequently updated. Defined regulatory frameworks to build employer confidence in digital credentials	**High.** Requires coordinated efforts among sector agencies, industry partners, and training providers to build and sustain sectoral and/ or occupation skills validation infrastructure and overarching regulatory framework	**High.** Trusted skills validation system must be managed robustly by professional institutions with strong assessment, quality assurance, and data management capabilities
Dynamic Forecasting	Tightly linked Industrial-Labour-Skills policy coordination	**High.** Agencies must align data sources, forecasting methods, and sector inputs to produce consistent national and regional insights. Requires close and regular collaboration between government agencies and with stakeholders	**High.** Requires the development of multi-model forecasting methodology for different use cases
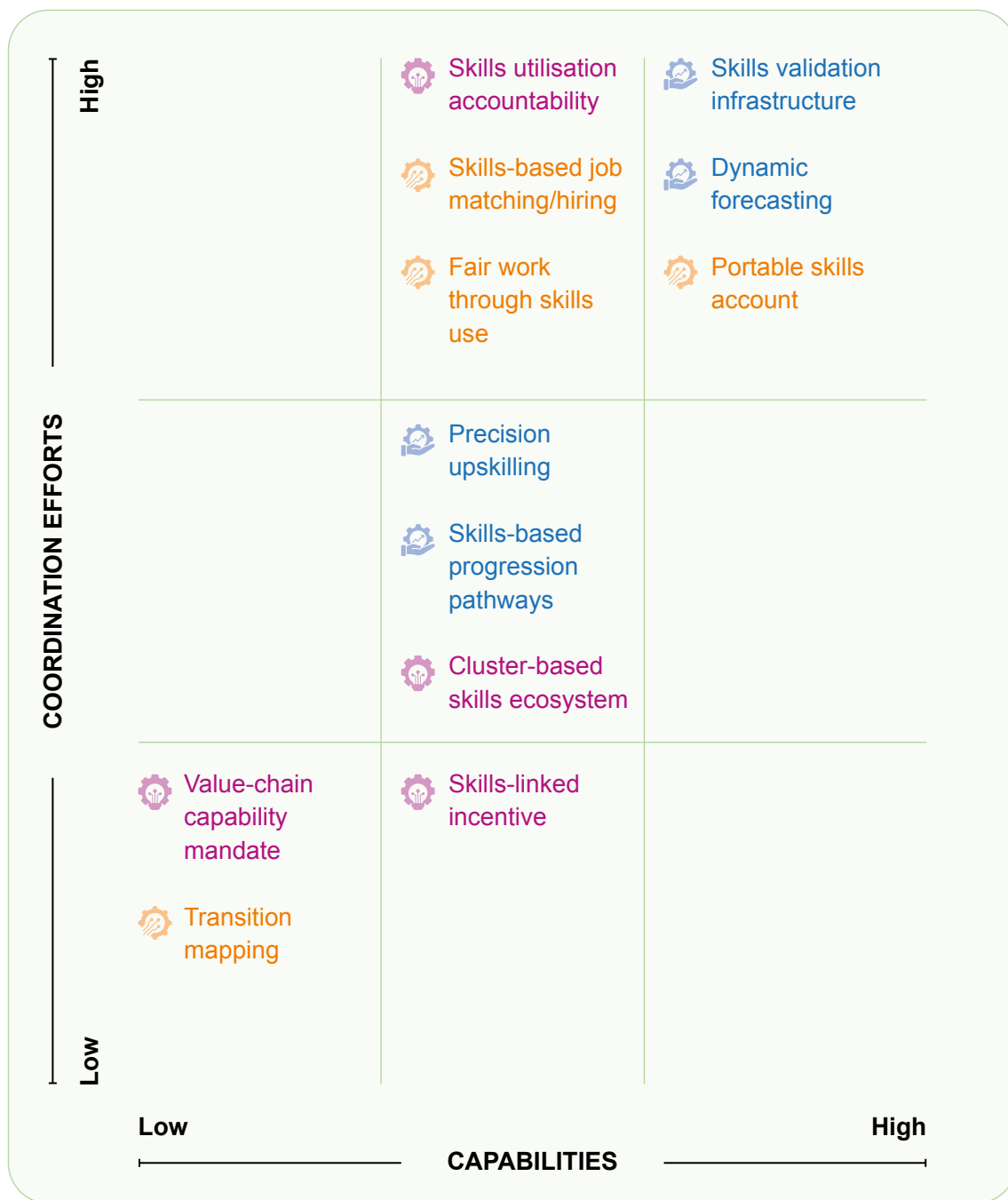
These policy levers are not all new. Some economies have implemented or are currently piloting the levers. They serve as early and/or successful adopters of skills-first policy levers. The readiness–adoption framework illustrates the systemic capabilities and coordination efforts required. The following section draws on international experiences to illustrate how different economies have implemented these approaches in practice, and the institutional conditions that supported their success.

Towards Coordinated Skills-First Approaches

Lessons from Economies Taking Steps Towards
Coordinated Skills-First Approaches

Although no economy has yet achieved a fully integrated skills-first approach across skills, labour and industrial policies, several economies are developing elements that collectively illustrate the institutional conditions required for coordinated approaches. These emerging practices highlight three enabling features with relevance for countries seeking to strengthen alignment across skills, labour and industrial policies.

Coordinated Skills Intelligence Strengthens System Responsiveness

Evidence from Australia and Singapore suggests that integrated labour market and skills intelligence can substantially improve system responsiveness to economic change. Consolidating information on occupations, skill requirements, career pathways and sectoral developments provides a shared basis for decision-making across ministries and agencies. Such systems mitigate information asymmetries, support more targeted upskilling and reskilling efforts, and allow policymakers to assess whether industrial priorities are adequately supported by domestic skills pipelines. This integrated intelligence improves coordination across policy domains by ensuring that labour market interventions, training provision and industrial strategies are informed by timely and comparable data.Without integrated governance, overlapping mandates risk diluting accountability and slowing implementation.

Multi-Stakeholder Governance Strengthens Policy Alignment

Countries such as Norway, Sweden and Singapore demonstrate structured tripartite and multi-stakeholder governance structures are instrumental in strengthening alignment across labour, skills, and industrial policy domains. These mechanisms enable employers, unions, education and training providers, and government agencies to jointly shape standards, workforce strategies and capability development initiatives. Such governance arrangements help reduce fragmentation and ensure that reforms in one policy area, such as industrial policy, are aligned with complementary measures in skills or labour policies. Emerging economies are also taking steps in this direction; in Cambodia, for example, the Skills Development Fund serves as a coordinating platform that brings together relevant ministries and industry representatives to co-design and co-finance training initiatives, supporting demand-driven and sustainable skills development aligned with evolving sectoral and socio-economic priorities (Skills Development Fund Cambodia, 2024).

Stable Governance and Long-Term Policy Commitments Enable Coordination

Progress towards coordinated skills, labour and industrial policies depends not only on the design of individual interventions but also on the stability of the governance environment in which they operate. Countries such as Germany, Singapore and Sweden demonstrate that long-term policy commitments, multi-year funding arrangements and institutionalised inter-ministerial coordination mechanisms reduce policy volatility and enable actors to plan workforce and capability development with greater certainty. These stable governance structures provide continuity across electoral cycles, support long horizon industrial and workforce strategies, and create enabling conditions for employers, unions and training providers to co-invest in skills development. In such contexts, coordination becomes an embedded feature of the policy system rather than the outcome of ad hoc efforts, strengthening the effectiveness of any reforms.

Implementation Steps

Implementation Steps

Moving from readiness to adoption begins with recognising that each economy operates within its own institutional and developmental context. A skills-first approach offers a common framework to align skills, industrial and labour policies; however, the pathways to adoption will necessarily differ. The first step is diagnostic: assess the maturity of the training ecosystem, the capability of enterprises to utilise skills, and the effectiveness of coordination across policy domains. This enables policymakers to identify where policy effort yields the greatest marginal impact and which capabilities can be mobilised first.

The second step concerns sequencing and coherence. Some jurisdictions may advance multiple components simultaneously, while others may prioritise a few urgent initiatives. What matters is coherence rather than uniformity, that skills, labour and industrial policies move in the same direction and mutually reinforce one another. In practice, this means aligning incentives, standards and data so that interventions across ministries and agencies add up to a single capability system rather than parallel programmes.

Implementation should proceed through deliberate, manageable steps. Pilot projects and targeted interventions allow experimentation, evaluation and learning before wider rollout. The outcomes of these pilots should be assessed against clear indicators such as whether training investments translate into higher skills utilisation within firms; whether skills validation infrastructure improves recognition and deployment of capabilities at the workplace; and how dynamic forecasting informs manpower planning and investment attraction. Such efforts provide evidence of effectiveness, build trust across institutions and firms, and surface the operating conditions required for scaling.

Finally, adoption must be underpinned by feedback loops for continuous improvement. Lessons from pilots should feed back into policy design, resource allocation and regulatory adjustment, sharpening incentives, refining standards and updating data systems.

8.1 Critical Questions for Skills-First Transition

Redefining Success and Assessing Progress

A skills-first transition requires moving beyond participation counts to understanding how skills generate value in firms and across the economy. The central question is no longer how many people are trained, but whether newly acquired capabilities are productively used in work design, workflow, and progression pathways.

(?) Are we measuring success by enrolments, or by the effective deployment of skills in the economy?

Making Skills Utilisation Economically Rational

Skills utilisation becomes economically rational when policy creates the conditions for market rewards to recognise firms that deploy and develop skills effectively. Skills policy gains credibility when it improves business performance. Firms invest in capability when returns are visible and risks are shared. To achieve this, industrial policy levers, such as grants, tax incentives, and support for transformation, can be aligned to lower the cost of capability building and strengthen the business case for skills deployment. Incentives should evolve from subsidising inputs to recognising enterprises that deploy and develop local skills as part of their growth model, not merely those meeting compliance thresholds.

(?) How can policy strengthen market signals and reduce adoption barriers so that investments in workforce capabilities are driven by business value rather than a compliance exercise?
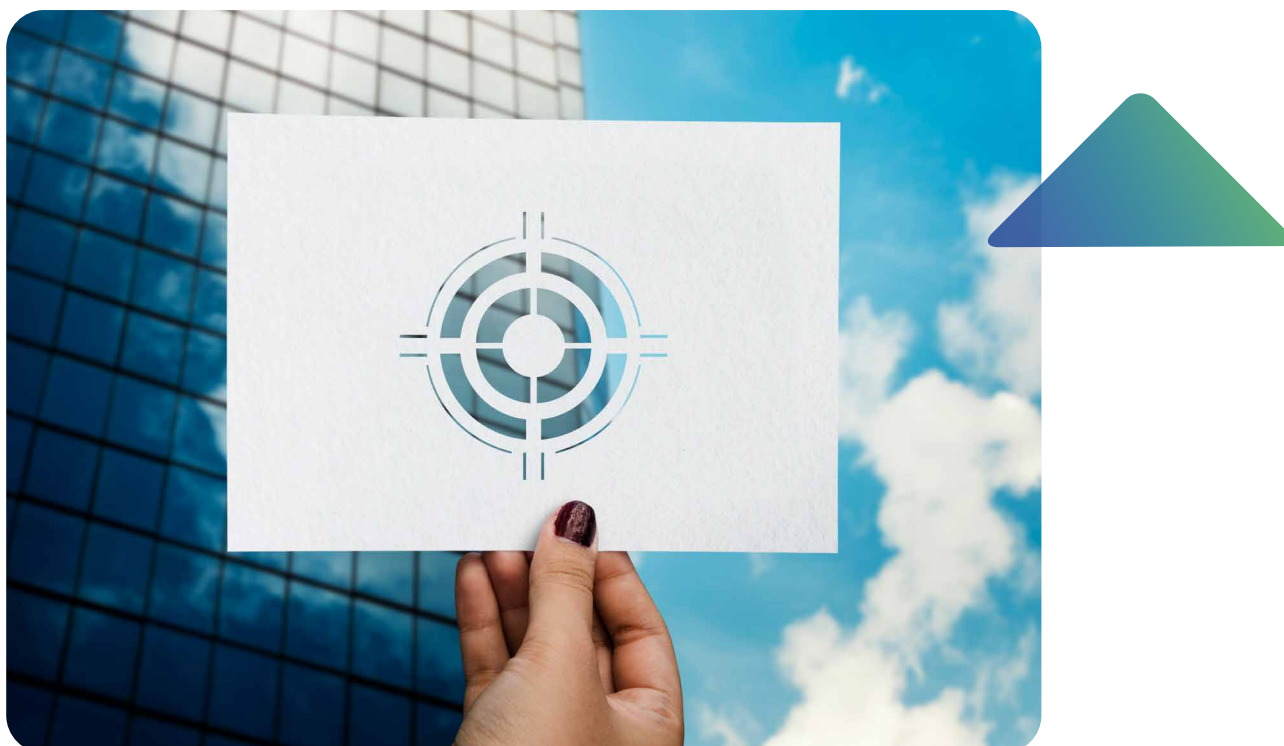
Building Foresight as State Capability

In an open economy where work and skills are mobile, foresight is strategic state capability. Real-time monitoring of global industry shifts and emerging skills must inform decisions across investment, education and manpower planning. Properly used, skills intelligence becomes not just a tool for domestic manpower planning but an economic and diplomatic instrument to attract, retain and export capability, anticipating transformation before opportunity moves offshore.

How can foresight and skills intelligence be institutionalised as a core economic governance capability, rather than a marginal technical exercise?

Aligning Mandates and Accountability

Effective coordination depends on clear mandates for aligning manpower planning, investment attraction and industry transformation around a common skills language. Informal networks and ad-hoc taskforces are insufficient. Institutions require shared ownership of outcomes, with mechanisms to manage interdependencies across portfolios.

Who is accountable for ensuring that skills, industrial and labour strategies function as one coherent system, rather than parallel efforts?

Glossary

Industrial policy: Government measures aimed at shaping the sectoral structure, innovation patterns and competitiveness of the economy, increasingly linked to skills upgrading, green and digital transitions, and inclusive employment (OECD, 2022).

Labour market intelligence: Integrated data and analytical systems that monitor occupations, skills demand, career pathways and sectoral trends to inform policy, planning and programme design (European Commission, 2024).

Labour market policy: Regulations and interventions that shape employment conditions, security, mobility and fair work, including employment protection, wage-setting frameworks and support for transitions (ILO, 2015; OECD, n.d.).

Micro-credentials: Records of learning outcomes that a learner has acquired following a short learning experience, assessed against transparent standards, and which can be stackable into larger credentials (UNESCO, 2022).

Skills-first approach: A skills-first approach prioritises the identification (or articulation), acquisition, demonstration, use, and recognition of skills as the central aims of workforce development, including recruitment, job design, learning and career advancement (Gog et al, 2025).

Skills-based job matching and hiring: Hiring and matching practices that prioritise demonstrated skills and capabilities over formal qualifications or job titles, often supported by AI-enabled platforms (OECD, 2025; WEF, 2024).

Skills mismatch: A situation where workers' skills do not align with the requirements of available jobs, including over-skilling, under-skilling, and skills obsolescence relative to evolving task content (ILO, 2020).

Skills policy: Policies governing initial and continuing education, vocational training, lifelong learning and skills recognition, oriented towards employability, adaptability and alignment with structural transformation (ILO, n.d.; OECD, 2019).

Skills taxonomy: A structured classification of skills that supports common language, interoperability of data systems and skills-based matching (Australian Government & Jobs and Skills Australia, 2024; CEDEFOP, 2013).

Skills utilisation: The extent to which skills are effectively applied in the workplace to maximise employer and individual performance (OECD & ILO, 2017).

Tripartism: Institutionalised cooperation among government, employers and workers' organisations (often unions) to co-design labour, skills and industrial policies, build trust and manage change (ILO, 2018; Ministry of Manpower, n.d.).

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Acknowledgements