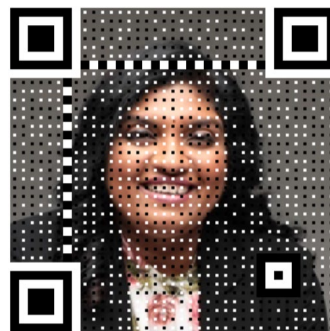


Preparing the Labour Force

BILT Webinar Series 2024: Episode 1 - "Building a Strong Skills Ecosystem to enable Reskilling and Upskilling in Singapore"



Ms Lalithaa Maniam
Deputy Director, Job Skills Insights Division
SkillsFuture Singapore

From programmatic interventions to building a resilient lifelong learning ecosystem

1st Phase - Learning to Survive (1950s – 1970s)

2nd Phase - Learning to Compete (1980s – 2000)

National Productivity Board (NPB) set up as a Statutory Board

1972

1973

Industrial Training Board set up

Skills Development Levy (SDL) and Skills Development Fund (SDF) were established

1979

1979
-80

Vocational and Industry Training Board (VITB) formed

Economic Development Board (EDB) set up industrial training institutes

1982
-83

Institute of Technical Education (ITE) set up

1992

EDB industrial training institutes combined to form Nanyang Polytechnic

1993

National Skills Recognition System (NSRS) established

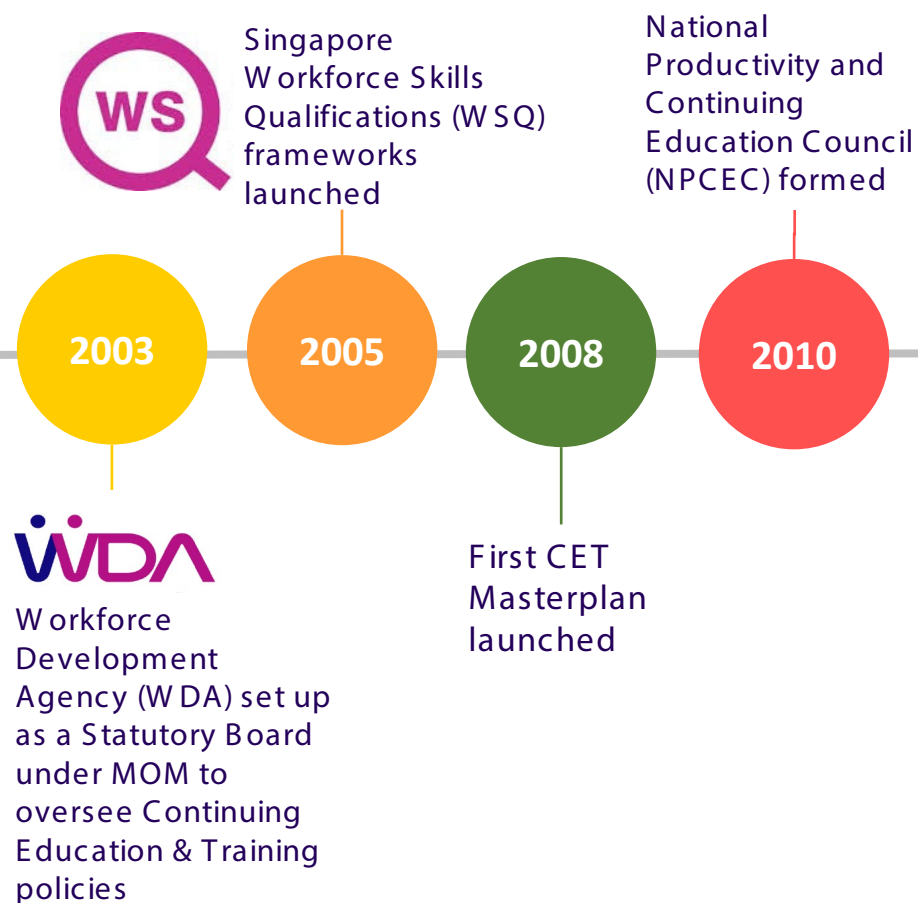
2000

Lifelong Learning Endowment Fund (LLEF) created

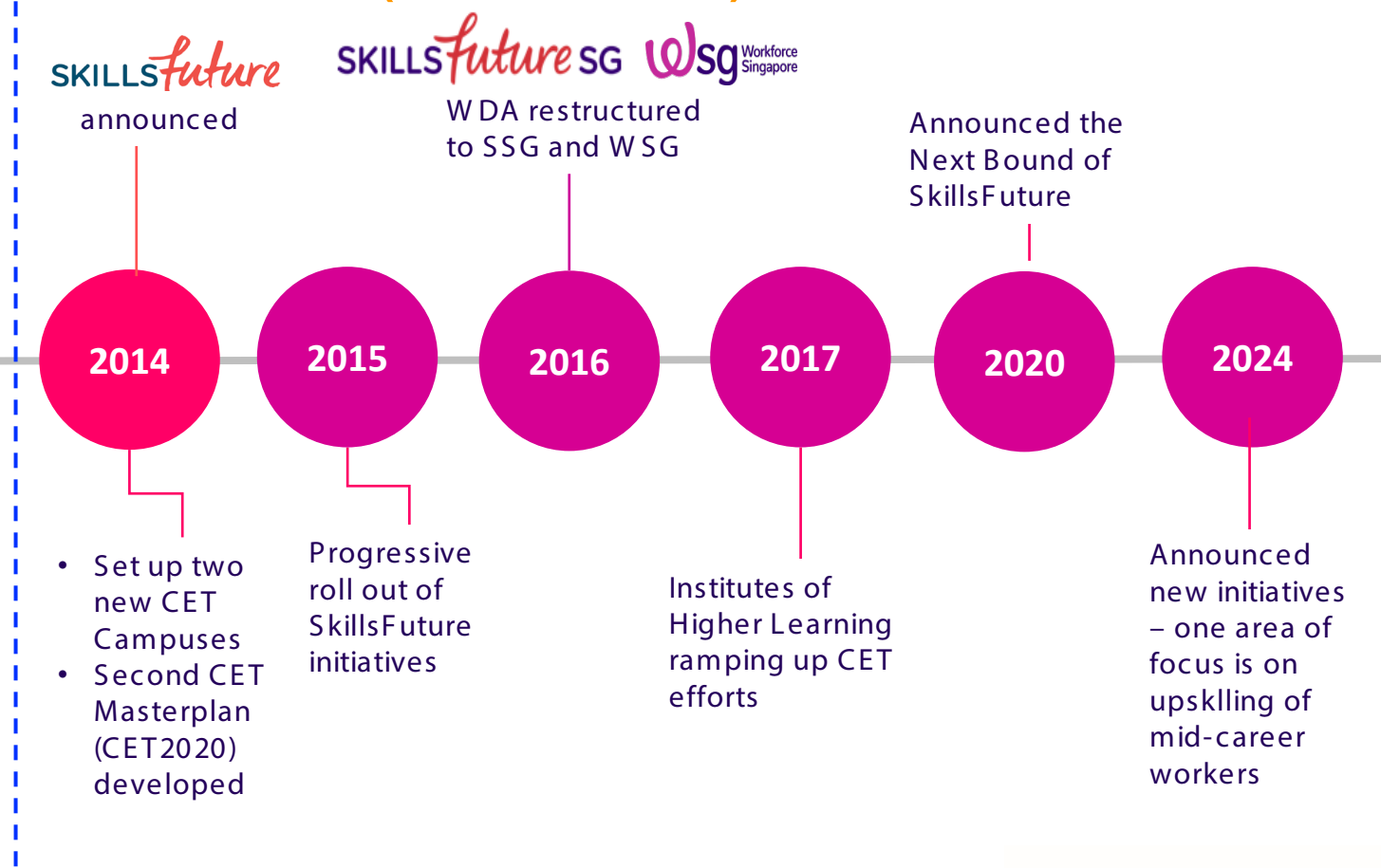
2001

Expansive approach towards SkillsFuture as a collective effort

3rd Phase - Learning for Life (2000 – 2013)



4th Phase – SkillsFuture (2014 onwards)



Strengthen focus on skills ecosystem stakeholders and partners

To achieve a vision of building the most skilled & adaptable workforce

- **Individuals** to make well-informed choices in education, training and careers.
- **Enterprises** to recognize and support career development based on skills and mastery.
- **Training providers and trainers** to develop an integrated, high-quality system of education and training that responds to constantly evolving industry needs.

For the nation, it is to foster a culture that supports and celebrates lifelong learning

SKILLS*future* is a **national movement** to provide Singaporeans with **the opportunities to develop to their fullest potential throughout life** through skills mastery and lifelong learning.





Individuals

Curate information and resources to help individuals make well-informed choices on their education, training and career pathways

**SkillsFuture Credit (SFC)
Top-Ups**



Scaling up Train-and-Place Programmes for Mid-Careerists



Skills and Training Advisory



Upgrading MySkillsFuture Portal



Enterprises

Catalyse the involvement of enterprises in skills development and strengthen the role of training in enterprise transformation

SkillsFuture Enterprise Credit (SFEC)



Queen Bee Strategy



Scaling-Up Work-Study Programmes



National Centre for Excellence in Workplace Learning (NACE)

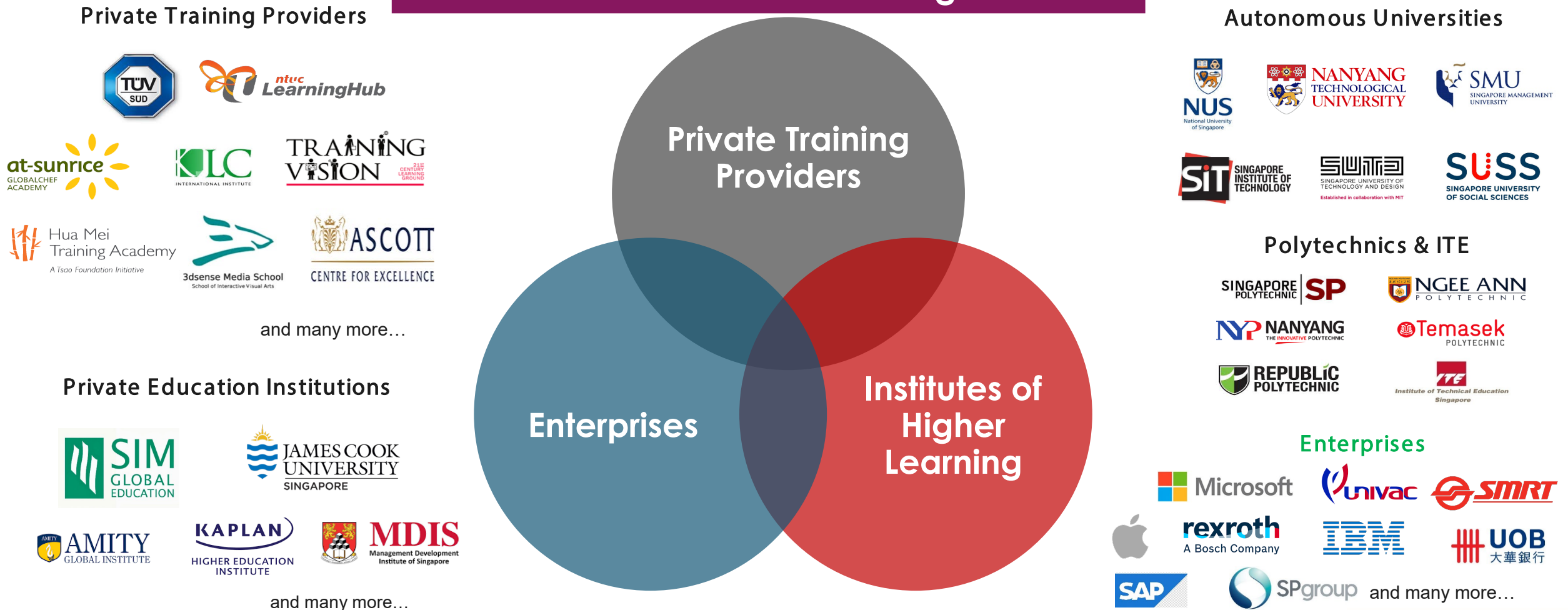


Enhanced Training Support Package (ETSP)

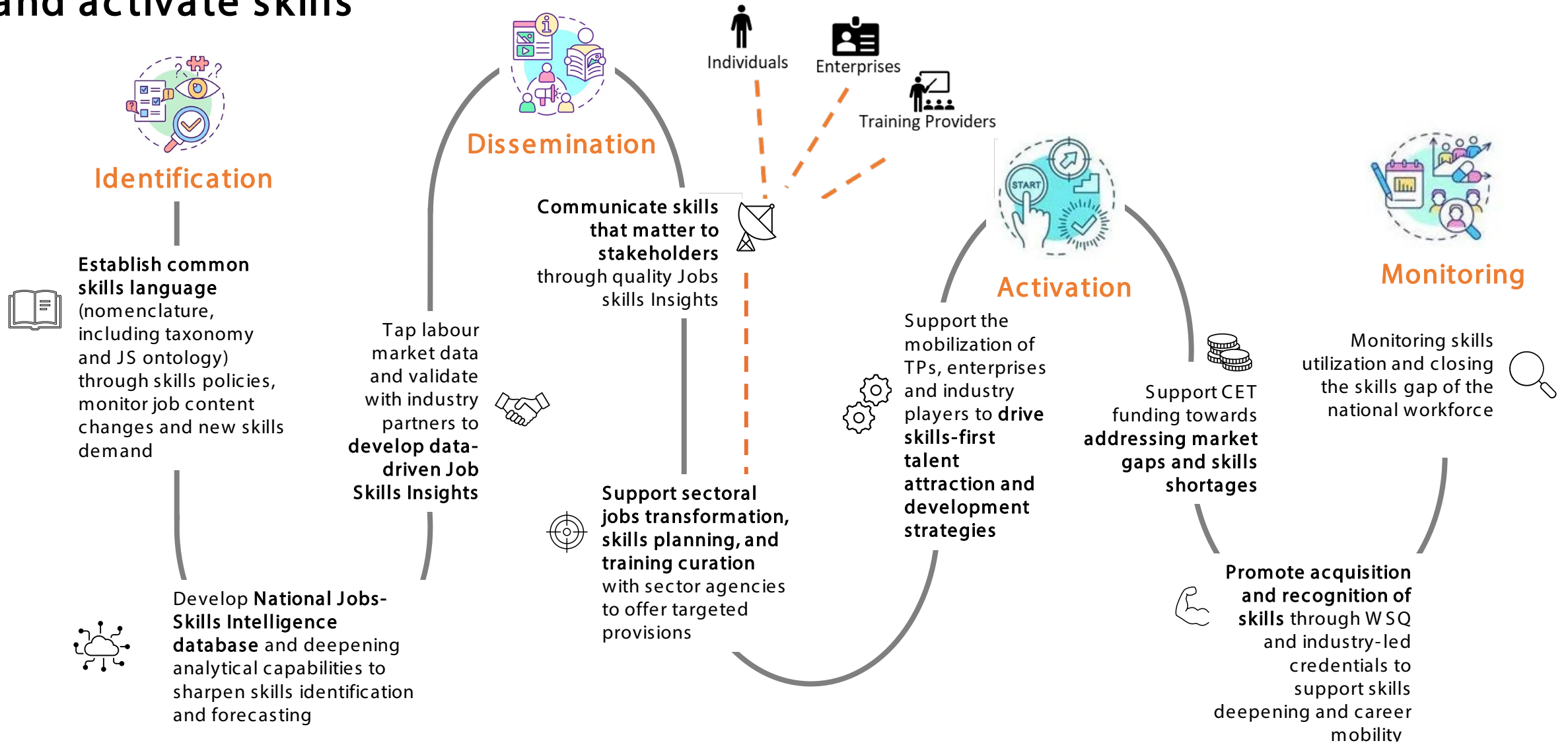


Expand the mandate of Institutes of Higher Learning, Engage large enterprises, Bring in global Best-in-class

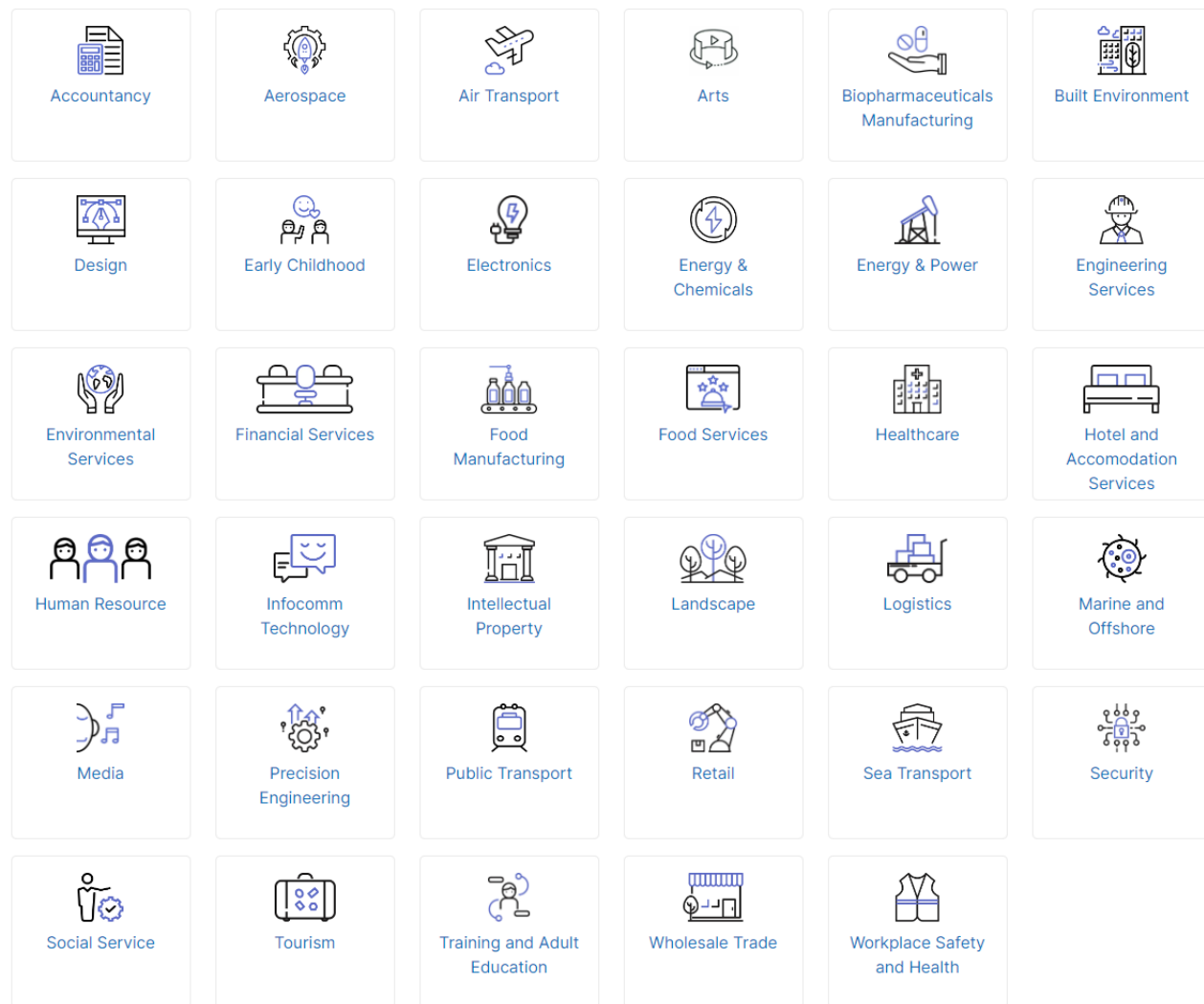
Three Pillars of Continuous Education and Training



Using data-driven insights and an ecosystem approach to articulate, aggregate, and activate skills



From 2016, Skills Frameworks were developed at sectoral level in 2016 to support industry transformation



- Co-created by Employers, Industry Associations, Education Institutions, Unions and Government
- Provides key sector information, occupations/ job roles, and the required existing and emerging skills.
- Aim: to build deep skills for a lean workforce, enhance business competitiveness and support employment and employability.

As of now, we have developed 35 sectoral Skills Frameworks with >11,000 technical and critical core skills

[SSG | Skills Frameworks \(skillsfuture.gov.sg\)](https://skillsfuture.gov.sg)



We provide comprehensive data sets open for the public to use. The first set of comprehensive data provides information on job roles.

	C	D	E	F	G	H	I	J
1	Sector	Track	Job Role	CCS_TSC Title	Proficiency Level	TSC_CCS_Ty	Priority	Skills
2	Accountancy	Assurance	Audit Associate / Audit Assistant Associate	Accounting Standards	4 tsc			
3	Accountancy	Assurance	Audit Associate / Audit Assistant Associate	Auditing and Assurance Standards	4 tsc			
4	Accountancy	Assurance	Audit Associate / Audit Assistant Associate	Auditor Independence	4 tsc			
5	Accountancy	Assurance	Audit Associate / Audit Assistant Associate	Business Acumen	4 tsc			
6	Accountancy	Assurance	Audit Associate / Audit Assistant Associate	Cyber Security	3 tsc			
7	Accountancy	Assurance	Audit Associate / Audit Assistant Associate	Data Analytics	3 tsc			
8	Accountancy	Assurance	Audit Associate / Audit Assistant Associate	Data Governance	3 tsc			
9	Accountancy	Assurance	Audit Associate / Audit Assistant Associate	Digital Technology Environment Scanning	3 tsc			
10	Accountancy	Assurance	Audit Associate / Audit Assistant Associate	Engagement Execution	4 tsc			
11	Accountancy	Assurance	Audit Associate / Audit Assistant Associate	Engagement Quality Control	4 tsc			
12	Accountancy	Assurance	Audit Associate / Audit Assistant Associate	Financial Statements Analysis	4 tsc			
13	Accountancy	Assurance	Audit Associate / Audit Assistant Associate	Internal Controls	3 tsc			
14	Accountancy	Assurance	Audit Associate / Audit Assistant Associate	Macroeconomic Analysis	3 tsc			
15	Accountancy	Assurance	Audit Associate / Audit Assistant Associate	Professional and Business Ethics	3 tsc			
16	Accountancy	Assurance	Audit Associate / Audit Assistant Associate	Professional Scepticism and Judgment	3 tsc			
17	Accountancy	Assurance	Audit Associate / Audit Assistant Associate	Programming and Coding	2 tsc			
18	Accountancy	Assurance	Audit Associate / Audit Assistant Associate	Project Execution and Control	2 tsc			
19	Accountancy	Assurance	Audit Associate / Audit Assistant Associate	Risk Assessment	4 tsc			
20	Accountancy	Assurance	Audit Associate / Audit Assistant Associate	Stakeholder Management	3 tsc			
21	Accountancy	Assurance	Audit Associate / Audit Assistant Associate	Taxation Laws	3 tsc			
22	Accountancy	Assurance	Audit Associate / Audit Assistant Associate	Collaboration	Basic ccs			
23	Accountancy	Assurance	Audit Associate / Audit Assistant Associate	Communication	Basic ccs			
24	Accountancy	Assurance	Audit Associate / Audit Assistant Associate	Customer Orientation	Basic ccs			
25	Accountancy	Assurance	Audit Associate / Audit Assistant Associate	Digital Fluency	Intermediate ccs			
26	Accountancy	Assurance	Audit Associate / Audit Assistant Associate	Problem Solving	Basic ccs			
27	Accountancy	Assurance	Audit Manager	Accounting Standards	5 tsc			
28	Accountancy	Assurance	Audit Manager	Auditing and Assurance Standards	5 tsc			
29	Accountancy	Assurance	Audit Manager	Auditor Independence	5 tsc			
30	Accountancy	Assurance	Audit Manager	Business Acumen	5 tsc			
31	Accountancy	Assurance	Audit Manager	Business Development	5 tsc			
32	Accountancy	Assurance	Audit Manager	Business Innovation and Improvement	4 tsc			
33	Accountancy	Assurance	Audit Manager	Change Management	5 tsc			
34	Accountancy	Assurance	Audit Manager	Conflict Management	5 tsc			
35	Accountancy	Assurance	Audit Manager	Cyber Security	4 tsc			
36	Accountancy	Assurance	Audit Manager	Data Analytics	4 tsc			
37	Accountancy	Assurance	Audit Manager	Data Governance	4 tsc			
38	Accountancy	Assurance	Audit Manager	Digital Technology Environment Scanning	5 tsc			
39	Accountancy	Assurance	Audit Manager	Disruption Management	5 tsc			
◀ ▶ ...	Job Role_CWF_KT	Job Role_TCS_CCS_new	Job Role_SSOC	TSC_CCS_Key	TSC_CCS_K&A_new	TSC_Application	Skills Taxonomy(30032022)	+
Ready	OFFICIAL (OPEN)	Accessibility: Investigate						

- Job Role Title
- Job Role Description
- Sector
- Critical Work Functions
- Key Tasks
- Skills relevant to this job role

We provide comprehensive data sets open for the public to use. The second set of comprehensive data provides information on skills.

	C	D	E	F	G
1	Sector	SC_CCS_Catej	TSC_CCS Title	TSC_CCS Description	TSC_CCS_Type
2	Critical Core Skills	Interacting with	Building Inclusivity	Collaborate with stakeholders from different backgrounds or with different abilities, including diverse	ccs
3	Critical Core Skills	Interacting with	Collaboration	Manage relationships and work collaboratively and effectively with others to achieve goals	ccs
4	Critical Core Skills	Interacting with	Communication	Convey and exchange thoughts, ideas and information effectively through various mediums and a	ccs
5	Critical Core Skills	Interacting With	Customer Orientation	Identify the needs of customers, both internal and external, to deliver an effective customer exper	ccs
6	Critical Core Skills	Interacting with	Developing People	Empower others to learn and develop their capabilities to enhance their performance and achieve	ccs
7	Critical Core Skills	Interacting with	Influence	Influence behaviours, beliefs or attitudes in order to achieve desired outcomes and solutions	ccs
8	Critical Core Skills	Staying Relevan	Adaptability	Exercise flexibility in behaviours or approaches to respond to changes and evolving contexts	ccs
9	Critical Core Skills	Staying Relevan	Digital Fluency	Leverage digital technology tools, systems, and software across work processes and activities to	ccs
10	Critical Core Skills	Staying Relevan	Global Perspective	Operate in cross-cultural environments, demonstrating an awareness of the wider global context	ccs
11	Critical Core Skills	Staying Relevan	Learning Agility	Deploy different learning approaches which enable continuous learning across different contexts	ccs
12	Critical Core Skills	Staying Relevan	Self Management	Take ownership of managing one's personal effectiveness, personal brand and holistic physical, m	ccs
13	Critical Core Skills	Thinking Critica	Creative Thinking	Adopt diverse perspectives in combining ideas or information and making connections between di	ccs
14	Critical Core Skills	Thinking Critica	Decision Making	Choose a course of action from several alternatives developed through a structured process in ord	ccs
15	Critical Core Skills	Thinking Critica	Problem Solving	Generate effective and efficient solutions to solve problems and capitalise on new opportunities	ccs
16	Critical Core Skills	Thinking Critica	Sense Making	Leverage sources of qualitative and quantitative information and data to recognise patterns, spot	ccs
17	Critical Core Skills	Thinking Critica	Transdisciplinary Thinking	Apply concepts from multiple disciplines, and synthesise different areas of knowledge and insight	ccs
18	Accountancy	Assurance	Audit Frameworks	Develop quality assurance frameworks to meet regulatory requirements	tsc
19	Accountancy	Assurance	Auditing and Assurance Standards	Use applicable auditing and assurance standards to carry out auditing and assurance activities	tsc
20	Accountancy	Assurance	Auditor Independence	Possess the state of mind and appearance whereby integrity, objectivity or professional scepticism	tsc
21	Accountancy	Assurance	Engagement Completion and Reporting	Perform procedures involved prior to expressing an opinion	tsc
22	Accountancy	Assurance	Engagement Execution	Perform assurance procedures in accordance with the engagement plans	tsc
23	Accountancy	Assurance	Engagement Planning	Develop engagement plans which describe the nature, timing and extent of planned engagement	tsc
24	Accountancy	Assurance	Engagement Quality Control	Set up control procedures for an assurance engagement	tsc
25	Accountancy	Assurance	Engagement Review	Review evidence obtained, procedures performed, and conclusions reached for the engagement	tsc
26	Accountancy	Business Mana	Benchmarking	Compare organisational performance to other organisations and industries	tsc
27	Accountancy	Business Mana	Business Acumen	Assess the impact of changes in the business organisation, environment, and industry	tsc
28	Accountancy	Business Mana	Business Continuity Management	Develop business continuity strategies to manage risks in response to disruptive events	tsc
29	Accountancy	Business Mana	Business Development	Develop and implement plans to enhance organisation's business performance and growth	tsc
30	Accountancy	Business Mana	Business Innovation and Improvement	Transform businesses through innovation and embrace changes to drive improvements	tsc
31	Accountancy	Business Mana	Business Negotiation	Conduct negotiations to establish win-win outcomes for the organisation	tsc
32	Accountancy	Business Mana	Business Planning	Design and formulate business plans to achieve business goals	tsc
33	Accountancy	Business Mana	Business Process Analysis	Analyse business processes for improvement, optimisation and efficiency	tsc
34	Accountancy	Business Mana	Business Process Management	Manage and optimise an organisation's business processes for efficiency and effectiveness	tsc
35	Accountancy	Business Mana	Change Management	Manage changes and developments within teams and organisation	tsc
36	Accountancy	Business Mana	Conflict Management	Build consensus, maintain the best interests of the organisation and utilise knowledge of conflict	tsc
37	Accountancy	Business Mana	Corporate and Business Law	Respond to the changes in business laws and regulations	tsc
38	Accountancy	Business Mana	Disruption Management	Lead radical changes in industry or business strategies involving new products or services that cre	tsc
39	Accountancy	Business Mana	Finance Business Partnering	Generate finance-related insights to support the business in a strategic manner	tsc
40	Accountancy	Business Mana	Financial Crime Laws and Regulations	Utilise laws and regulations governing white-collar crime in the process of forensic services	tsc
41	Accountancy	Business Mana	Information Gathering and Analysis	Collect and analyse information and data to obtain business insights for business activities	tsc
42	Accountancy	Business Mana	Litigation Support	Provide evidence and testimonies to be used in litigation	tsc
43	Accountancy	Business Mana	Macroeconomic Analysis	Evaluate impact of external factors on the organisation	tsc
44	Accountancy	Business Mana	Management Decision Making	Make financial decisions based on management reports	tsc
45	Accountancy	Business Mana	Non-Financial Reporting	Prepare sustainability and integrated reports of the organisation	tsc
46	Accountancy	Business Mana	Performance Management	Measure and manage business performance	tsc
47	Accountancy	Business Mana	Professional Scepticism and Judgment	Assess evidence to make informed decisions about the appropriate course of action	tsc

- Skills Title
- Skills Description
- Proficiency Level
- Knowledge
- Abilities

Demystifying skills and what it means in jobs and transformation - Signposting and comms

Skills Insights on Training and Adult Educators

Spotlight on Training and Adult Education and Jobs-Skills Insights

July 2023

Jobs-Skills Quarterly Insights

SKILLSfuture SG

Innovation and IP Skills Insights

INNOVATION & IP SKILLS INSIGHTS

INCREASE IN RELEVANCE OF IP-RELATED SKILLS IN OUR INNOVATION-DRIVEN ECONOMY

Intellectual Property (IP) and Intangible Assets (IA) ARE THE ENGINES OF AN INCREASINGLY INNOVATION-DRIVEN GLOBAL ECONOMY.

2.6x more

90%

49%

AS COMPANIES INNOVATE AND MOVE UP THE VALUE CHAIN, IP-RELATED SKILLS ARE INCREASINGLY RELEVANT TO HELP MAXIMISE ENTERPRISE GROWTH.

Skills for engineers and technicians in the Green Economy

QUARTER 3 2023

SKILLS FOR ENGINEERS AND TECHNICIANS IN THE GREEN ECONOMY

Increased Demand for Green and Digital Skills in Existing and New Job Roles

ARE IN HIGH DEMAND

Green Skills

Mid-career transition to tech sectors

SKILLSfuture JOBS-SKILLS INSIGHTS

Never Too Late: Navigating a Mid-career Transition to Tech Sector

GENERATION GRADUATES' STORIES OF SUCCESS

400

309

70%

38%

33%

Upskilling workforce for I4.0

SKILLSfuture JOBS-SKILLS INSIGHTS

A Practical Approach for Small and Medium Enterprises to Adopt i4.0 and Upskill the Workforce (Manufacturing Sector)

Publication by SKILLSfuture SG

Partnership with rexroth

September 2023

Skills composition of Counsellors

NOVEMBER 2023

SKILLSfuture JOBS-SKILLS INSIGHTS

SKILLS COMPOSITION OF COUNSELLORS IN THE LABOUR ECONOMY

Skills can be further categorized into categories of skills.

Publication by SKILLSfuture SG

In Partnership with

Impact of AI on HR Profession

肥堆 FEI SION

Leveraging Tech to Improve Learning & Development Strategy 2020

Building a Skills-Based Organisation with Technology

Commonwealth CONCEPTS

BNF AI-Powered Solutions for Recruitment and Training 2023

BNF faced challenges in recruitment and training of new employees. Conducted HCDDT and sought an innovative approach to enhance efficiency and streamline HR operations with the use of Generative AI. AI was employed to help in recruitment by generating interview questions, including scenario-based inquiries. AI solutions were also used to help facilitate the training processes with the creation of e-learning modules and interactive training for onboarding new employees.

SkillsFuture Jobs-Skills Insights



Annual report on Skills to inform individuals, enterprises, CET partners on latest trends and insights

2021

- Established the 3 growth economies: Green, Digital and Care
- Debuted the priority skills clusters in the 3 economies



2022

- Deep-dived into priority skills in the 3 economies in scatterplots
- Re-emphasised the importance of CCS
- Highlighted at-risk job roles and the adjacency (JSR)



2023

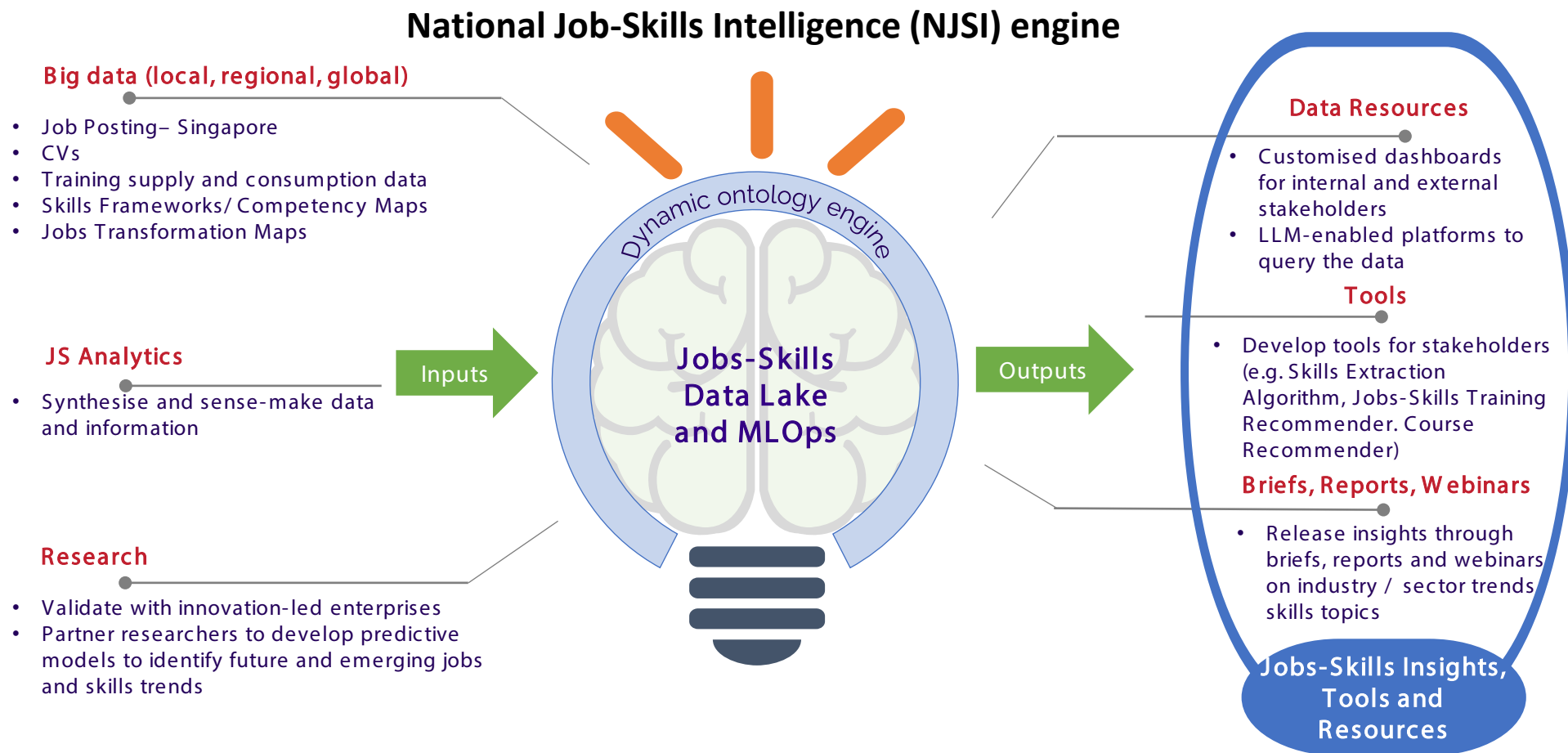
- Introduced skills composition at economy-level, and job roles level
- Updated the priority skills list and showed growth momentum of skills
- Forecasted 24 skills that will continue to grow in demand and transferability
- Introduced the multi-step career mobility to nudge citizens to take charge of own career mobility



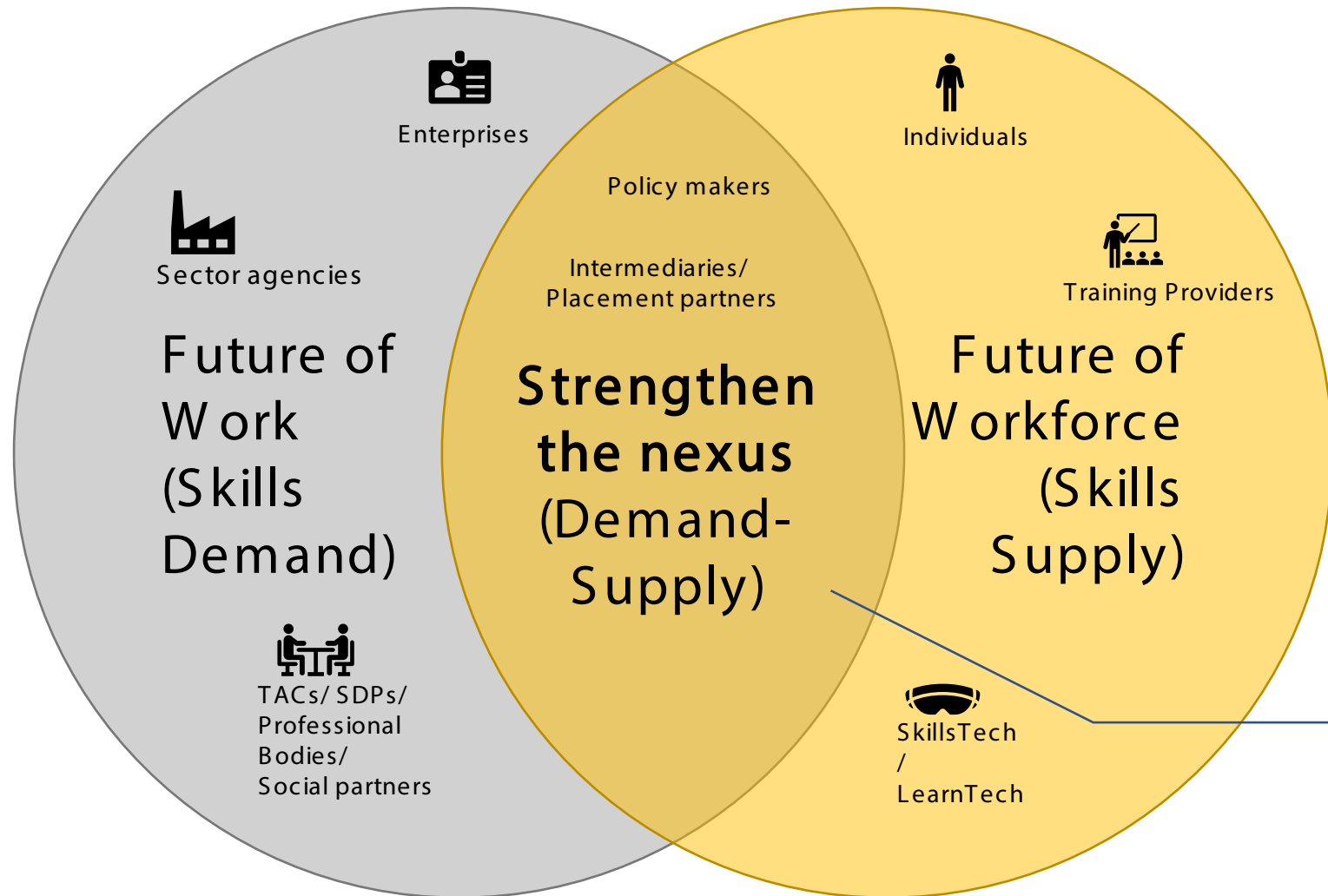
[Skills Demand for the Future Economy 2023/24](https://sg.gov.sg/skillsfuture)



Critical components of a data-driven, responsive and resilient skills ecosystem to enable skills identification, upskilling and reskilling



High level of coordination at sectoral, local, regional and national level to strengthen the nexus between skills supply and skills demand



- (1) How do we prepare our workforce with **future skills necessary for emerging areas?**
- (2) How do we effectively support **enterprise and workforce transformation?**
- (3) How do we strengthen our support for **vulnerable segments?**
- (4) How do we achieve **better matching between industry demand and skills training** for the workforce?

Bringing skills demand and supply together through a Green Skills Plan to drive end-to-end from establishing key priorities to successful implementation

- Led by the Ministry of Trade & Industry together with SSG and sectoral agency, the Green Skills Plan sets out five critical workstreams
- Being piloted for two areas requiring green skills which are and will be in high demand in immediate- and near-term: (a) **Energy** (with the Energy Market Authority); and (b) **Sustainability Reporting and Assurance** (with Enterprise Singapore and Accounting & Corporate Regulatory Agency)



Priority Setting

Establish key priorities of the sector for green skills development



Jobs-Skills Identification, Development and Validation

Understand profile of growth job roles, changing job content, and skills composition of existing/new job roles



Manpower Needs and Gap Analysis

Assess current and projected demand for priority job roles and skills; Stock take current supply in meeting demand and diagnose gaps



CET Strategy Formulation and Implementation

Develop CET support plan to ensure that training supply remains relevant, sufficient, and timely for priority and emerging skills areas

SSG has worked with partners and training providers to curate 900* programmes and courses, designed for different skills proficiency levels.

Green Verticals

Carbon Services and Trading	Circular Economy/ Resource Optimisation	Solar, Energy Storage, Smart and Regional Grids	Electric Vehicle	Sustainable Tourism	Sustainable Aviation and Maritime	Hydrogen Hub	Other Low-Carbon Solutions	Green Finance/ Sustainable Finance
								
58	141	100	28	13	17	18	99	147

Green Horizontals

Standards and Conformance	ESG/ Compliance/ Reporting	Sustainable Enterprises	Green Procurement	Innovation and R&D	Smart Technology
					
209	198	106	104	196	95

Jobs Transformation Maps provide job-level insights on impact of technology and workforce that drive the need for job redesign and reskilling

- To date, 17 Jobs Transformation Maps (JTM) have been launched in various sectors
- Latest release is the Sustainable Finance JTM, jointly published by the Monetary Authority of Singapore and the Institute of Banking and Finance, supported by Workforce Singapore. It lays out impact of sustainability trends on jobs in Singapore's financial services sector and emerging skills that the workforce will require to serve global sustainable financing demands



Highlight growth roles and new/emerging skills needs in next 3-5 years

More than 50,000 financial services sector professionals' job roles will be highly or moderately augmented, with new sustainable finance related job tasks added

Inform on possible jobs and skills interventions

Financial services sector professionals in 20 unique job roles will need to be prioritised for upskilling. New job roles in areas such as Sustainability Risk Management and Sustainability Strategy will emerge.

Suggest recommended policy and training solutions

Training providers and FIs to work together to develop practical training content, enhance training delivery and effectiveness, esp. in areas such as Sustainability Risk Management and Sustainable Lending Instruments Structuring, to address existing training gaps

Funding support and other resources to support citizens on their skills development journey

ENHANCED MID-CAREER SUPPORT WITH
SKILLSFUTURE LEVEL-UP PROGRAMME



As part of our refreshed social compact under Forward Singapore to make lifelong learning a national priority, we are stepping up support for mid-career Singaporeans to enable them to **reskill and upskill**.

The new **SkillsFuture Level-Up Programme** will provide greater structural support for **mid-career Singaporeans aged 40 years and above** to pursue a substantive skills reboot and stay relevant in a changing economy.

SUPPORT FOR COURSE FEES

NEW From 1 May 2024, a **SkillsFuture Credit (Mid-Career)** top-up of \$4,000, which does not expire, to further offset out-of-pocket course fees for selected courses that have better employability outcomes.



Currently, Singaporeans qualify for the **Mid-Career Enhanced Subsidy (MCES)** which covers **up to 90% of the fees** for courses funded by SkillsFuture Singapore and **at least 90% of the programme cost** for Ministry of Education-funded courses.



ENHANCED From Academic Year 2025, Singaporeans can receive subsidies for another publicly-funded full-time diploma, and qualify for the MCES.

FINANCIAL SUPPORT FOR FULL-TIME, LONG-FORM TRAINING

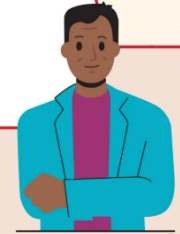
NEW From early 2025, Singaporeans can apply for a new **SkillsFuture Mid-Career Training Allowance** when they take up selected full-time, long-form programmes. The allowance will be based on 50% of one's average income over the latest available 12-month period, capped at \$3,000 a month, for up to 24 months over an individual's lifetime.
More details will be released later.



SKILLSfuture FORWARD SG

For more information, visit www.skillsfuture.gov.sg/level-up-programme

I am a **53-year-old mid-career worker** looking for new job opportunities in data analytics. To pick up relevant skills, I enrolled in the **SkillsFuture Career Transition Programme** in Data Analytics.



Course Fee (without subsidy): **\$17,200**

Course Fee after Mid-Career Enhanced Subsidy*: **\$1,720**

After SkillsFuture Credit (Mid-Career) of \$4,000: **\$0 (no out-of-pocket costs)**

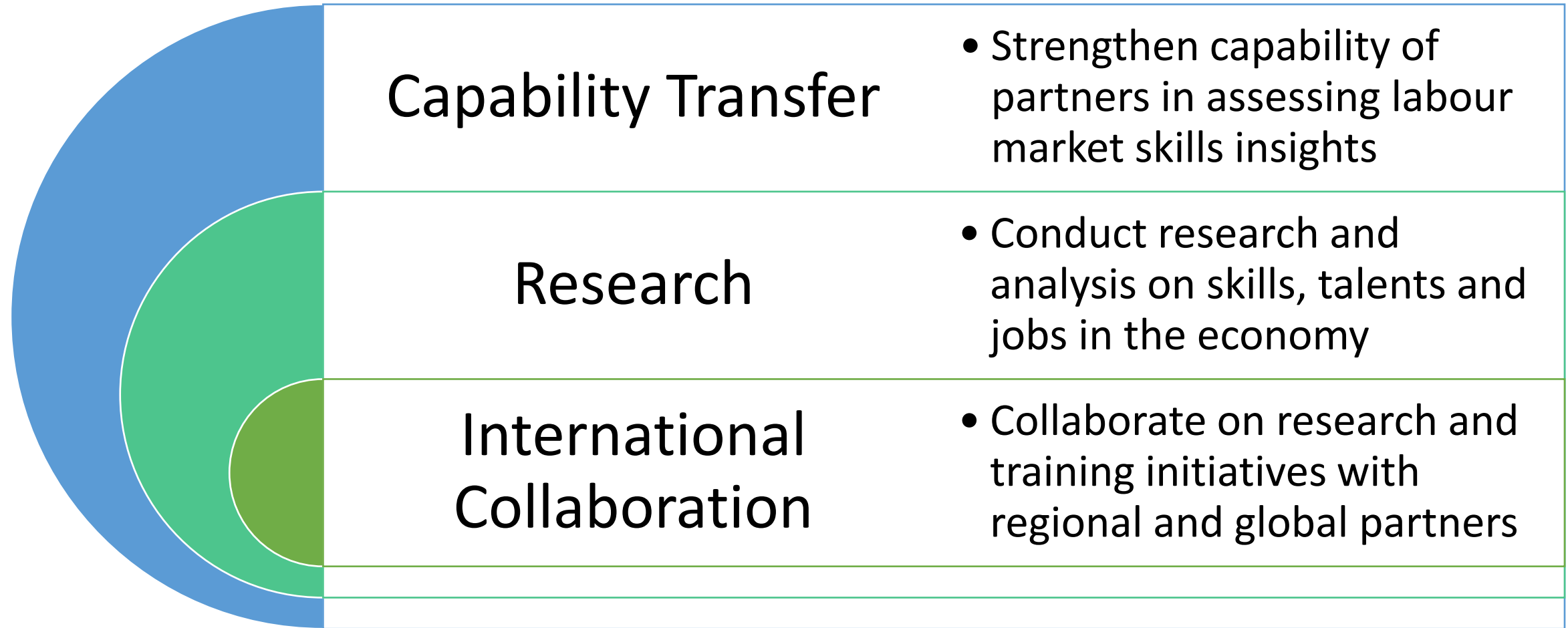
Balance SkillsFuture Credit (Mid-Career): **\$2,280**

*Mid-Career Enhanced Subsidy currently covers up to 90% of the fees for courses funded by SkillsFuture Singapore and at least 90% of programme cost for Ministry of Education-funded courses.

Resources to help individuals make more informed upskilling / reskilling decisions

- **Skills and Training Advisory**: Free 1-to-1 consultation to identify skills and training needs based on your career goals.
- **SkillsFuture Advice Workshop**: Free 1-hour workshop session that shares more about SkillsFuture programmes and resources for your career planning and upgrading needs.
- **SkillsFuture Career Transition Programme**: Acquire industry-relevant skills to improve employability and pivot to new sectors or job roles, available in part-time or full-time formats.
- **Skills Demand for the Future Economy Report**: Learn about jobs-skills trends, changes in skills compositions of jobs, and skills forecasting to support citizens on a skills development journey.

Launching in 2024/ 25, a Centre to focus on Futures of Skills



In summary, critical components of a data-driven, responsive and resilient skills ecosystem to support the twin transition

- Policy priorities
- Joint-ownership of jobs-skills demand & supply matching
- Quality of education-training providers and Adult Educators
- Sustainable funding support
- Capabilities and trust among stakeholders
- Investment in research and innovation in the lifelong learning system
- Tripartite partnership