# Shifting universities into skill-led higher learning

## Building infrastructure for growth

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# Executive brief

1. Demand for skill-led higher learning is surging as countries, industries and professionals need to develop across their lifetime
2. Education systems need mechanisms for spotlighting learning needs and incentivizing universities to provide relevant resources
3. New skill-led higher learning indicators can stimulate and shape this emerging education economy and university growth

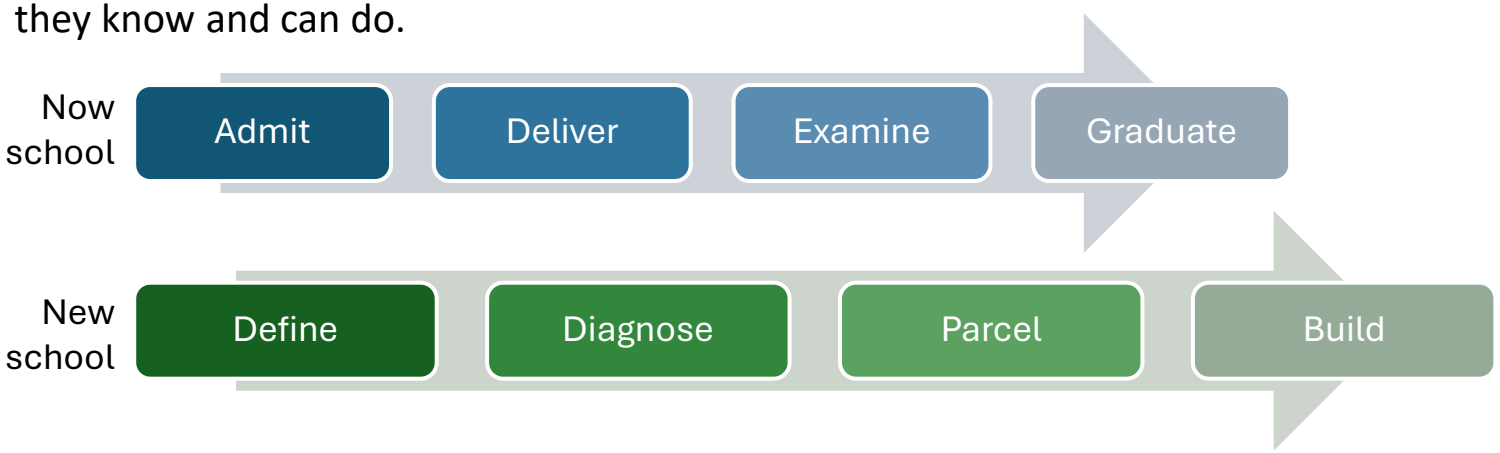
Decades of high-participation tertiary education have accelerated the global need for lifelong higher learning and development. Professionals need skilling throughout their careers, which is typically complex, nuanced and dynamic.

This sparks a need for skill-led learning which positions savvy learners at the forefront of agile university-led value-creation processes. Skill-led learning begins by defining desired capabilities, then diagnoses existing skills to engage learners in all and only the enriching education supports and challenges which they need to succeed. Learners realize rapid and relevant returns from parceled experiences, and over time stack up portable accomplishments into accredited tertiary and industry credentials.

Such education innovation hinges on incentivizing and shaping markets, and universities seizing opportunities to deliver learning to people across their lifespan. Frontier work has propelled this emerging education economy and university growth. This work stimulates the investment to spark new capabilities, partnerships and successes.

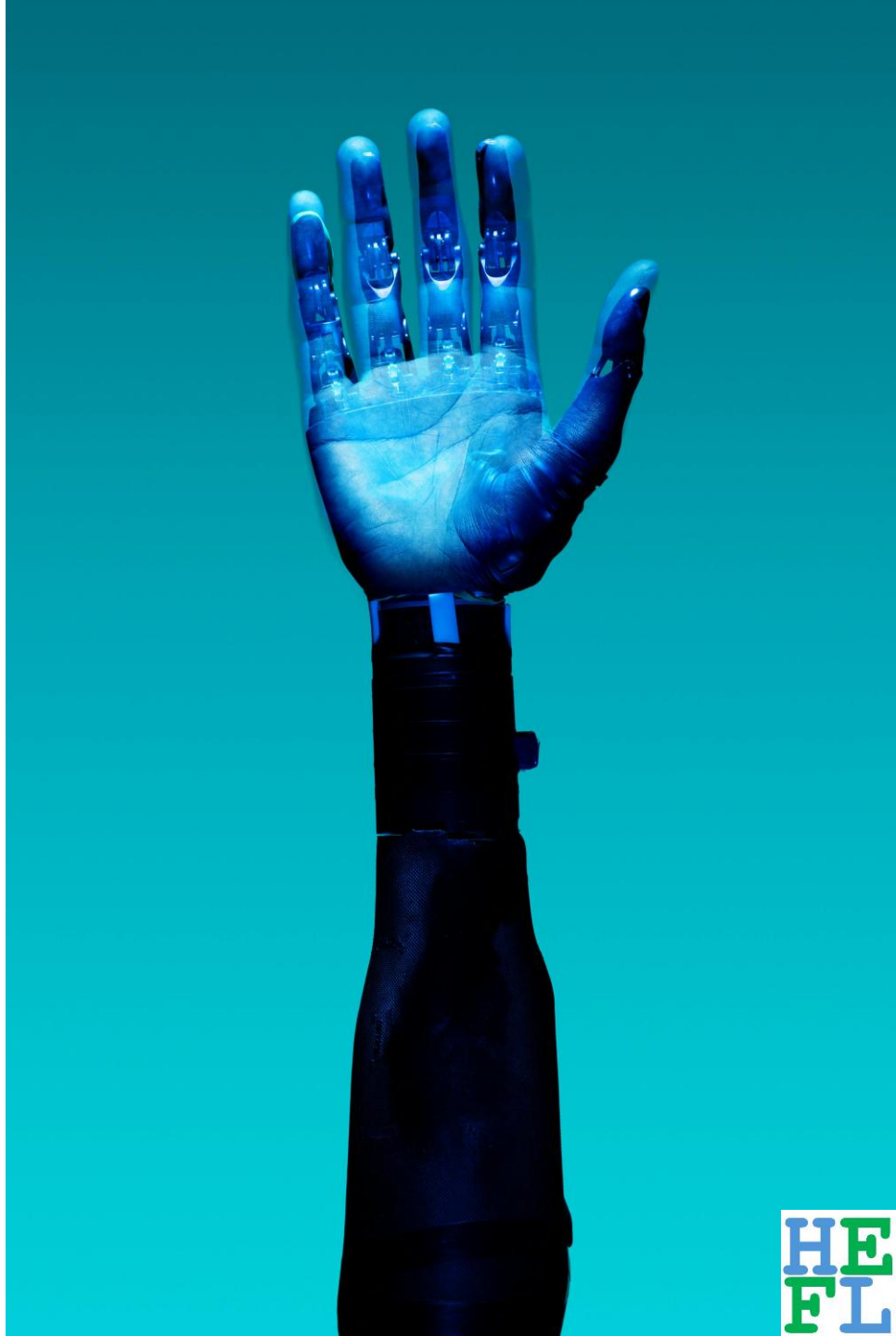
# Centering skill-led learning

- In recent decades higher education has expanded substantially, opening opportunities for hundreds of millions more people to obtain degrees and engage in professional work. Expansion interests focused initially on expanding bachelor- then master-level qualifications for school leavers. In countries which built high-participation tertiary education systems since the 1990s, especially as school-leave cohorts decline there is pressing and widescale need to make higher education available to a much broader set of learners.
- This sparks a need for skill-led learning which positions learners at the forefront of an agile value-creation process. Skill-led learning begins by identifying desired learner or community capabilities, moves forward to diagnose existing skills, and then engages learners in all and only the enriching education supports and challenges which they need to succeed. Learners realize rapid and relevant returns, and build portable accomplishments into accredited tertiary and industry credentials. To be clear, this is not the 'recognition of prior credentials' but the 'diagnosis of learning needs'. Curriculum is fluid not fixed. Learners are recognised for what they know and can do.



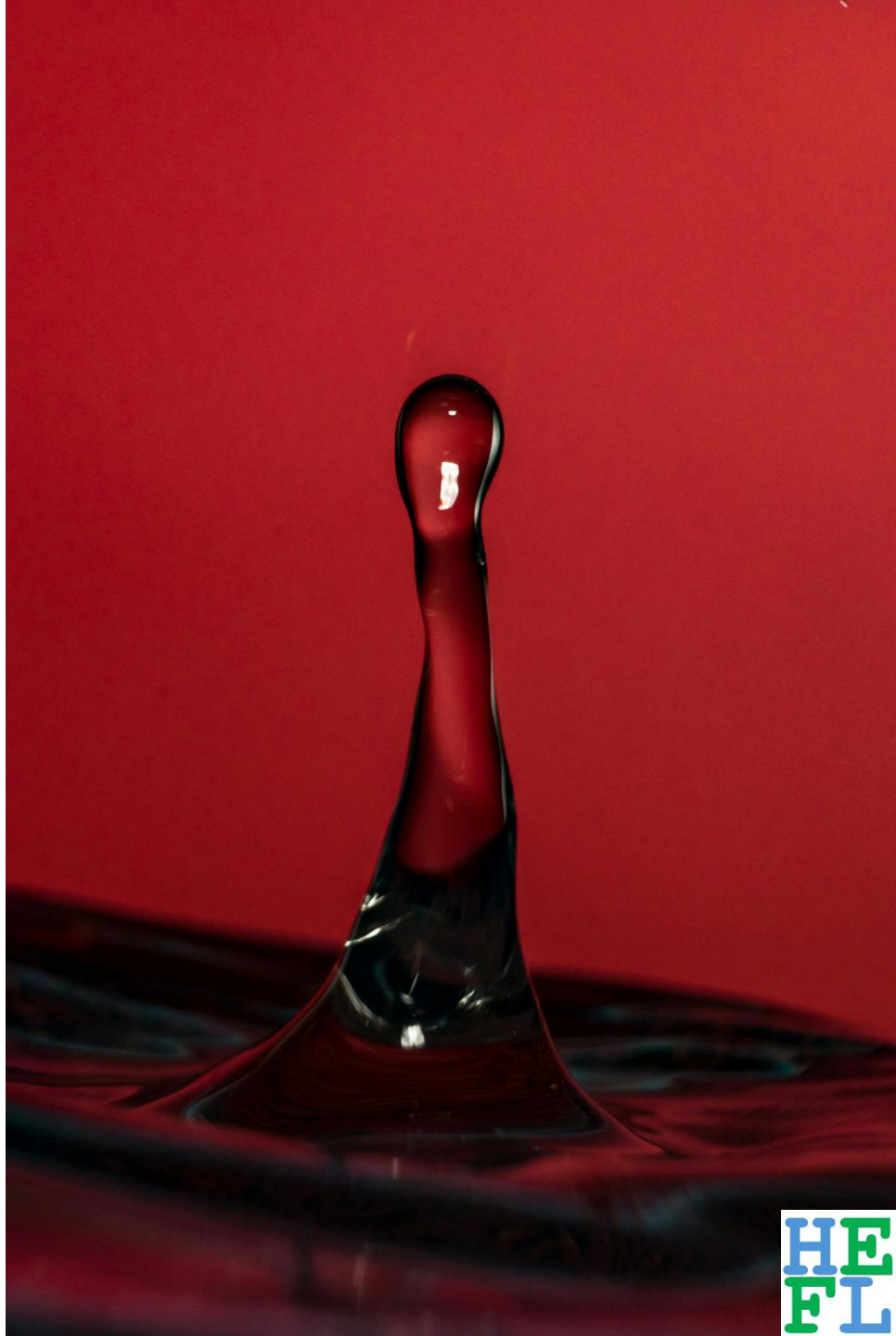

# Defining the perimeter

- This all sounds very useful. It is apparent, however, that advanced economies lack mechanisms for spotlighting learning needs and helping higher education institutions provide relevant programs and activities. Regulatory mechanisms even get in the way. This fuels a need for innovation. To this end, this briefing builds on Singapore-based research which sought to help universities grow and meet opportunities to deliver learning to people across their lifespan.
- This work springs from a swelling array of frontier work. The ideas below stem from formative research shaped by Singapore's SkillsFuture. In China, Tsinghua University has merged continuous education and online education offices. Korea's Academic Credit Bank System is pioneering new forms of recognizing diverse formal and non-formal learning experiences. In the United States, Stanford University is promulgating its Open Loop University model, Georgia Tech is building Lifetime Education, and researchers are clarifying the 'sixty-year curriculum (60YC)'. Instead of people being sorted by capability into a small number of formal postsecondary qualifications before embarking on a lifetime of work, these initiatives signal people's engagement in a career-long programs of learning and upskilling. Rather than providing formal foundations which are augmented through work and informal learning, education itself plays an ongoing role in co-creating innovation frontiers.



# Momentum gathers pace

- Demand for skill-led learning is buoyed by an accumulation of factors. Most broadly, higher education institutions have been subject to a swathe of policies seeking to promote workforce capability. In many countries, governments and industry groups have advanced omnibus and sector-specific initiatives to up-/re-skill workforce capability. Demand has swelled from the larger number of people and institutions engaged in higher education. At the occupational level, economic advance also spurs an ongoing swing towards professional roles which require higher education. Universal participation rates in higher education over recent decades have led to high levels of degree attainment and stimulated larger demand for continuous reskilling. Such demand has been amplified as professionals work for longer and need career-long reskilling to service more mobile careers.
- Higher education institutions have made substantial investments to serve this surging demand. Traditionally, 'adult' and 'lifelong learning' and 'continuing education' have been somewhat marginalized in universities, relegated to small units or those with no clear strategic role. This is changing swiftly. Universities have been investing in online and hybrid learning, alternative credentials, redesigned learning resources, and embracing an array of partnerships. Such initiatives have been constructed in response to the demand dynamics identified above, to tap into new sources of funding, and to counter new commercial competitors. Higher education institutions are maneuvering to become regionally or globally positioned, and expand their engagement with employers to improve students' employability.



# Shaping momentum

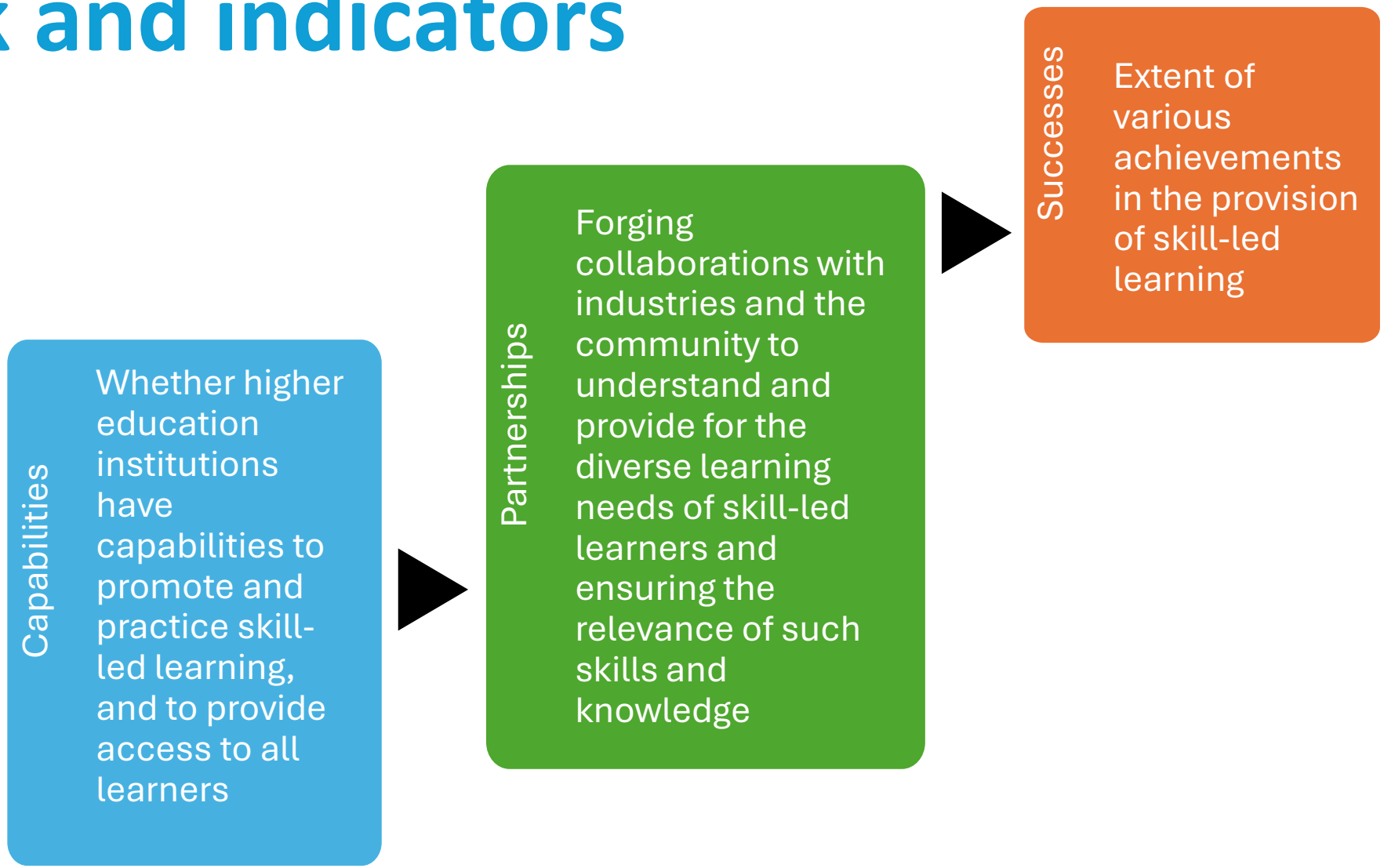
- While institution-, discipline- and profession-specific efforts are important, it is hard to ‘add up’ such initiatives in ways which help understand, design, incentivize and regulate these new markets.
- Indeed, unleashing a swarm of freemium or priced non-credit or credit-bearing online resources, even with ‘stacking potential’, badges or microcredits, is likely to multiply complexity and confusion, and hinder clarity and progress where it is needed most. Established university evaluations and regulations do little to articulate the emerging environment, and have in fact shifted attention away from skill-based learning into structured qualifications.
- Even and especially if the market for skill-led education is likely to be largely commercial and private in nature, there is a need to clarify what is going on, how institutions can contribute, and how to make it worthwhile for them to bother. Finding institutional and educational coherence is important for future growth and contribution.

# Designing the skills-led higher learning economy

- Many education systems have set up means to engage higher education institutions in lifelong learning to meet swelling community and industry demand. A common missing link, however, is a mechanism to incentivize higher education institutions to engage. New information is needed to define and stimulate the required investment.
- This briefing reports research launched to design a framework with indicators to propel higher education institutions to engage in skill-led learning. Ultimately, this comparison instrument is intended to make available information on the suitability and capacity of institutions to provide more varied forms of education to people across a much larger and diverse range of demographics.
- While designed and validated in Singapore, it was foreseen that the evaluation tool should be regional and even global in vision given growing worldwide interest in skill-led learning.
- This infrastructure was tested with institutions in three countries, improvements made, in-depth validation with another 12 higher education institutions. This deep study revealed the need for ongoing discussion and support during data collection, not least to ensure that an 'institution-wide perspective' rather than 'lifelong learning unit' perspective was delivered.

# Framework and indicators

- Validated framework and indicators, reflecting the outcome of the two-year research project
- Three dimensions were defined to help focus the indicators and direct attention and work by institutions and others



# Indicators and dimensions

## Capabilities

**Strategic Intent**

Reflecting an institution's strategic direction vis-à-vis lifelong learning

**Flexible Learning**

Institution production of accessible and relevant courses for lifelong learning

**Support for Learners**

Helping learners to engage

## Partnerships

**Promoting Learning**
Active promotion of opportunities to potential learners, industry and community

**Developing Partners**
Extent to which institutions 'reach out' beyond campus

## Successes

**Quality**

Quality of courses as reported by adult learners

**Inclusivity**

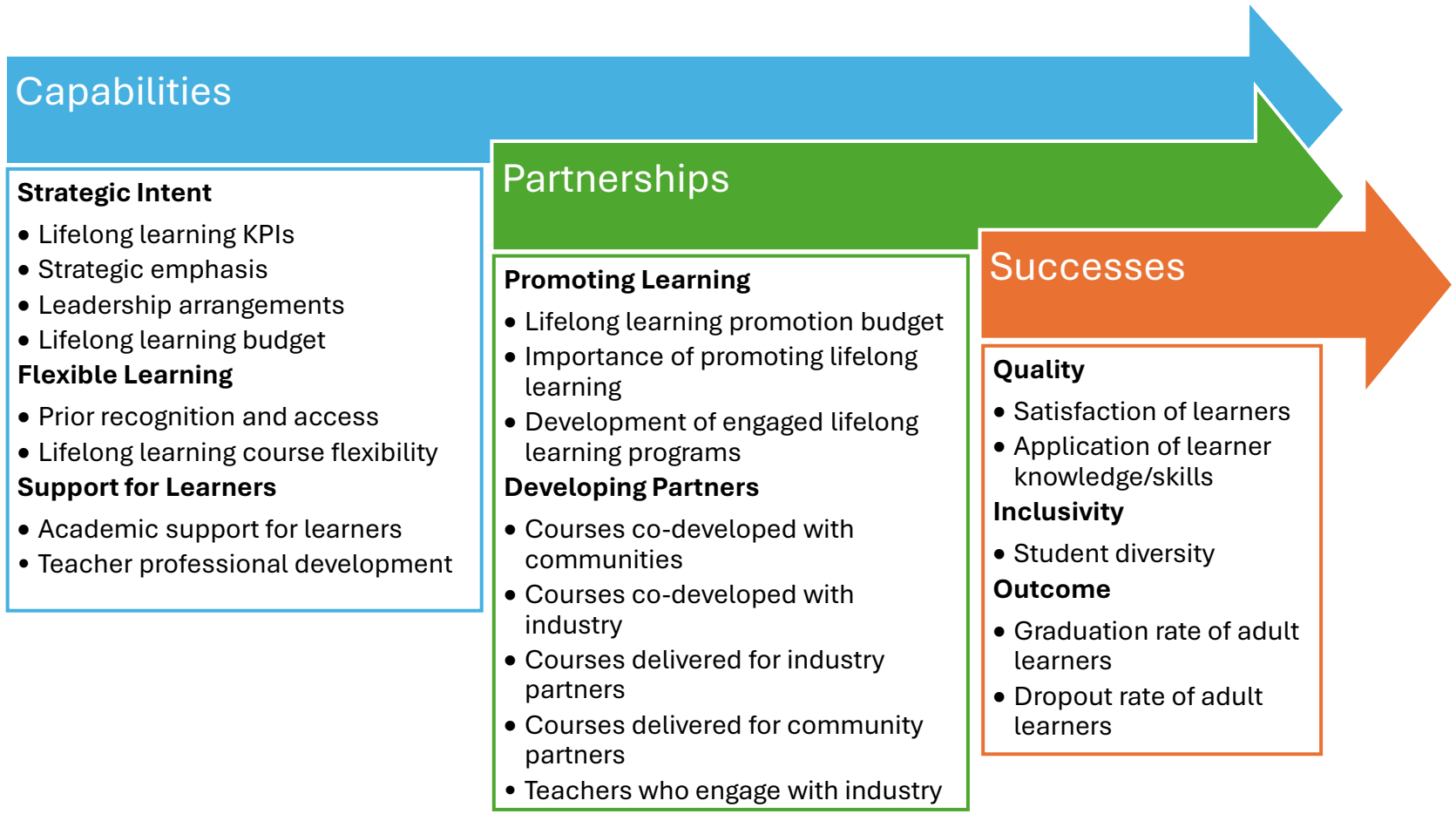
The extent of difference in profile of learners engaged and graduated

**Outcome**

Evidence of impact of lifelong learning provisions

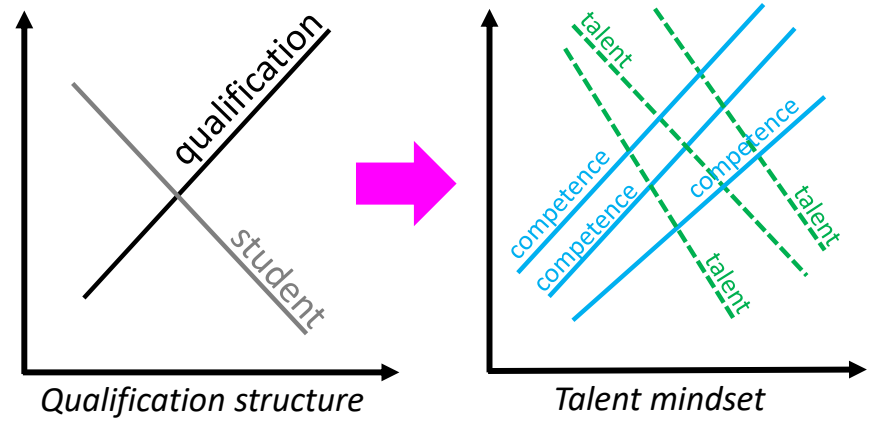
# Dimensions and questions

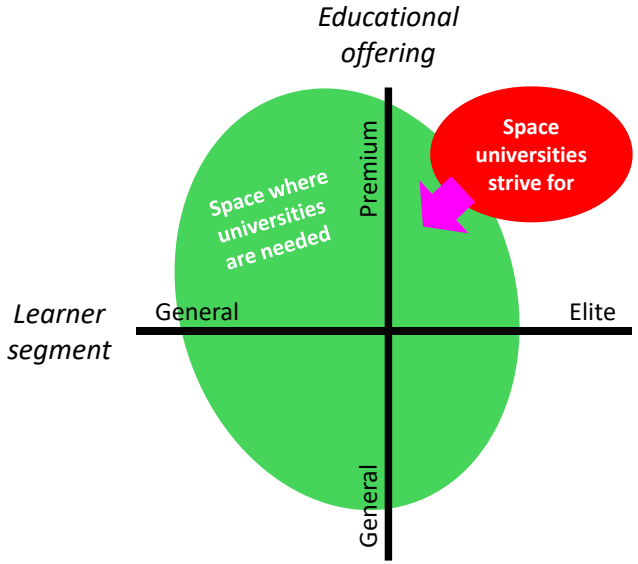
- Questions for each indicator are designed to be answered by a single representative at each institution
- Reports furnish a metric of higher education institutions' provision of skill-led learning



# Making aligned markets

- This infrastructure spurs a raft of far-reaching reforms which work to engage higher education institutions in skill-led learning. In short, while higher education institutions, primarily universities, have traditionally maneuvered to sell priced-up and bundled and prestige qualification products to premium learner segments, there is growing population-wide and career-long demand for more individualized and atomized forms of learning.
- The figure depicts this misalignment problem in terms of institutional positioning and product offering. To align university provision with future demand, universities need to be steered away from homing in on affluent segments with premium products and offering bundled qualifications to individual students. As the arrows convey, it will be necessary to shift into less affluent market space and offer specific competencies that match and augment specific talent needs.



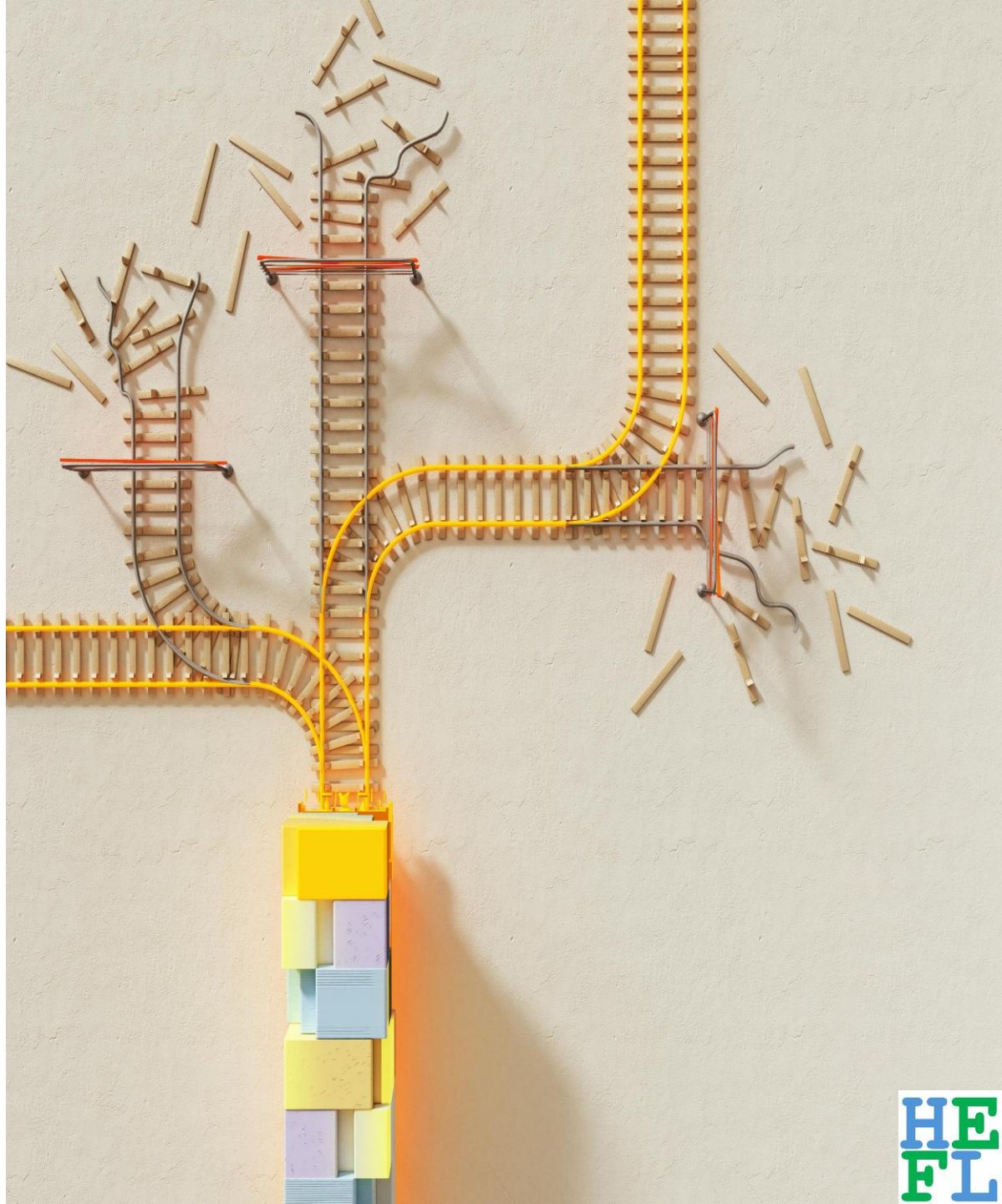
# Sparking a new education economy

- Clearly, transforming higher education for this new kind of economy requires widescale changes to all segments of the education value chain
- This means redesigned institutions and ultimately markets
- Broad-ranging changes are required, in which higher education institutions shift in demand-centric ways to actively identify and stimulate and reward formally recognized learning

| Dimension | Prevailing situation | Transformed agenda | Change characteristics |
|---|---|---|---|
| Vision | Progress world-class research | Advance the populations' talent | Integrate lifelong learning and industry collaboration for evolving workforce needs |
| Promotion | University and program information | About small parcels of learning | Transition to personalized, AI-driven learning pathways based on real-time skills demand |
| Product | Multi-year accredited qualifications | Atomized learning parcels | Shift towards modular, stackable learning units that can be tailored for diverse career pathways |
| Market | Premium individual students | Anyone with talent needs | Expand accessibility through industry-sponsored micro-credentials and digital inclusion initiatives |
| Accreditation | National regulatory mechanisms | National regulatory mechanisms | Align with global skills standards while integrating industry-validated credentials |
| Quality | Governmental and professional authorities | Trust network using multisource review | Introduce blockchain-based credential verification and peer-reviewed accreditation systems |
| Teachers | Regular academic faculty | Specialized education engineers | Employ a hybrid model integrating industry professionals, AI tutors, and education engineers |
| Assessment | Examinations and assignments | Authentic assessment tasks | Replace traditional exams with competency-based evaluations and real-world project assessments |
| Certification | Formal university transcript | Talent development certificate | Develop digital skill passports with real-time competency tracking and employer recognition |
| Timeframe | One to four years | Hours, days or weeks | Enable on-demand learning modules that support upskilling within changing job markets |

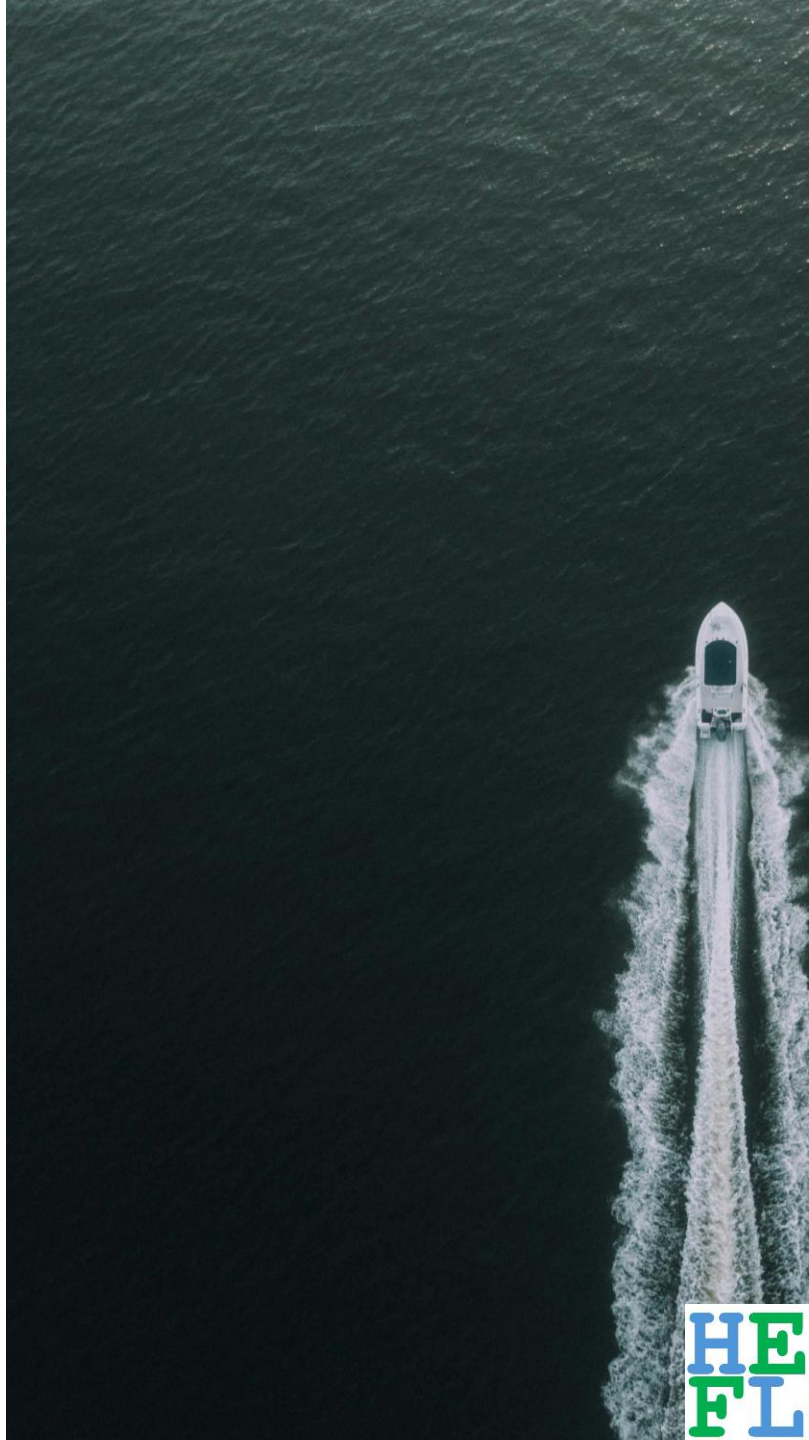
# Sparking a new education economy

| Dimension | Prevailing situation | Transformed agenda | Change characteristics |
|---|---|---|---|
| Affiliation | Linked with university | Linked with learning pathway | Foster continuous learner-industry connections through professional networks and alumni engagement |
| Funding | Payment for qualification | Payment for learning parcel | Introduce subscription-based and employer-funded learning models to enhance accessibility |
| Admissions | Prior qualifications and experience | Capability and readiness to learn | Implement AI-driven aptitude tests and portfolio-based admissions for fairer access |
| Support | Responding to reported needs | Proactively identifying learner needs | Deploy predictive analytics to offer real-time support and career-mapping tools |
| Advice | Product-oriented branding | Predicting individual potential and growth | Offer AI-personalized mentorship programs with adaptive learning recommendations |
| Rationale | Obtain formal credential | Augment vocational capability | Shift focus to lifelong skill-building with dynamic, evolving curriculum pathways |
| Focus | Framed by conventional disciplines | Shaped by industry and social problems | Promote interdisciplinary learning and applied problem-solving through real-world challenges |
| Location | Campus, online or blended | Campus, online, in community or blended | Enhance hybrid models with immersive VR/AR environments and workplace-integrated learning |



# Universities stepping ahead

- By seizing new revenue streams, adaptive learning models, industry partnerships, education reforms, and technology-driven skill validation, universities can shift towards learner-centric education that fosters continuous talent development, workforce resilience, and viability. This will position universities as continuous and relevant knowledge hubs, integral to workforce transformation.
    1. Many universities have opened-up since the late 1990s with ample corporate scope to embrace new forms of revenue.
    2. Among the tapestry of required innovation, new partnerships are required for this approach to talent development. Learners are most likely to be those people who would not otherwise participate in higher education. They may have a vocational background, have obtained a qualification years ago, or may have skipped tertiary education altogether. Along with learners, industries and professions play an important co-creation role, helping with learner identification, capability assessment, support, and recognition. Universities will need to partner with corporations and governments to co-develop programs that address workforce needs, ensuring funding opportunities and industry-backed credibility.
    3. New education resources are required to drive skill-led learning. Nationally and professionally accredited courses are too heavy and rigid, though they provide important grounding and resources. Rather, such materials must be embraced and distributed in parcels relevant to each learner, with delivery mode is tuned to learner needs and learners deciding whether to participate in assessment to earn stackable credits.



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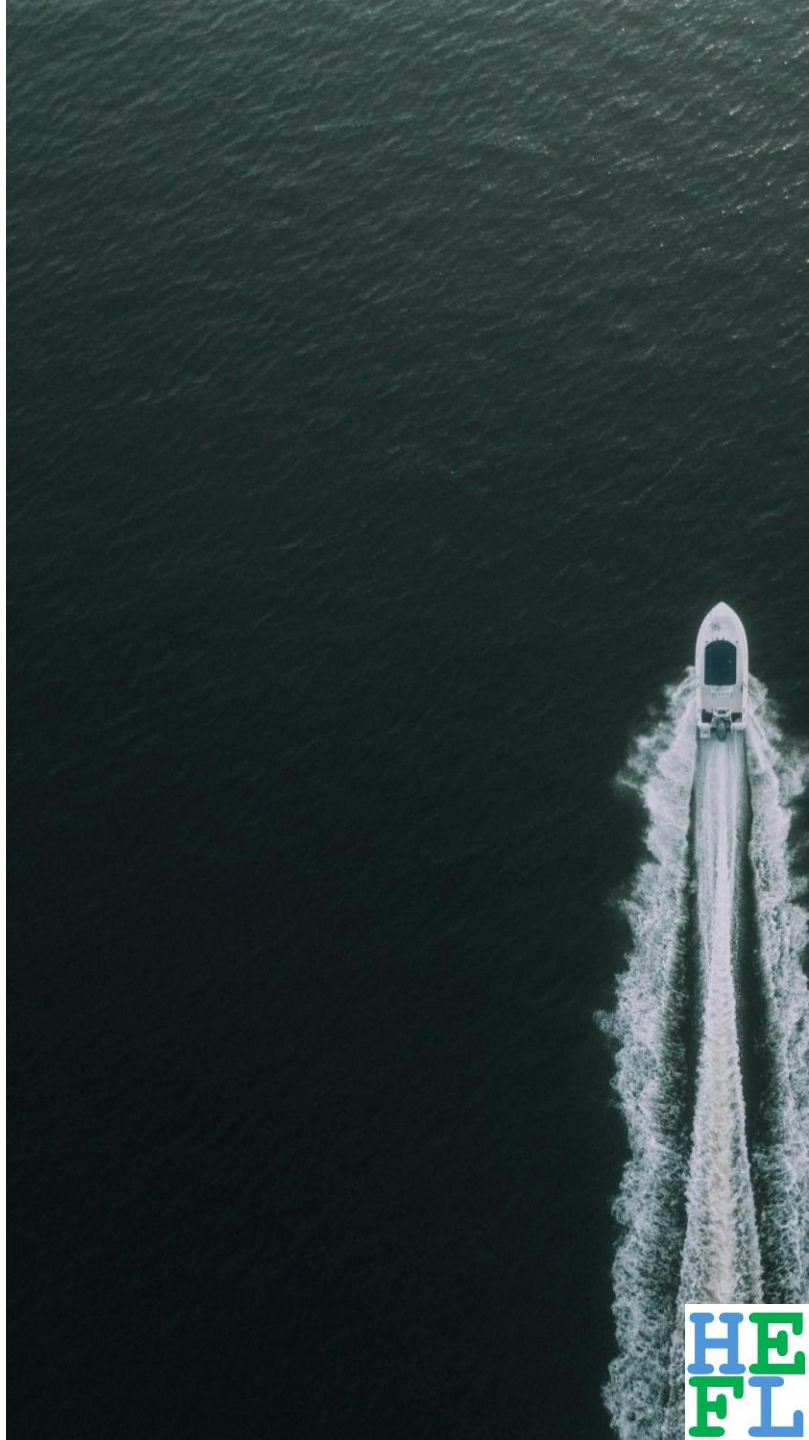
    4. Evidently, new platforms (digital and otherwise) are required to facilitate skill-led learning. Existing institutional structures and platforms support the delivery of pre-packaged supplier-defined courses. Smarter learning platforms are needed to diagnose existing capability, recommend learning goals and pathways, leverage AI to predict industry trends and align educational content accordingly, and coordinate modular and secure digital credentialing systems. Management platforms need to coordinate different student and course profiles. Ample marketing and support infrastructure is already primed to pounce.
    5. As always in education, the most important and difficult frontiers to push forward are those which are social, cultural, and professional. Career-spanning learning partnerships go beyond discrete qualifications, alumni relations and philanthropy, and transactional teaching experiences. Novel managements systems are required which give play to outcome-based learning metrics, social engagement, and education contribution.



# Advancing skill-led higher learning

- Given full play such market and institutional changes are multifaceted and profound. Higher education systems and institutions across the world are being called to make more community and industry engaged contributions. Inducing higher education institutions to participate in skill-led learning has never been more urgent and important.
- Once sidelined to a dusty building on the slow side of campus, this field has shifted into the core of education growth. Obviously, the field builds on evaluation and rankings, and on lifelong learning. It shines renewed institutional, policy and community light on the core socioeconomic implications of institution engagement in lifelong learning. It spotlights Asia-based education and skills policy innovation, and documents its potential for broad application across the large region and beyond. It contributes to broader public policy analysis about the changing role of higher education in the world.
- The briefing launched by identifying the need to build mechanisms which unite universities and the world of work in ways which help people engage in higher learning throughout their lives. All advanced economies with established professional workforces and developed higher education systems are confronting this need. This is currently a challenge given the limited policy and information infrastructure to guide individual and institutional engagement. As the research in this paper advances it seeks to turn such challenge into opportunity.

# Further reading for inquiring minds


- This briefing was written by Hamish Coates, with input from Johnny Sung, Yee Zher Sheng, Albert Liau, Aggie C Xinhui and, Liu Liu. Contributors acknowledge precursor support from the Singapore Ministry of Education and Singapore SkillsFuture.



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# Next steps

1. What three actions can you take from this briefing?

2. What work is already underway?

3. Connect to engage:
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