



How universities are shaping ASEAN's tomorrow

The **impact** of higher education, skills,
employability and sustainability

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Foreword



Jeroen Prinsen
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Higher education has always been at the heart of ASEAN's progress. Today, the region's universities are being asked to do more than ever before: to raise global visibility, attract talent across borders, and strengthen their role as engines of growth. Global competitiveness is no longer defined only by rankings or reputation, but by the ability of universities to connect with society, business, and the wider world. At the centre of this shift is a simple truth: skills will define the future. Employers across ASEAN consistently tell us that graduates must be ready for digital transformation, the rise of AI, and the urgent transition to a green economy. Universities are uniquely placed to bridge this divide by providing the knowledge, adaptability, creativity, and resilience that tomorrow's workforce will demand.

The future of ASEAN will be written in its classrooms, laboratories, and partnerships. Universities are where ambition becomes innovation, and where young people gain the skills to shape the region's destiny.

Innovation and sustainability must also be seen as core to this mission. ASEAN's higher education and research capacity is on an upward trajectory – it's more accessible, more collaborative, and more applied. Continued investment in equitable access, research funding, cross-sector partnerships and regional cooperation can convert this

momentum into long-term innovation-led growth and shared prosperity across the region.

The unevenness of research capacity across the region presents a challenge, but also an opportunity to learn from leaders, invest in collaboration, and align discovery with society's greatest needs. As ASEAN embraces the green transition, universities can become powerful agents of sustainable growth, embedding responsibility and impact into every part of their mission.

The human and technological ingredients for future growth are well in place in ASEAN: a young, aspirational population; strong entrepreneurial energy and digital innovation ecosystems; expanding edtech and online learning options; and a policy environment that increasingly values science, innovation and human capital development.

This report explores these themes in depth. It looks at where ASEAN stands today, where the gaps remain, and how institutions, governments, and partners can work together to prepare for the future. At QS, we believe universities across the region have the talent, energy, and vision to ensure ASEAN is not only competitive globally, but future-ready for generations to come.

About ASEAN and higher education

In Southeast Asia's journey of growth, the Association of Southeast Asian Nations (ASEAN) is a key driver of economic integration and a rising hub for education, talent, and innovation. With ten member states – Brunei, Cambodia, Indonesia, Laos, Malaysia, Myanmar, the Philippines, Singapore, Thailand, and Vietnam – the region is now recognised as one of the world's fastest growing centres for students and universities.

As we explore throughout this report, higher education lies at the heart of this transformation: ASEAN's universities are modernising curricula, expanding research capacity, and driving mobility across borders. Regional initiatives have linked skills development with economic transformation, ensuring that education prepares graduates for today's workplaces and the workplaces of the future.

Today, ASEAN is positioned as a global education partner, attracting international students and forging research ties across the world, including in Europe, the US and China. The region's positive demographic outlook and deepening education–industry linkages provide unmatched opportunities for universities, governments, and employers seeking to invest in talent for tomorrow.

ASEAN's higher education journey

- 1967**
ASEAN is founded by Indonesia, Malaysia, the Philippines, Singapore and Thailand.
- 1984**
Brunei joins ASEAN, expanding regional cooperation.
- 1992**
ASEAN leaders propose an academic network at the fourth ASEAN Summit.
- 1995**
ASEAN University Network (AUN) is established with 11 founding universities.
- 1997**
Laos and Myanmar join ASEAN.
- 1999**
Cambodia joins, completing ASEAN's ten members.
- 2010**
Nanyang Technological University (NTU) makes its breakthrough into the QS World University Rankings top 100, ranked 74th.
- 2015**
ASEAN Economic Community launched, promoting mobility and skills recognition.
- 2020**
ASEAN members sign the RCEP (Regional Comprehensive Economic Partnership), strengthening academic and research cooperation with global partners.
- 2023**
National University of Singapore becomes the first ASEAN university in the QS World University Rankings global top 10, ranking eighth.
- 2025**
20 ASEAN universities ranked in the top 500 of the QS World University Rankings 2026.

Executive summary

ASEAN universities are acquiring global visibility

Universities in many ASEAN countries are climbing in global rankings, with Malaysia and Indonesia making notable strides into the QS World University Rankings top 250 between 2016 and 2026. This visibility is not only symbolic, but influences partnerships, investment, and talent flows. Singapore remains the established leader, while other countries are beginning to see meaningful progress, highlighting ASEAN's emergence as a credible higher education hub.

Skills and employability alignment could generate US\$900 billion in additional value

Employers across ASEAN highlight persistent gaps in critical thinking, problem-solving, and green competencies. These shortfalls matter – aligning education with labour market needs could generate US\$900 billion in additional economic value by 2035. Digital transformation alone is projected to create 65 million new jobs by 2030, yet many ASEAN graduates still lack the advanced digital and green skills required. Expanding access to STEM and AI-related programmes, while embedding adaptability and sustainability into curricula, will be central to unlocking this value.

ASEAN countries have distinctive strengths – and together, have the potential for rapid momentum

The QS World University Rankings: Sustainability and the QS World Future Skills Index reveal ASEAN's distinctive strengths and challenges. Singapore leads regionally with strong sustainability and Skills Fit scores, while Malaysia shows high Academic Readiness but struggles with Economic Transformation. Vietnam and Indonesia demonstrate rapid upward momentum, particularly in skills demand and research output. These comparative insights underscore ASEAN's diversity: a region with standout performers, fast movers, and systems still building the foundations for long-term competitiveness.

Key takeaways for ASEAN members

Brunei Darussalam

- Brunei benefits from strong governance and a solid foundation in higher education.
- The country is working to diversify beyond oil by strengthening innovation and skills.

Myanmar

- Myanmar has a talented student base and strong regional ties through ASEAN networks.
- The higher education system is seeking stability and rebuilding international connections for research.

Cambodia

- Cambodia is growing international partnerships and expanding access to higher education opportunities.
- The system is gradually developing stronger research capacity and national quality frameworks.

Philippines

- The Philippines has strong demand for graduates in ICT and digital sectors worldwide.
- Universities are improving curricula to better match rapid employer demand and evolving industries.

Indonesia

- Indonesia's higher education sector is expanding rapidly, with universities gaining greater international visibility.
- The country is working to align graduate skills with the fast-growing digital economy.

Singapore

- Singapore's universities are global leaders in research, innovation, and sustainability.
- The country continues to work on widening access and easing cost pressures for students.

Laos

- Laos shows high collaboration rates, helping its universities connect to global research networks.
- Efforts continue to build domestic university capacity and expand sustainability-focused programmes.

Thailand

- Thailand is steadily raising research investment and strengthening its science and technology base.
- Efforts are underway to address inequality and environmental pressures while improving education quality.

Malaysia

- Malaysia is expanding its presence in global rankings and attracting more international students.
- The system is focusing on creating higher-quality jobs to match its strong graduate output.

Vietnam

- Vietnam is seeing some of the fastest growth in patents and research productivity in ASEAN.
- The country is working to reduce coal dependency while strengthening higher education readiness.

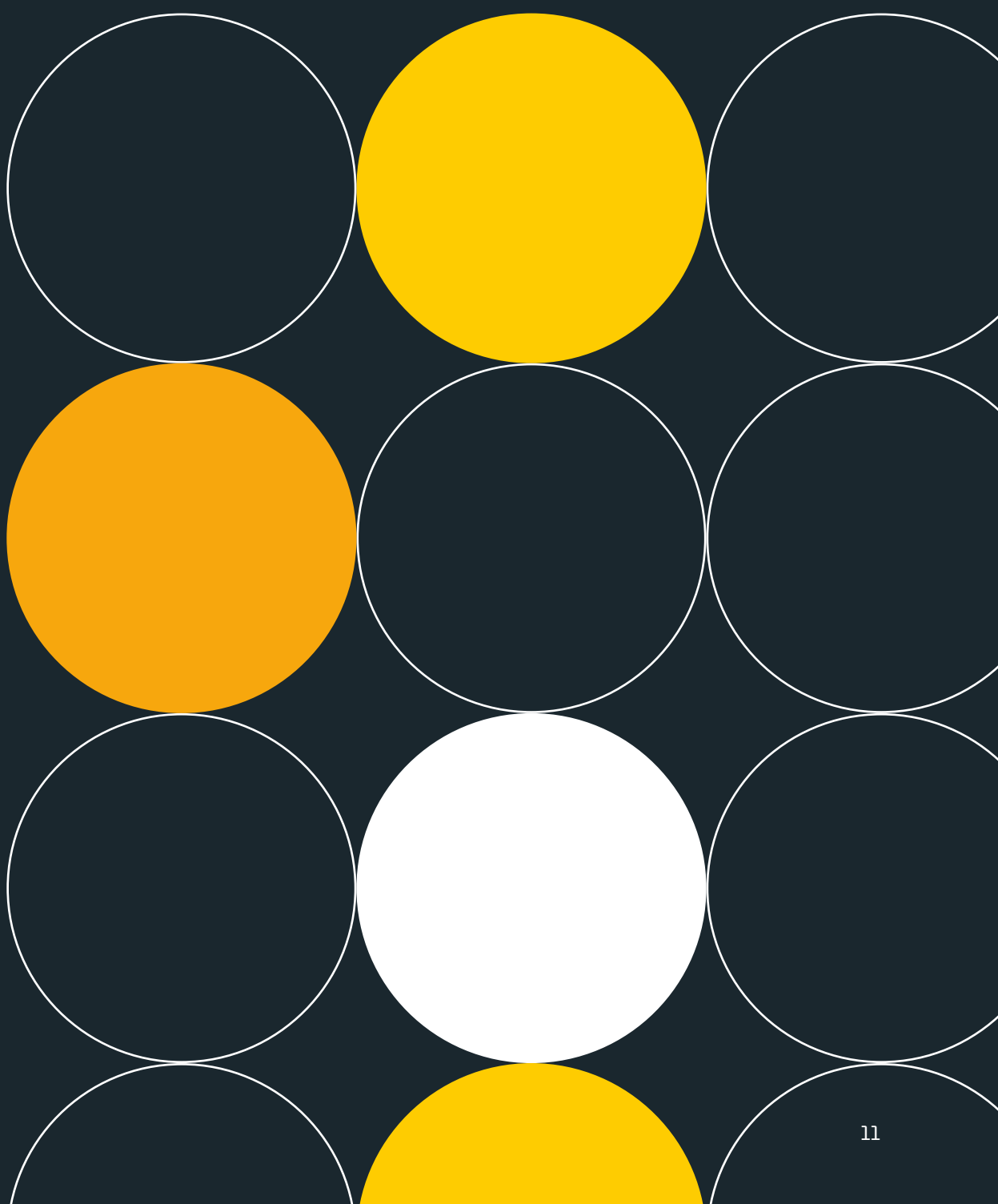
ASEAN higher education overview

Country	No. of ranked institutions (QS World University Rankings 2026)	Highest-ranked university (QS World University Rankings 2026)	Tertiary gross enrolment ratio (%)
Brunei Darussalam	2	Universiti Brunei Darussalam (=367)	38.27% (2023)
Cambodia	0		17.97% (2023)
Indonesia	26	Universitas Indonesia (189)	45.14% (2023)
Laos	0		12.5% (2021)
Malaysia	32	Universiti Malaya (=58)	41.26% (2023)
Myanmar	0		20.39% (2018)
Philippines	6	University of the Philippines (=362)	45.28% (2023)
Singapore	4	National University of Singapore (8)	98.02% (2022)
Thailand	15	Chulalongkorn University (221)	53.1% (2023)
Vietnam	10	Duy Tan University (=482)	42.22% (2022)



Public education spending (% of GDP)	Population (2024)	Surface area (km ²)	Top city (QS Best Student Cities 2026)	QS World Future Skills Index rank
4.4% (2016)	462,721	5,765		69
3.0% (2023)	17,638,801	181,035		
1.3% (2023)	283,000,000	1,904,569	Jakarta (116)	47
	7,769,819	236,800		
4.3% (2023)	35,557,673	330,803	Kuala Lumpur (12)	32
2% (2019)	54,500,091	676,578		
3.6% (2023)	116,000,000	300,000	Manila (88)	43
2.2% (2023)	6,036,860	728	Singapore (11)	9
2.5% (2023)	71,668,011	513,120	Bangkok (55)	33
2.9% (2022)	101,000,000	331,212		52

Global competitiveness and regional positioning



Why ASEAN higher education matters now

The fifth largest economy: Growth backed by skills

ASEAN's collective nominal GDP in 2024 was US\$3.98 trillion, rising above US\$4 trillion in 2025, securing its place as the world's fifth largest economy (IMF WEO 2024, ASEAN stats 2024).

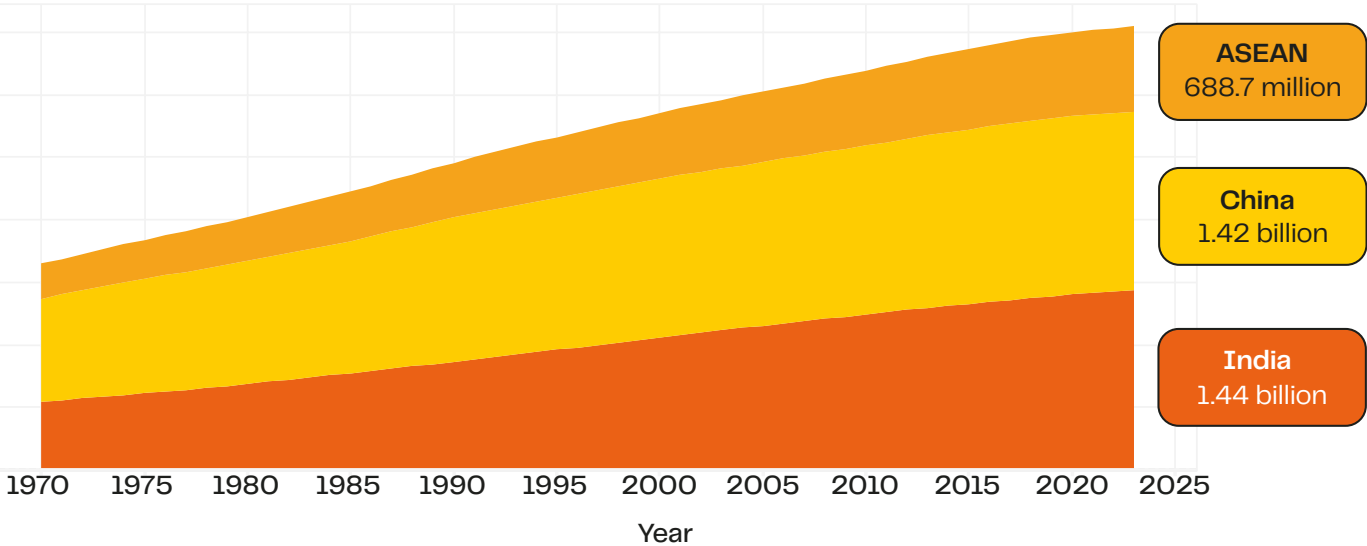
The region's outlook remains resilient, with real growth forecast at around 4% in 2025, led by Indonesia (4.7%) and Malaysia (4.1%). Sustaining this momentum hinges not only on manufacturing and trade but on a workforce ready to adapt to technology and green transitions. Universities now sit at the heart of this equation, preparing the talent pipeline that will allow ASEAN to convert its economic scale into long term competitiveness.

A growing population: Youthful potential

In 2025, ASEAN's population is approaching 690 million, making it the third most populous region globally, after India and China (World Bank Data). With a median age of just 31, the region has a vast number of young people entering higher education and the workforce. This demographic dividend is both an opportunity and a challenge: without expanded access to quality universities and modernised curricula, ASEAN risks under utilising its greatest asset. With more than half its citizens under 30, the region's ability to channel youth into innovation, entrepreneurship, and research will define whether population scale becomes a growth engine or a missed chance.

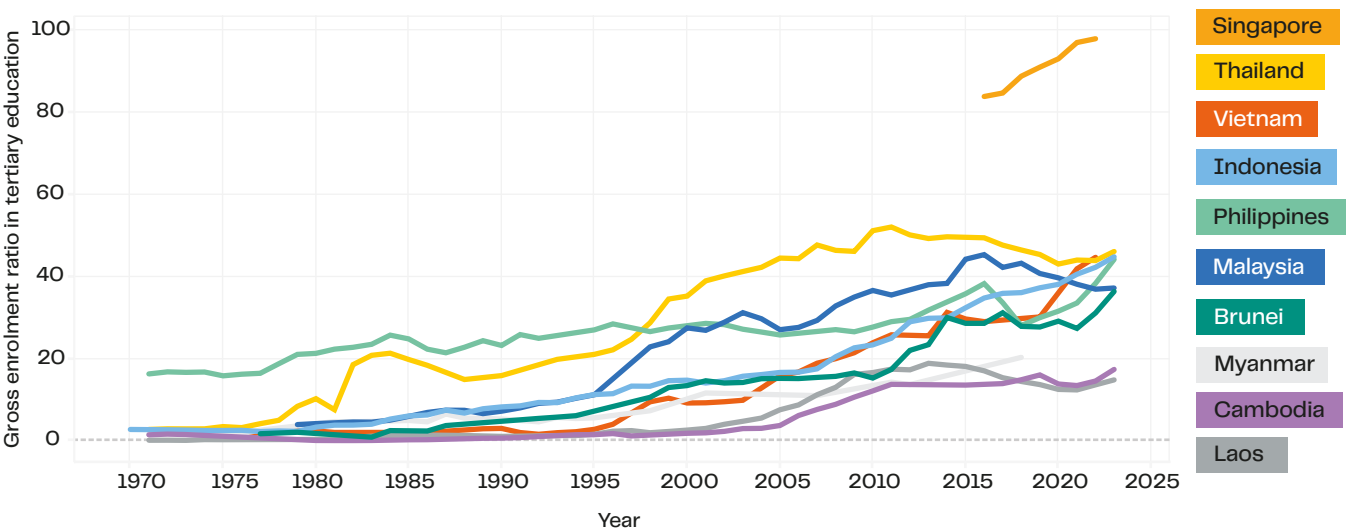
Demand for higher education is increasing, but ASEAN countries have also worked to expand access to higher education. In 2022, the gross enrolment ratio reached an average of 38.4%, an increase of 6.2 percentage points over the past decade. This upward trend reflects both growing demand for advanced education and government investment in widening opportunities at the tertiary level.

Figure 1. Population growth in ASEAN, China, and India (1970–2025)



Source: Our World in Data

Figure 2. Tertiary enrolment growth in ASEAN countries, 1970–2025



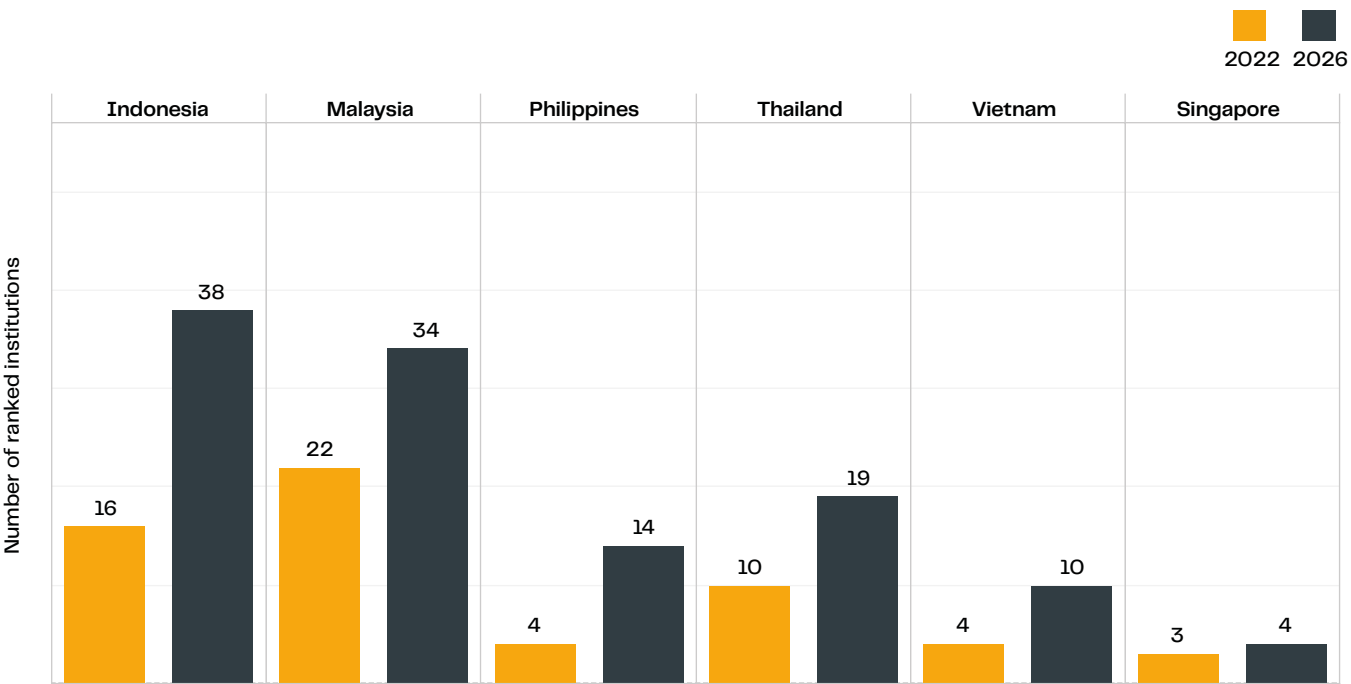
Source: UNESCO Institute for Statistics

ASEAN universities gaining global visibility

Across ASEAN, more universities are breaking into global rankings, but the progress is far from uniform. Malaysia has added 12 institutions to the QS World University Rankings since 2022, reaching 34 by the 2026 edition. Indonesia has shown an even steeper climb, from 16 to 38 over the same period. Other countries, such as the Philippines, Thailand, and Vietnam, are gaining ground more slowly, while Singapore has largely held steady. The overall picture is clear: ASEAN's higher education sector is becoming more visible, but momentum is concentrated in a handful of countries.

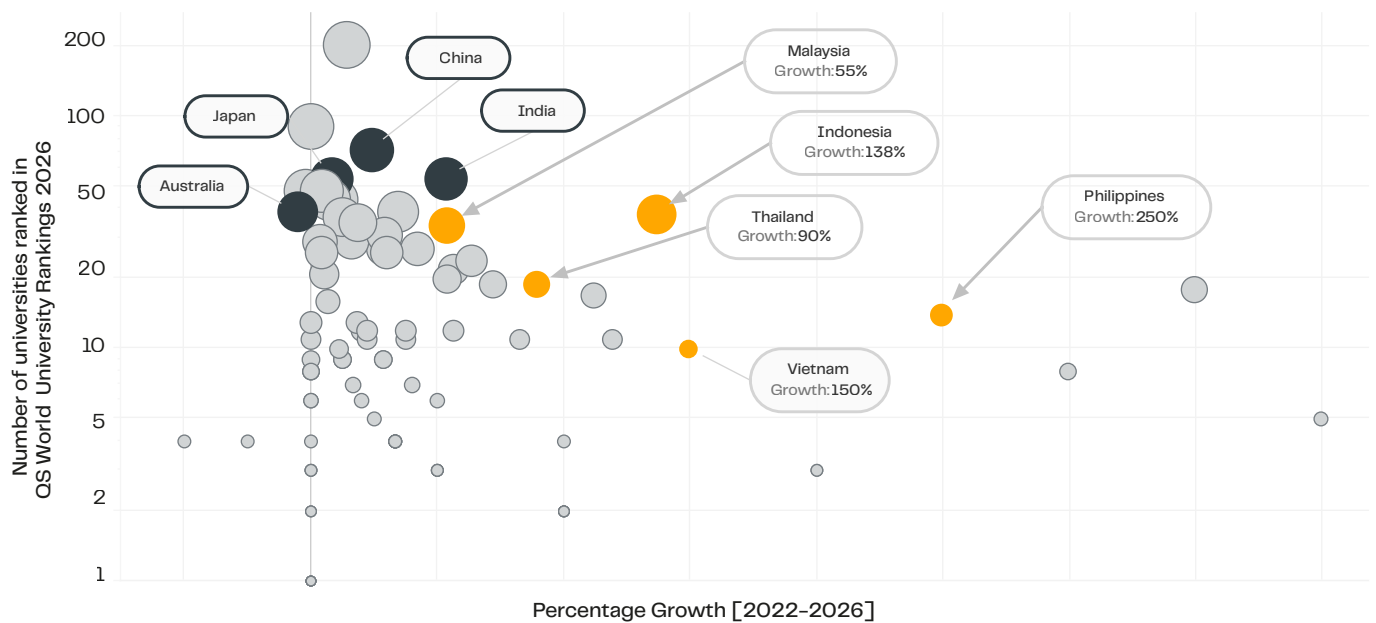
This growing visibility matters. The QS World University Rankings are not just about prestige, they influence international partnerships, attract talent, and shape how economies are perceived abroad. Indonesia's surge reflects the impact of recent reforms and investments, while Malaysia's consistency points to a well-developed higher education system with strong international engagement. In contrast, slower gains in Vietnam and the Philippines highlight the need for deeper structural support. Rankings are therefore a barometer: they show where governments and universities are aligning long-term investment in research, teaching, and global collaboration.

Figure 3. ASEAN universities in QS World University Rankings (2022 – 2026)



Source: QS World University Rankings 2022, 2026

Figure 4. ASEAN universities ranked



Source: QS World University Rankings 2022 & 2026

Climbing into the world top 250

What is particularly striking is how Malaysia and Indonesia are not only adding more universities to the overall rankings but also moving into the upper tiers. Between 2016 and 2026, Malaysia has expanded its presence in the QS World University Rankings top 250 from a single institution to five, while Indonesia has gone from none to two. This shift signals more than just incremental progress. It signals that universities in these countries are starting to compete at a level once dominated by established education powers. For ASEAN, it suggests that the region's higher education is no longer merely expanding in numbers but is beginning to consolidate quality and global credibility. The rise into the top 250 strengthens the region's claim as an emerging hub of talent and research excellence, reinforcing the momentum already visible in the broader rankings growth.

Regional leaders and emerging peers

Singapore's National University of Singapore (NUS) and Nanyang Technological University (NTU) continue to dominate, consistently ranking among the very top globally. Malaysia's University of Malaya has also entered the world's upper tier, consolidating its position as the region's leading university beyond Singapore. These institutions stand out thanks to international research collaborations and strong employer recognition.

Elsewhere in ASEAN, the leading universities of Indonesia, Thailand, the Philippines, and Vietnam are climbing but remain much lower in global tables. Their challenge is scaling up research capacity, deepening international partnerships, and building stronger reputations abroad. The gap highlights how concentrated leadership is today, but also the potential for others to rise.

Indonesia

Universities ranked 2026:

- #189 University of Indonesia
- #224 Universitas Gadjah Mada
- #255 Bandung Institute of Technology
- #287 Airlangga University
- #399 Bogor Agricultural University

Strengths: Indonesia shows strong employer reputation, reflecting graduate relevance to industry, plus improving faculty-student ratios and growing international faculty appointments supporting global visibility.

Areas to improve: Research output and citations per faculty remain weak, international student presence is minimal, and sustainability performance, while improving, still lags behind regional peers.

QS analysis: Indonesia's universities are stepping confidently onto the world stage, with employers praising their graduates. The next challenge is clear: scaling internationalisation and boosting research impact to match their economic ambition.

Malaysia

Universities ranked 2026:

- #58 Universiti Malaya
- #126 Universiti Kebangsaan Malaysia
- #134 Universiti Putra Malaysia
- #134 Universiti Sains Malaysia
- #153 Universiti Teknologi Malaysia

Strengths: Malaysia excels in academic reputation, global engagement, and sustainability, with Universiti Malaya achieving top-60 status and strong international student diversity.

Areas to improve: Research citations per faculty remain uneven, employer outcomes vary widely, and performance relies heavily on a few flagship institutions leading progress.

QS analysis: Malaysia's universities are becoming global players. The challenge now is to spread excellence beyond top names and boost research impact.

Philippines

Universities ranked 2026:

- #362 University of the Philippines
- #511 Ateneo de Manila University
- #654 De La Salle University
- #898 University of Santo Tomas
- #1064 Adamson University

Strengths: The Philippines benefits from strong employer reputation, graduates recognised for adaptability and skills, and a growing focus on sustainability within higher education.

Areas to improve: Research productivity and citation impact are weak, internationalisation remains limited, and student-faculty ratios highlight ongoing structural challenges for quality.

QS analysis: The Philippines has proven talent and resilience. The challenge now is to turn this into stronger research output and global visibility.

Singapore

Universities ranked 2026:

#8	National University of Singapore
#12	Nanyang Technological University
#511	Singapore Management University
#519	Singapore University of Technology and Design

Strengths: Singapore leads ASEAN with world-class universities, outstanding global engagement, strong research impact, high sustainability scores, and unmatched graduate employability outcomes internationally.

Areas to improve: Excellence is concentrated in just two flagship institutions, raising questions about system diversity and resilience as demand for higher education expands.

QS analysis: Singapore has cemented its position as a global education hub. The future lies in widening excellence across more institutions.

Thailand

Universities ranked 2026:

#221	Chulalongkorn University
#358	Mahidol University
#526	Chiang Mai University
#551	Thammasat University
#707	Kasetsart University

Strengths: Thailand's higher education demonstrates strong graduate employability in selected institutions, improving sustainability performance, and robust participation in international research networks across multiple universities.

Areas to improve: Research citation impact remains low, global engagement is limited, and uneven student-faculty ratios suggest challenges in scaling quality consistently nationwide.

QS analysis: Thailand's universities show clear strengths in employability and sustainability. The challenge is to convert strong foundations into globally visible research excellence.

Vietnam

Universities ranked 2026:

#482	Duy Tan University
#684	Ton Duc Thang University
#766	Vietnam National University, Hanoi
#809	Vietnam National University – Ho Chi Minh City
#1068	Van Lang University

Strengths: Vietnam's universities are advancing in research impact, with strong citation scores in some institutions and growing participation in international research networks.

Areas to improve: Employer reputation remains modest, international student presence is extremely limited, and uneven faculty-student ratios highlight persistent challenges in academic quality.

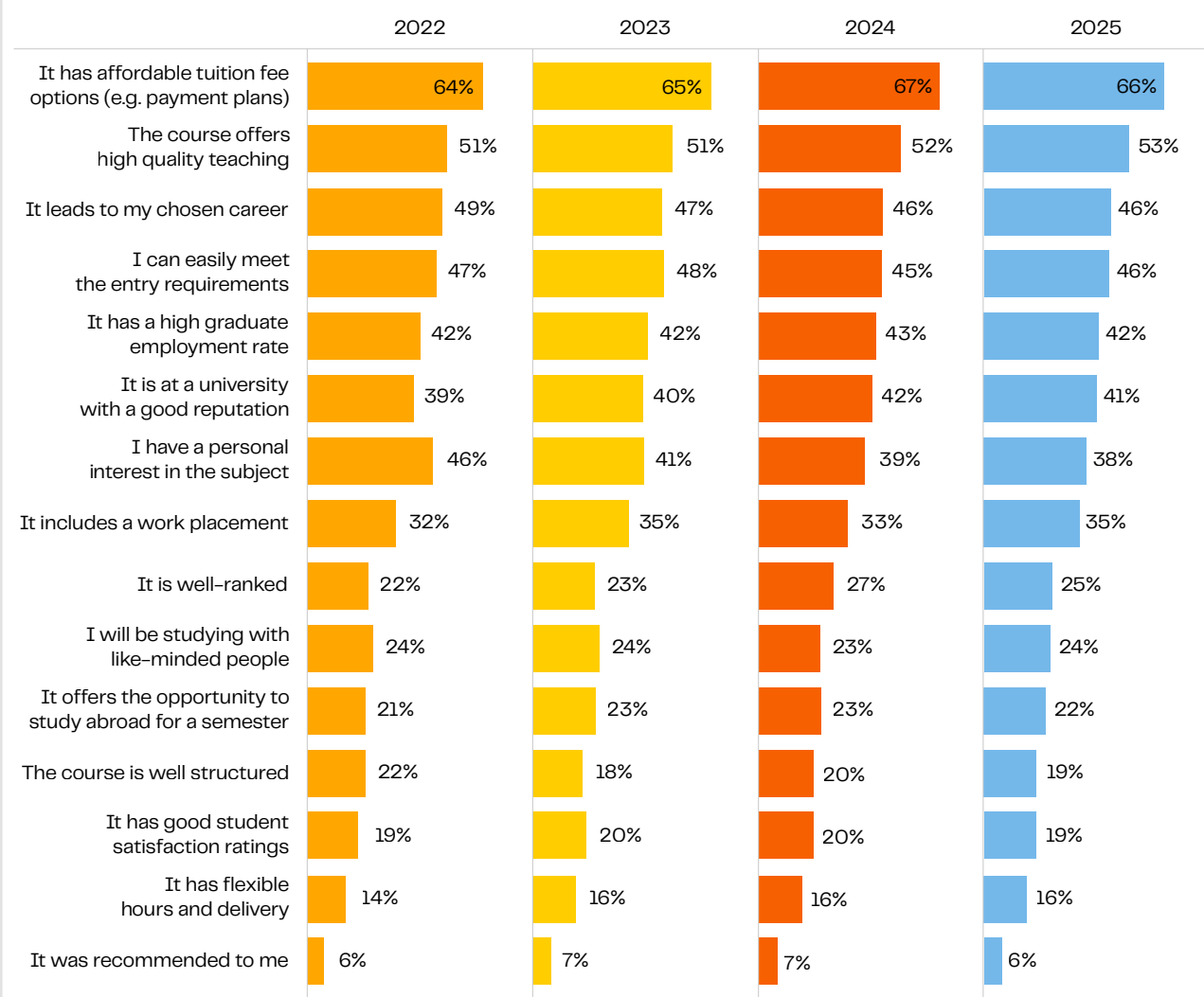
QS analysis: Vietnam's universities are building momentum in research and visibility. The priority ahead is to strengthen global engagement and graduate employability.

Desirability of ASEAN student cities

Student priorities across ASEAN cities show shifting balance between cost, employability, and academic access

ASEAN’s collective nominal GDP was US\$3.98 trillion in 2024, rising above US\$4 trillion in 2025, securing its place as the world’s fifth largest economy¹. The region’s outlook remains resilient, with real growth forecast at around 4% in 2025, led by Indonesia (4.7%) and Malaysia (4.1%). Sustaining this momentum hinges not only on manufacturing and trade but on a workforce ready to adapt to technology and green transitions. Universities now sit at the heart of this equation, preparing the talent pipeline that will allow ASEAN to convert its economic scale into long term competitiveness.

Figure 5. Top factors influencing course choice in ASEAN (2022–2025)

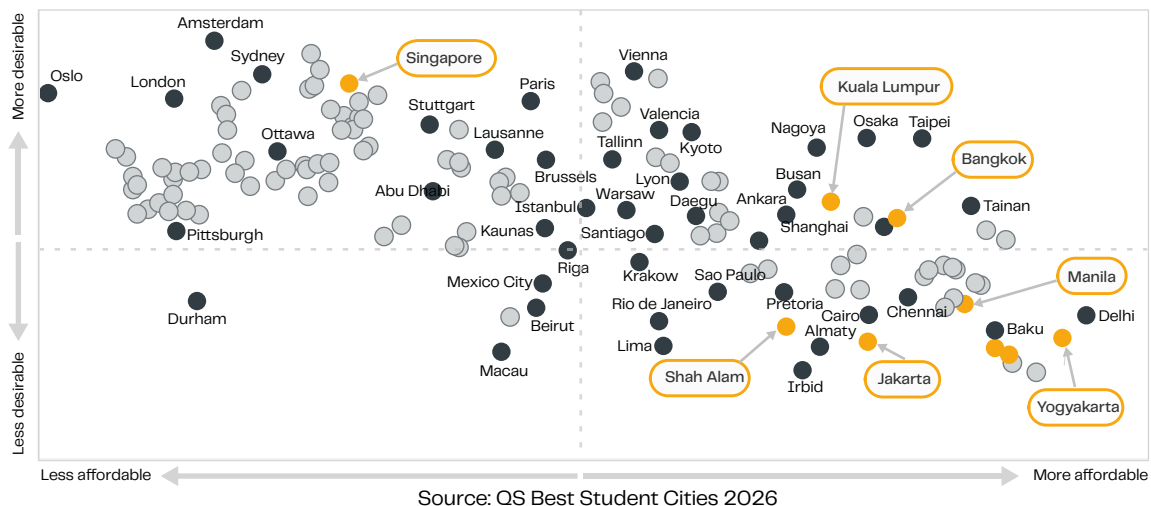


Source: QS International Student Survey 2022–2025

ASEAN cities are becoming more desirable

QS Best Student Cities 2026 places Singapore #11 and Kuala Lumpur #12 – both now in the global top tier – while Bangkok (#55) and Manila (#88) are notable climbers within Southeast Asia. These positions reflect strong student appeal on affordability, safety, employer links, and city liveability, with Singapore differentiating on outcomes/employer activity and Kuala Lumpur on overall value for money.

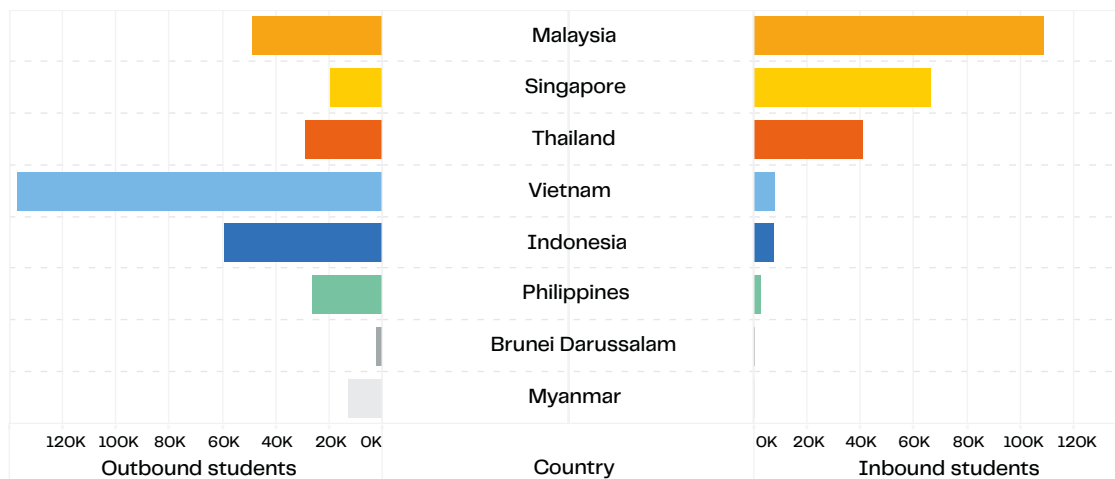
Figure 6. Comparing student cities on affordability and desirability



Mobility patterns differ across ASEAN

Figure 7 shows that ASEAN countries present very different patterns of international student mobility. Malaysia, Singapore, and Thailand host a substantial number of inbound students, reflecting their growing appeal as regional education destinations. By contrast, Vietnam and Indonesia send very large numbers of students abroad but attract comparatively few inbound learners, underlining a gap in their ability to position themselves as desirable study locations. This imbalance suggests that while some ASEAN systems are emerging as magnets for international talent, others remain primarily exporters of students, with implications for the region's competitiveness in higher education.

Figure 7. Number of inbound and outbound students in ASEAN



Managing outbound mobility through partnerships

A persistent challenge in ASEAN is the high number of students seeking degrees overseas, which heightens the risk of brain drain should graduates not return. One way forward is to expand transnational education (TNE) so students can access international quality programmes while staying at home. Indonesia has become a leading example of this shift. Australia's Monash University opened Indonesia's first full foreign university campus in BSD City, Tangerang, in 2021, offering master's, PhD, and executive education programmes alongside micro-credentials. More recently, Deakin University, in partnership with Lancaster University, launched a joint campus in Bandung in 2025, delivering dual undergraduate degrees in business and IT. These developments signal a new phase in ASEAN higher education: students gain global exposure without leaving the country, domestic universities benefit from knowledge exchange, and governments can limit outbound flows while raising education quality at home.

The rising economic value of international students in ASEAN

The total economic contribution of international students in ASEAN countries is expected to rise from about US\$4.3 billion in 2025 to roughly US\$4.8 billion by 2030, reflecting steady growth in international student enrolment and spending (including tuition fees, accommodation, food, retail, and other living expenses) in the region².

Figure 8. Projected economic contribution of international students in ASEAN (2025-2030) US\$ billion

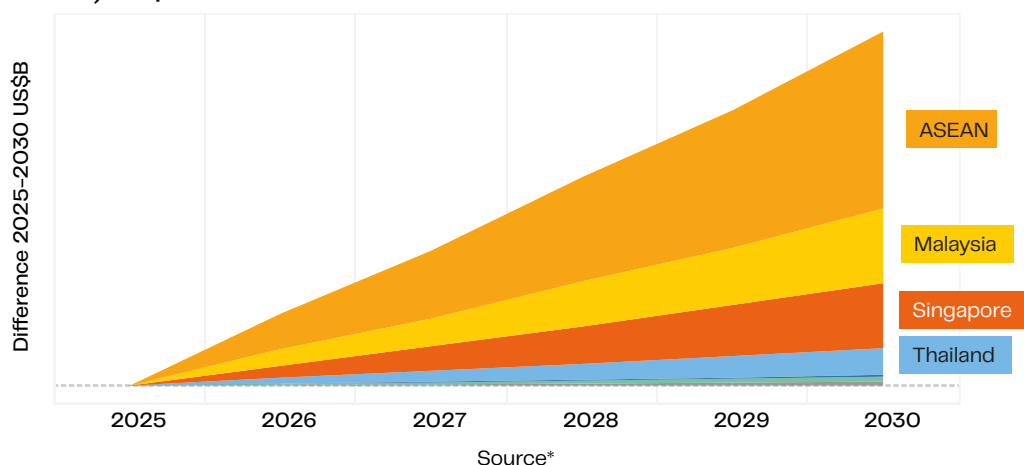


Figure 8 illustrates the increasing economic value of international students in ASEAN over the latter half of this decade. In 2025, students from abroad were estimated to contribute around US\$4.3 billion to the economies of ASEAN member countries, through a combination of tuition payments and other spending on housing, food, and retail. This collective contribution is projected to grow moderately each year, reaching about US\$4.8 billion by 2030. The growth is reflected in the anticipated rises in international student enrolment (approximately 4% annually at the global level³ coupled with expanding student expenditure (tuition revenue and living costs). In other words, Southeast Asian nations are gradually attracting more foreign students and benefiting from the tuition fees and day-to-day living expenses those students bring into host economies. However, this regional total remains relatively small on the global scale, accounting for only around 1–2% of the worldwide economic impact of international education, given that globally, international student spending was about US\$196 billion in 2019 and is projected to exceed US\$433 billion by 2030⁴.

International comparison and significance

By comparison, the United States alone far surpasses ASEAN in terms of economic impact from international students. Over one million international students in the US contributed about US\$43.8 billion to the US economy in the 2023–2024 academic year⁵, which is roughly ten times the entire ASEAN figure for 2025. International student recruitment (which has been rebounding post-pandemic) supports hundreds of thousands of US jobs and represents a major education export. The contrast highlights that ASEAN's international education sector, while growing, is still at an early stage of tapping into the full economic potential of global student mobility. Even Singapore and Malaysia, the region's leading hosts, collectively generate only a fraction of the revenue seen in the US or other Western destinations. That gap also suggests substantial room for growth if Southeast Asian countries can continue to attract more overseas students.

Beyond the direct financial inflows, international students provide broad benefits to their host countries' campuses and communities. As noted in a NAFSA analysis, foreign students are “essential to the exchange of ideas and intercultural understanding... at the heart of technological advances [and] research innovations”. They not only pay tuition and living costs but also contribute to research output, innovation, and cultural diversity in classrooms. ASEAN universities and governments are increasingly recognising these advantages.

To realise the projected gains (and perhaps even accelerate them), policymakers may consider strategies to attract and retain more international students, for example, simplifying visa processes, expanding English-taught programmes, offering post-study work opportunities, and improving campus support services. Similar to calls in the US for a “national strategy for international education”, a coordinated effort in Southeast Asia could bolster the region's competitiveness.

In summary, while the economic contribution of international students in ASEAN (US\$4.3 billion in 2025) is modest next to that of the US (US\$43.8 billion), it is on an upward trajectory. With sustained investment in internationalisation, ASEAN can expect continued growth in the financial returns and the educational and cultural dividends that international students bring to their host countries.

*The projected economic contributions of international students across ASEAN (in US\$ billions), shown as the cumulative increase from a 2025 baseline through 2030. The projections draw on QS Global Student Flows data (2025–2030) for international student. These student numbers were combined with country-specific estimates of average annual spending per student across key categories, including tuition, accommodation, food, retail, transport, technology, and insurance, based on government education reports, university tuition guides, and student living cost. For each ASEAN host country, the total direct expenditure by international students was calculated and then multiplied by 1.6 to account for indirect and induced economic effects. All values therefore represent ASEAN, wide international student economic contributions, with 2025 as the baseline year and growth measured cumulatively up to 2030.

Malaysia's push for international students

A case study

Strategic vision and policy framework

Malaysia has set a target of 250,000 international students by 2025. The goal applies across both public and private institutions and is a central part of national higher education policy⁶. As of early 2025, the country is reported to be on track to meet this milestone, supported by coordinated efforts from Education Malaysia Global Services (EMGS), the Ministry of Higher Education, and universities⁷.

Application trends and market diversification

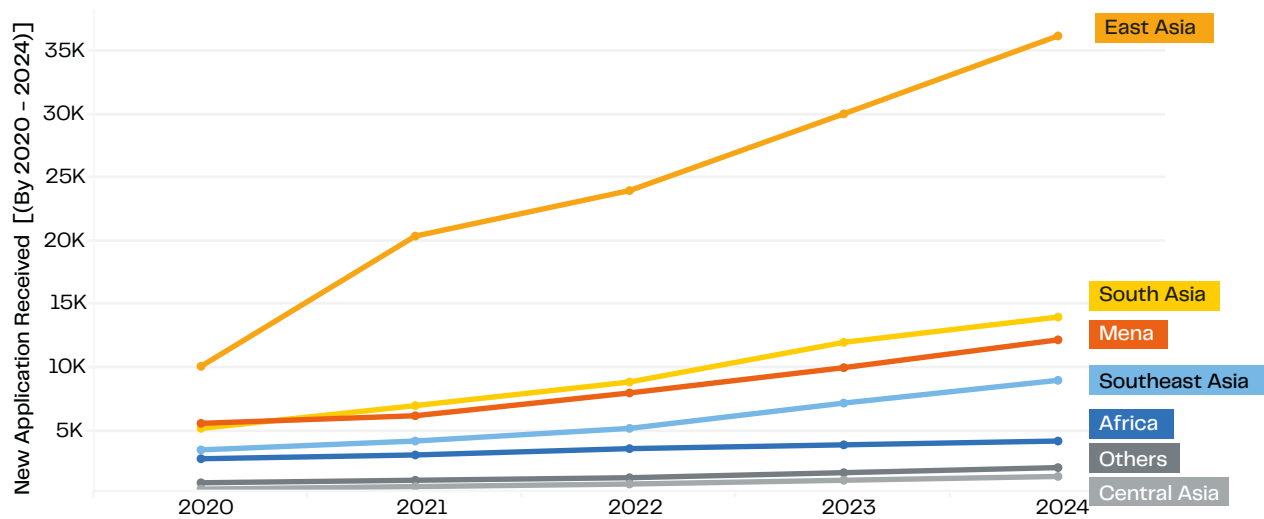
International student applications have grown steadily. China remains the largest source country, with 33,216 applications in 2024, a 24.7% increase from 26,627 in 2023. Other notable increases are Indonesia (+28.9%), India (+36.4%), Bangladesh (+5.3%), and Sudan (+79.7%)⁸. In Q2 2025, East Asia produced 12,469 applications, with China (10,947) by far the largest set of applicants, followed by Bangladesh, Indonesia, Pakistan, and India⁹. Policy support such as faster visa processing (as quick as eight days) and the extension of the Graduate Pass scheme until the end of 2026 have helped sustain this momentum¹⁰.

Regional position and competitive advantage

Malaysia is positioning itself as a regional hub by combining affordability, accessibility, and academic credibility.

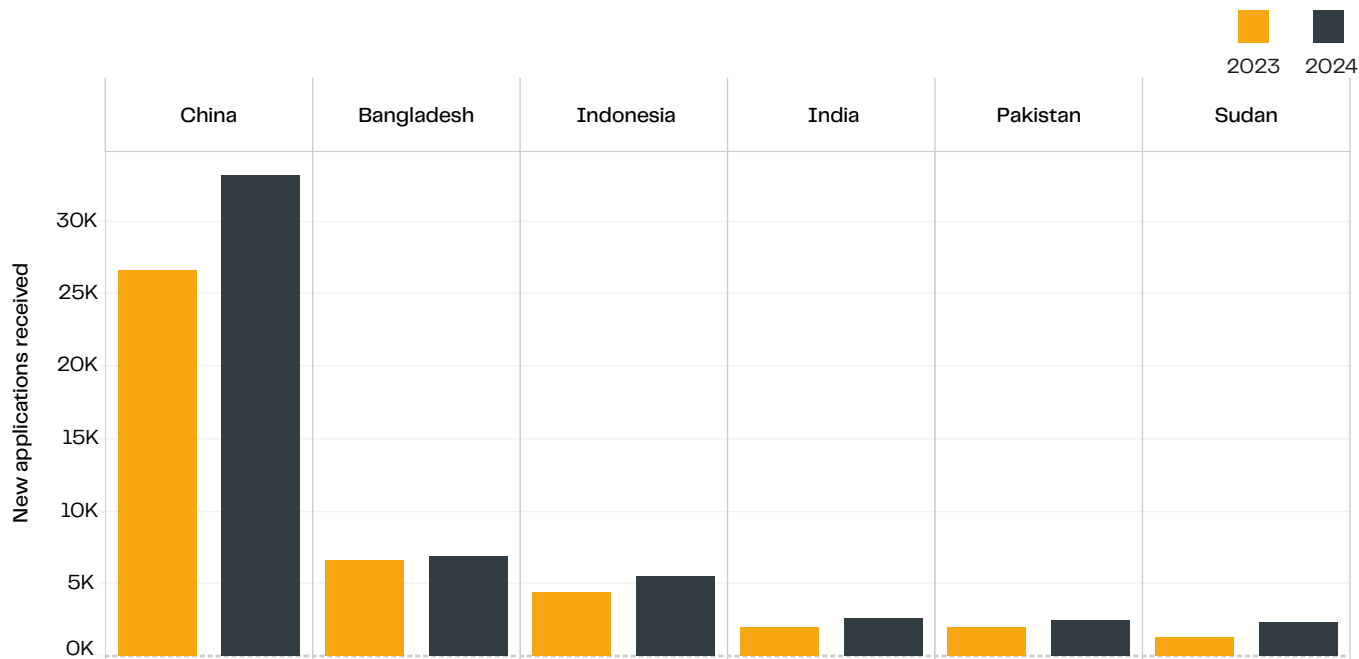
Average tuition fees cost around US\$6,000 per year, with living expenses considerably lower than in Western destinations. A multilingual environment and cultural proximity appeal to students from across Asia, while perceptions of safety and inclusiveness also contribute¹¹. Malaysia's strategy directly competes with Singapore and Thailand, but with a distinctive edge on cost and scale.

Figure 9. Applications to Malaysian universities by world region



Source: Education Malaysia Global Services (EMGS), International Student Data.

Figure 10. Malaysia's top 10 countries for new applications received 2023 and 2024



Source: GSL Global

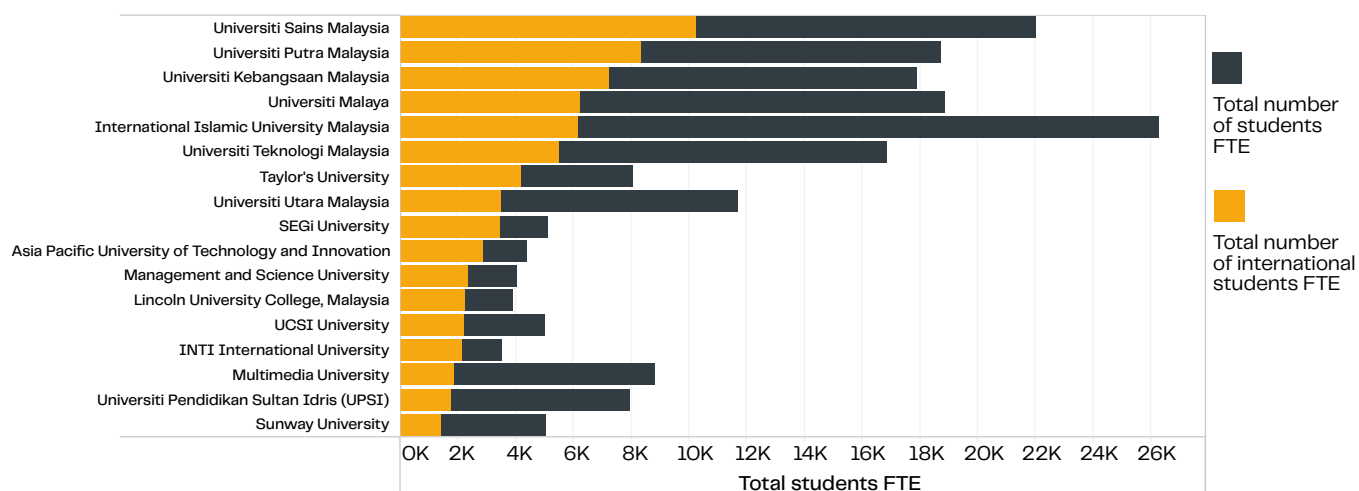
	Singapore	Kuala Lumpur	Bangkok
Rank	11	12	55
Overall score	90.6	90.3	74.4
Student view	93.8	70.8	70.1
Student mix	83.5	77.5	40.7
Employer activity	81.3	86.8	68.2
Desirability	89.8	61.6	57.7
Affordability	28.7	73	79.1
Rankings	68.2	74.2	49.9

Source: QS Best Student Cities 2026

Malaysia's universities as regional education hubs

Figure 11 shows how Malaysian universities combine large overall enrolments with a strong presence of international students. Public universities such as Universiti Malaya, Universiti Putra Malaysia and Universiti Sains Malaysia attract significant numbers, reflecting their role as established destinations for regional learners. At the same time, private institutions including Sunway University, Taylor's University, UCSI University, and INTI International University maintain smaller overall cohorts but with proportionally high international representation. This balance illustrates Malaysia's position as a regional hub for education, supported by government targets to expand international student mobility. For example, Taylor's University has developed dedicated global mobility programmes and industry-linked pathways that appeal to students from across Asia, showing how universities are actively building on Malaysia's reputation as an accessible and diverse study destination.

Figure 11. Top Malaysian universities by international student enrolment



Source: QS World University Rankings 2026



ASEAN higher education roadmap

Key elements shaping ASEAN's global position

Global visibility

Reputation and rankings remain central to how ASEAN universities are recognised internationally.



Regional ties

Partnerships across ASEAN strengthen capacity and create shared opportunities.



Student flows

Inbound and outbound mobility show how attractive and open systems are to the world.



Combined impact

These three elements together determine how well ASEAN positions itself in the global education landscape.

ASEAN's higher education sector has gained visibility, but its position in the global higher education market remains uneven when compared globally. Rankings, partnerships, and student flows highlight clear progress alongside persistent gaps. The two charts below outline the main factors shaping competitiveness and the steps needed to turn analysis into meaningful action.

Progress depends on moving from measurement to concrete steps that raise ASEAN's profile and influence globally.

Turning analysis into action

Gap analysis

Benchmark ASEAN performance against leading higher education systems

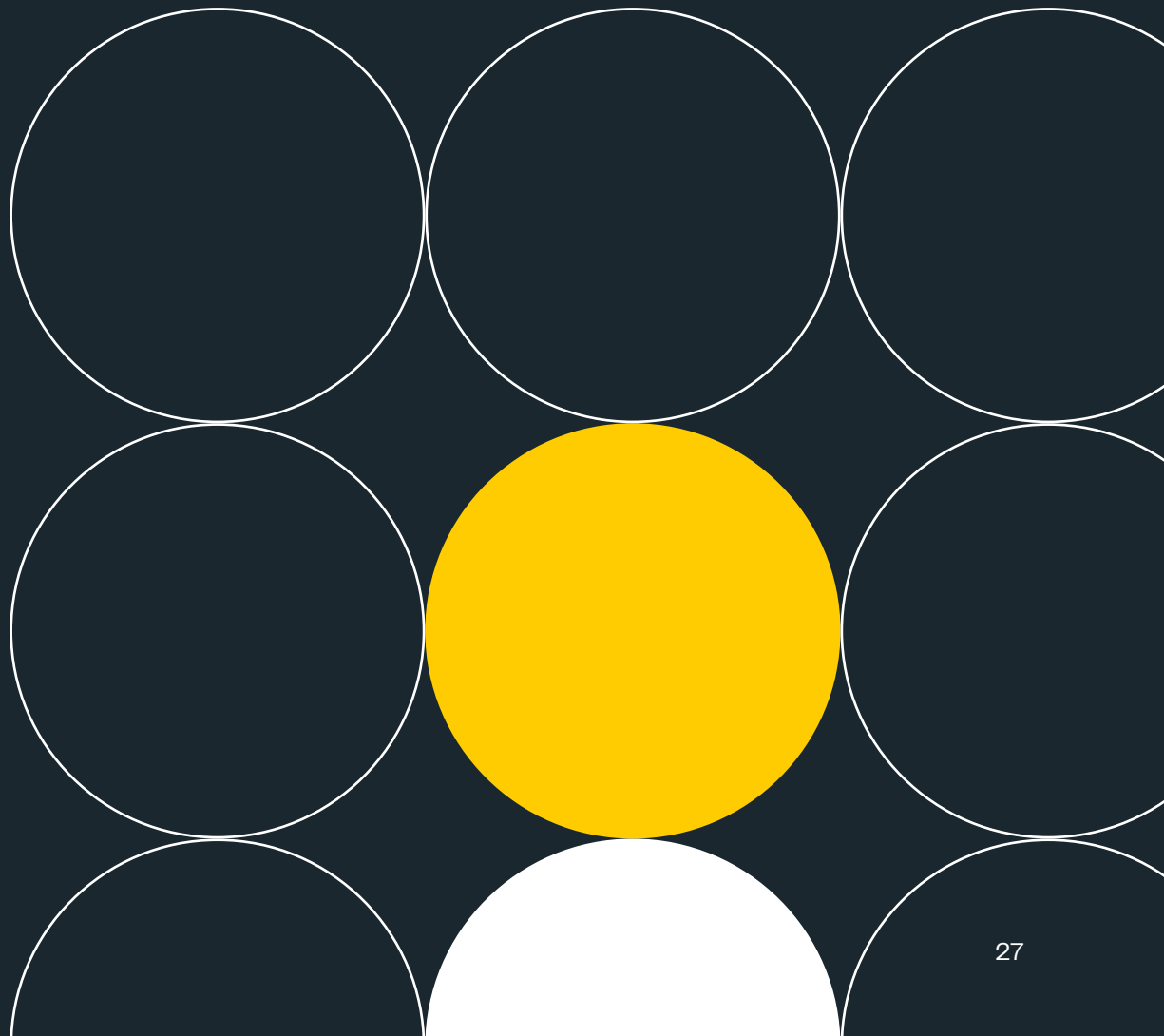
Assessment

Highlight strengths and weaknesses in reputation, mobility, and partnerships

Action

Develop reforms and initiatives to strengthen international competitiveness

Skills, employability, and the future of work



Skills

How employers and universities define graduate readiness

What employers tell us about graduate skills

The QS Employer Survey offers a window into how companies view graduate readiness. Across ASEAN, more than 12,000 employers have contributed their perspectives, forming part of a global dataset of 75,000 responses. Their feedback highlights both progress and pressure points. Teamwork and ethics are recognised as strengths, but employers consistently call out gaps in critical thinking, problem-solving, and environmental awareness. Because the survey is conducted every year, it allows us to follow how these expectations are changing as digitalisation, automation, and climate goals reshape the workplace.

How ASEAN universities are performing in key disciplines

Alongside employer insights, the QS World University Rankings by Subject track how institutions build reputation and research strength across 55 disciplines. In 2025, 5,203 universities were analysed across 148 locations; 1,747 made the final published results.

The picture in ASEAN is mixed. In computer science and information systems, for instance, 45 of 850 ranked universities worldwide are from the region, just over 5% of the global total. Yet within this limited share, a few standouts, such as the National University of Singapore and Nanyang Technological University, are now ranked among the world's top 20. Some institutions in Malaysia and Thailand are also improving performance. These results show where institutions are making progress, but also where the region's capacity still falls short of its ambition to be a hub for developing the digital economy and climate skills that will be necessary in a reshaped workplace.

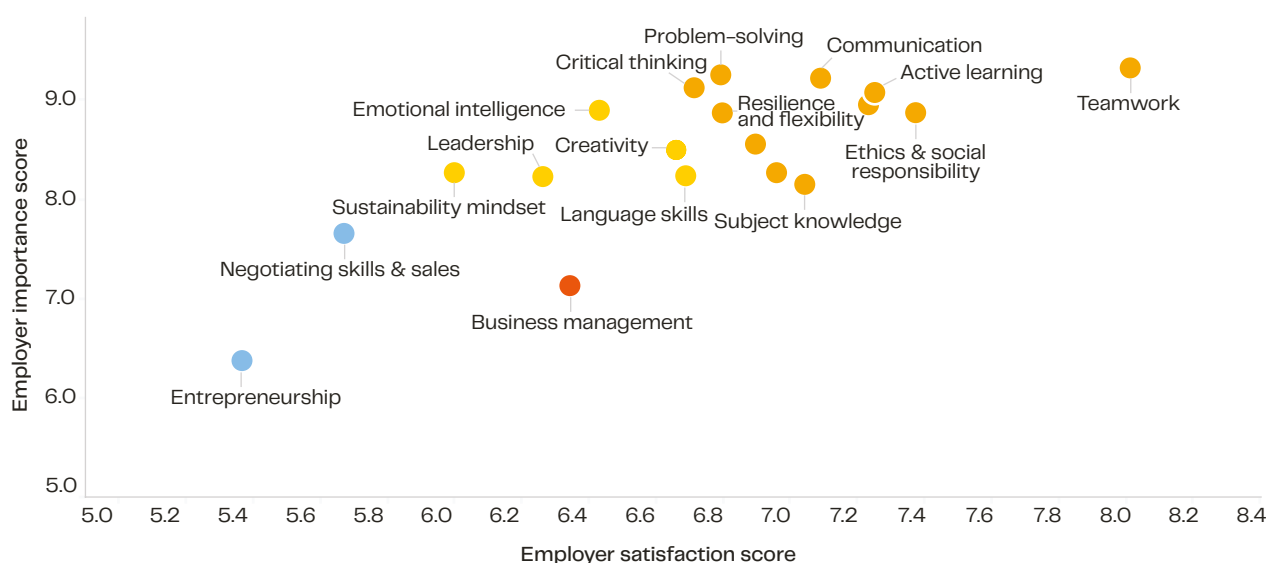
Looking ahead to the future of work

When taken together, employer data and subject rankings give a clear picture of the challenges and opportunities ahead. In engineering, for example, employers in ASEAN rate graduate performance in critical thinking at 5.4 out of 10 compared with a global average of 6.7. Such gaps sit alongside strong demand projections: the Asian Development Bank estimates digital transformation alone could generate 65 million new jobs in Southeast Asia by 2030, while QS analysis suggests that aligning education with labour-market needs could deliver nearly US\$900 billion in additional economic value by 2035. Closing these gaps is about more than employability, it is central to the region's ability to compete and thrive in the decades ahead.

Strength in collaboration, gaps in innovation

Employers across ASEAN value teamwork most highly (9.3 out of 10), and graduates deliver relatively well here, with a satisfaction score of 8.0. Yet when it comes to communication (9.2 vs 7.1), problem-solving (9.2 vs 6.8), and critical thinking (9.1 vs 6.8), the gaps are much wider. This highlights a recurring concern: while universities are strong at imparting subject knowledge, they remain less effective at equipping graduates to adapt that knowledge in practice. The result is a skills shortfall in exactly the areas industries need most as digitalisation and automation accelerate.

Figure 12. Importance vs satisfaction of skills to employers



Source: QS Employer Survey 2021–2025*

Where gaps are widest

The most striking weaknesses appear in emotional intelligence (8.9 importance vs 6.5 satisfaction) and resilience (8.8 vs 6.8), qualities that are critical for leadership and adaptability but often overlooked in traditional curricula. Entrepreneurship is rated lowest overall (6.3 vs 5.4), reflecting the fact that outside finance and fast-growing sectors like fintech and e-commerce, employers place less emphasis on entrepreneurial capability. In finance, as we saw earlier, entrepreneurship was more valued, but in many other industries it remains peripheral. By contrast, ethics and social responsibility (8.8 vs 7.4) records one of the smallest gaps, showing that universities are responding to demand for more socially conscious graduates. Overall, ASEAN institutions have made progress in teamwork and values-based education, but the biggest challenge remains in strengthening cognitive and adaptive skills that employers consistently rank near the top.

*QS Employer Survey 2021–2025, based on 12,452 employer responses from ASEAN. Questions asked: "Which of these skills do you find important?" and "How satisfied are you with graduates' level of these skills?" Respondents rated each skill; scores calculated by the QS Insights team.

Employability

Tertiary growth without rising unemployment

Turning low unemployment into future readiness

ASEAN's advantage lies in its relatively low youth unemployment compared to the global average of 13% (ILO, 2023). Yet the real opportunity is in how the region can harness this stability to prepare for the future of work. The Asian Development Bank (ADB, 2024) estimates that digital transformation alone could generate 65 million new jobs in Southeast Asia by 2030, while the World Economic Forum warns of significant shortfalls in AI and green-skilled professionals. By aligning higher education more closely with these emerging fields, ASEAN can ensure its young workforce not only finds employment but also leads in shaping the digital, green, and AI-driven economies of tomorrow. With unemployment pressures relatively contained, the region is uniquely placed to invest in quality, not just quantity, of opportunities for its graduates.

Youth unemployment and graduate opportunities

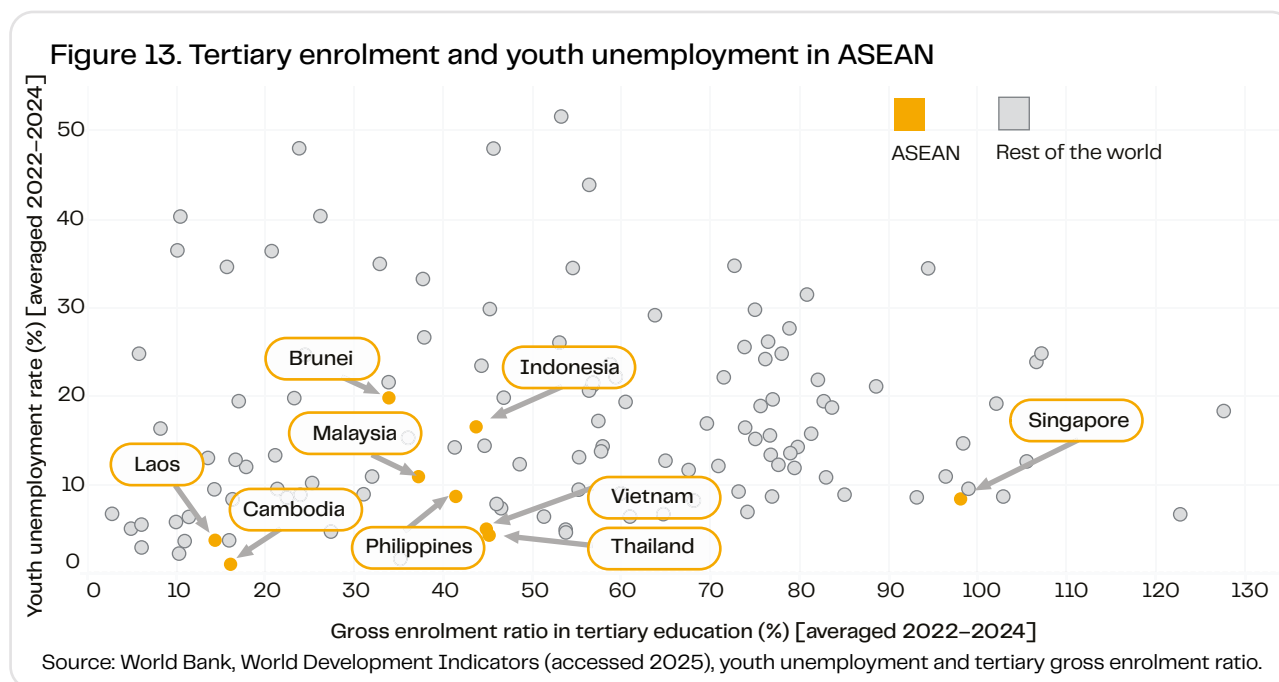
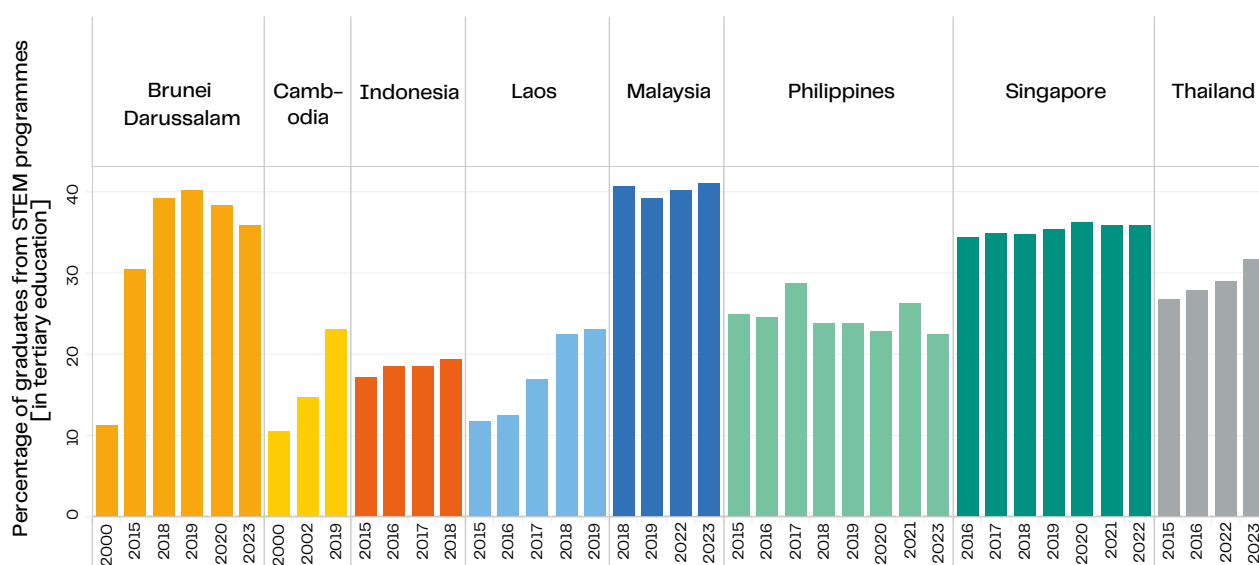


Figure 13 compares tertiary gross enrolment ratios with youth unemployment rates, using data averaged across 2022–2024 to fill gaps in country reporting. It highlights how expanding higher education does not always translate into higher youth unemployment. Thailand (4.4%) and Vietnam (5.1%) record some of the lowest unemployment levels globally, showing that young people are entering the workforce successfully even as university participation rises. Malaysia (11%) and the Philippines (8.8%) sit near the global average, reflecting competitive but functional labour markets. At the extremes, Brunei (20%) reveals a tension between graduate expectations and job creation, while Cambodia (1.1%) shows how limited enrolment can reduce short-term labour pressures.

STEM pathways and economic advantage in ASEAN

High STEM graduate rates and their economic impacts

Figure 14. Percentage of STEM graduates in total tertiary education (2000–2023)



Source: UNESCO Institute for Statistics, reporting the share of STEM graduates in total tertiary graduates.

Figure 14 shows that both Malaysia and Singapore have among the highest shares of STEM graduates in the ASEAN region often approaching or exceeding 40% of all tertiary graduates.

In practical terms, this aligns well with both countries' economic strategies: Malaysia's leadership in manufacturing high-tech goods, especially semiconductors and electronics, relies on a robust pipeline of STEM-trained graduates, while Singapore's intense focus on innovation and biotech similarly depends on this talent pool. The high STEM enrolment reflects deliberate policy choices and long-term planning. Singapore's education system, for instance, promotes STEM from secondary through applied learning programmes and direct industry links, nurturing interest early on and ensuring relevance to future jobs. These strategies underpin both economies' readiness to adapt to labour-market shifts and support their evolution as knowledge-driven hubs. However, this STEM focus also invites reflection: as much as STEM capacity fuels innovation, it must be complemented by growth in interdisciplinary and soft skills, like critical thinking, design, and environmental literacy, to ensure graduates are adaptable and the economy remains resilient.

In-depth

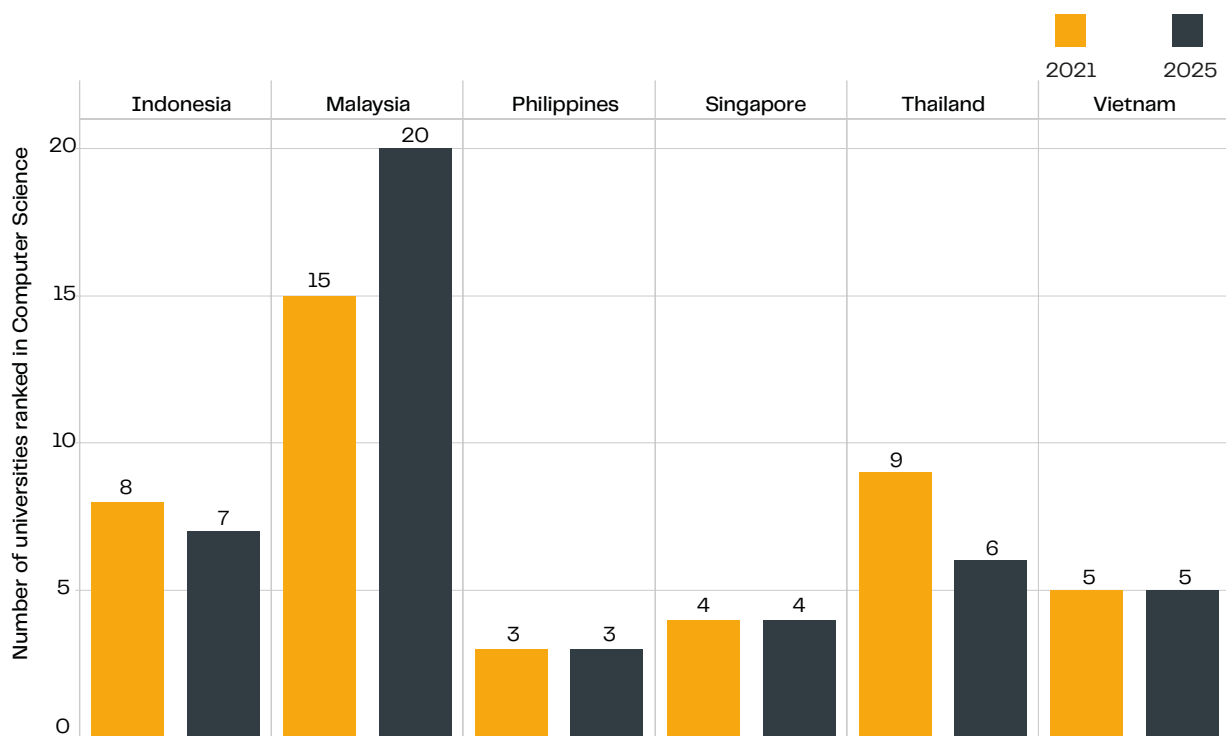
A **spotlight** on
computer science and
engineering, and
finance in ASEAN

Building regional strength in computer science and engineering

ASEAN's place in global computer science education

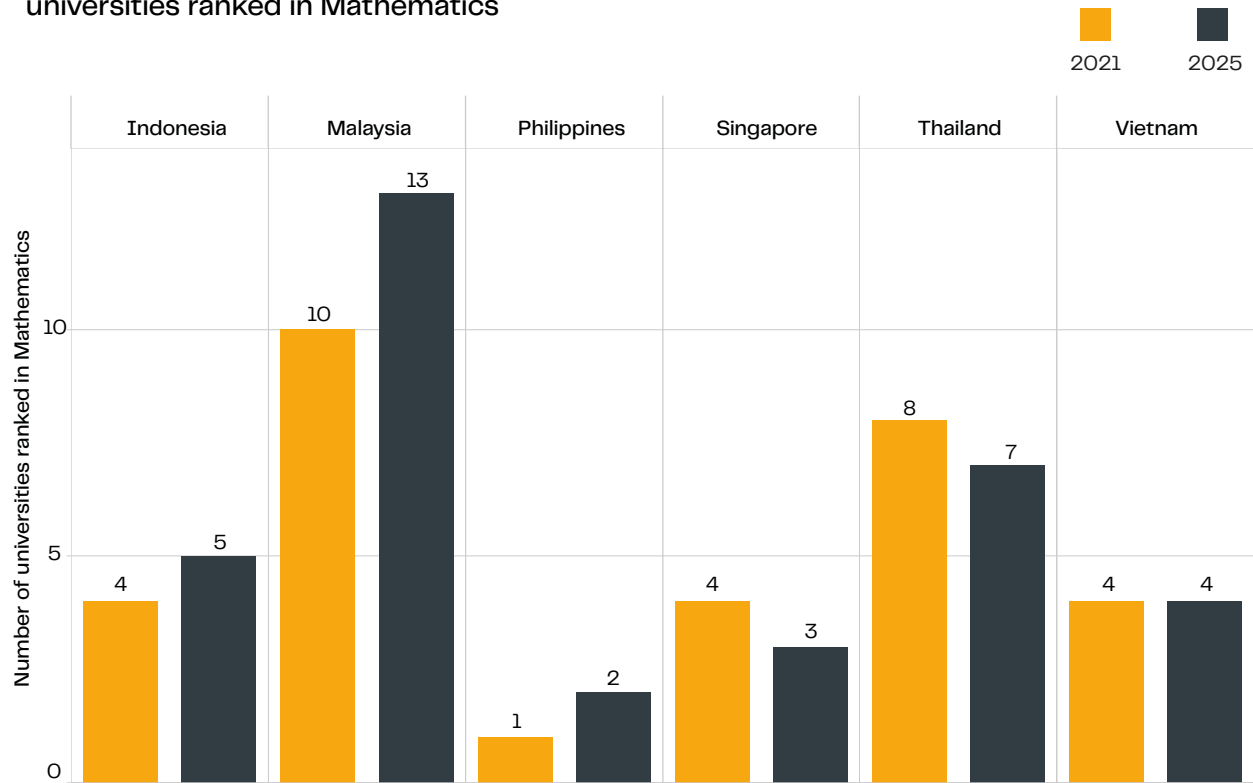
ASEAN's presence in computer science education is growing but still modest. Out of around 850 universities ranked worldwide in the QS World University Rankings for Computer Science and Information Systems, only 45 are from ASEAN, giving the region just over 5% of the global total. Singapore leads the way with NUS and NTU consistently ranked among the world's top 20, setting a benchmark for excellence. Malaysia and Thailand are also expanding their visibility, with Universiti Malaya and Chulalongkorn University gaining recognition for research and teaching in digital and engineering disciplines. The overall share remains small compared to ASEAN's large population and its ambition to be a global technology hub. The region has made important progress in producing graduates for the digital economy, but more universities will need to raise their profile through stronger research, innovation, and graduate outcomes if ASEAN is to fully meet future workforce needs.

Figure 15. QS World University Rankings by Subject, showing the number of ASEAN universities ranked in Computer Science and Information Systems



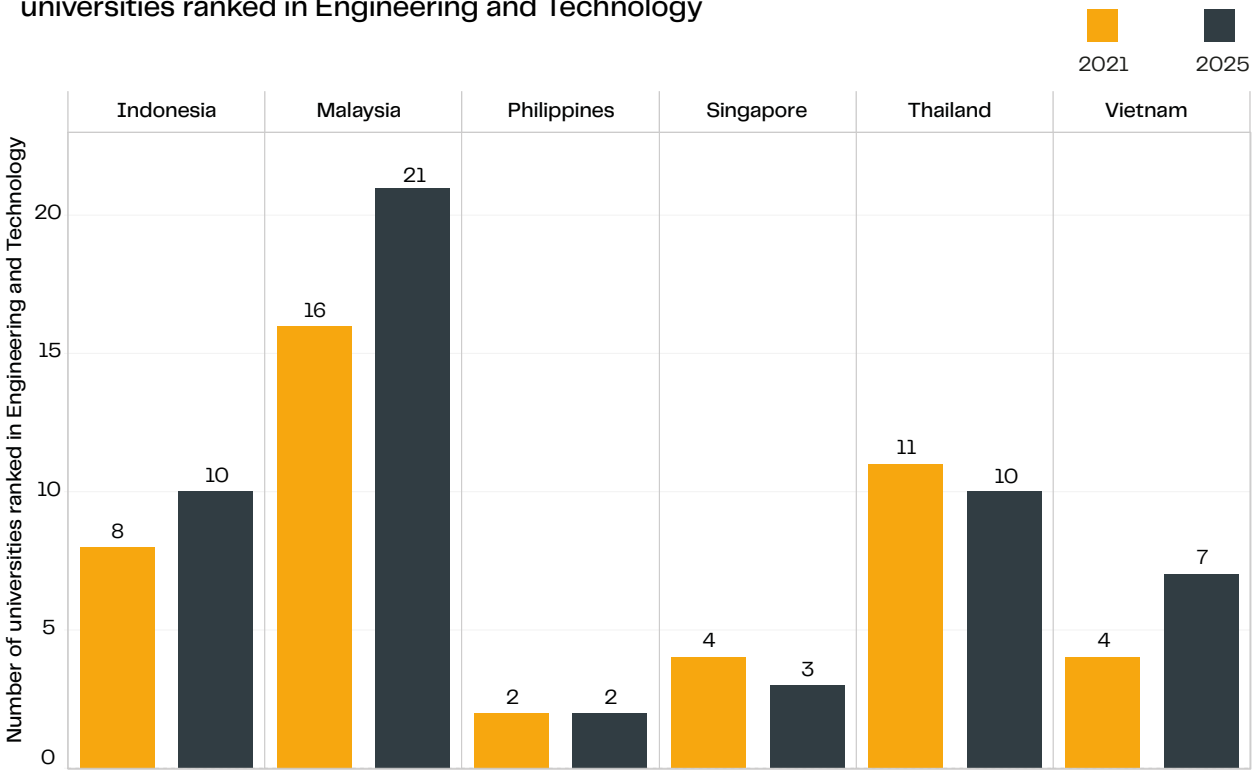
Source: QS World University Rankings by Subject 2021–2025

Figure 16. QS World University Rankings by Subject, showing the number of ASEAN universities ranked in Mathematics



Source: QS World University Rankings by Subject 2021, 2025

Figure 17. QS World University Rankings by Subject, showing the number of ASEAN universities ranked in Engineering and Technology



Source: QS World University Rankings by Subject 2021, 2025

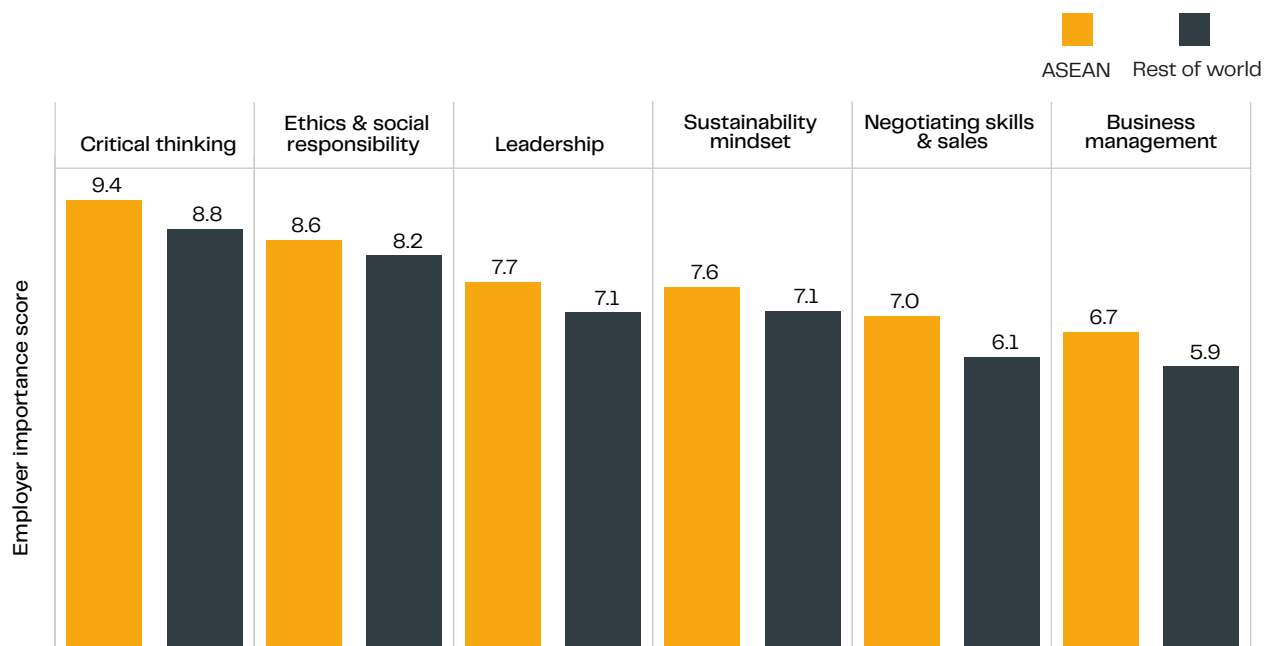
Tech employers prize soft skills in ASEAN

Across ASEAN, companies are shifting their hiring priorities as job requirements change quickly and new technologies, including AI, reshape the workplace. While coding and data skills remain important, automation is handling more routine tasks. Employers now value graduates who can adapt, work collaboratively, and bring strong interpersonal skills to dynamic teams. This shift is especially visible in the region's fast-growing digital economy, where innovation depends on the combination of technical capability and human skills¹².

ASEAN tech employers place greater weight on human skills

The data shows that employers in the ASEAN technology sector attach higher importance to soft skills than employers elsewhere. Critical thinking (9.4), ethics and responsibility (8.6), leadership (7.7), and a sustainability mindset (7.6) all stand out as areas where ASEAN scores are stronger than the global average. Employers are signalling that technical expertise on its own is not enough and graduates also need to show sound judgement, teamwork, and the ability to lead.

Figure 18. Importance of skills to tech employers



Source: QS Employer Survey 2021–2025*

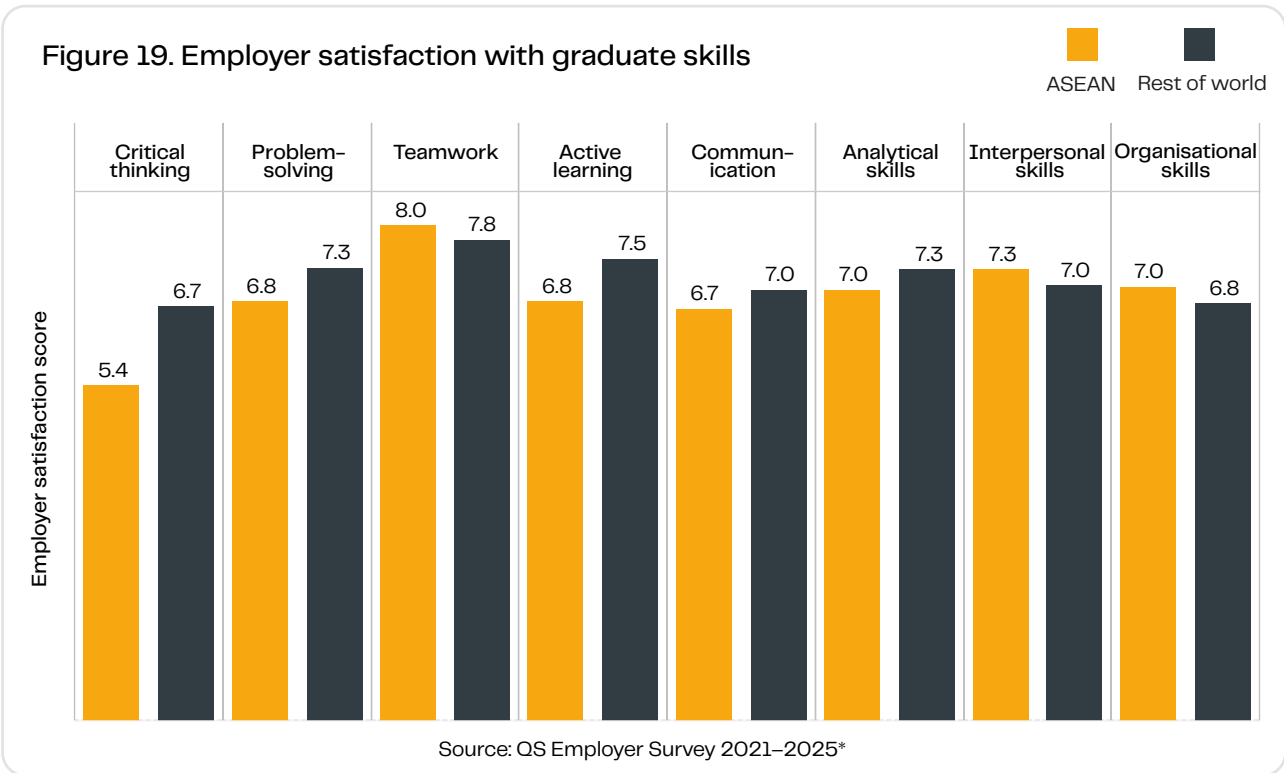
*QS Employer Survey 2021–2025, based on 5,834 technology industry employer responses worldwide (1,018 from ASEAN). Question asked: "Which of these skills do you find important?" Respondents rated each skill; scores calculated by the QS Insights team.

Employers see critical thinking gaps but value teamwork in ASEAN engineering graduates

The QS Global Employer Survey, based on responses from 5,417 employers in the engineering sector, highlights that satisfaction with graduates in several critical skills is below the global average. For example, critical thinking scores stand at 5.4 compared with 6.7 worldwide, while problem-solving is rated 6.8 versus 7.3. Even analytical skills are slightly weaker at 7.0 compared with 7.3 globally. The data suggests that ASEAN universities deliver strong technical foundations but often rely heavily on memorisation and formula-based assessment. This leaves graduates with fewer chances to practise independent judgement and cross-disciplinary reasoning, both of which are vital for engineering industries now dealing with AI-driven design, sustainability requirements, and increasingly complex global supply chains.

ASEAN graduates show strength in teamwork and collaboration

At the same time, the QS Global Employer Survey results also point to clear areas of comparative strength. Employers in ASEAN rate graduates more highly than their global peers on teamwork (8.0 compared to 7.8) and interpersonal skills (7.3 compared to 7.0). This reflects a consistent pattern: while technical and cognitive skills show some gaps, collaborative and people-oriented skills are a relative advantage. Engineering projects, whether in infrastructure, manufacturing, or renewable energy, often depend on close group work. A recent example comes from the 2025 Japan–ASEAN Online Program for the SDGs, where engineering students from ASEAN countries worked with Japanese peers to design sustainable urban solutions. Feedback from the project noted the strong contribution of ASEAN students in facilitating teamwork and bridging cultural differences¹³. This strength provides a platform for universities to redesign engineering education so that group-based projects not only build collaboration but also embed critical thinking and innovation.



*QS Employer Survey 2021–2025, based on 5,417 engineering industry employer responses worldwide (779 from ASEAN). Question asked: "How satisfied are you with graduates' level of these skills?" Respondents rated each skill; scores calculated by the QS Insights team.

Spotlight on finance industry skills gaps

Finance employers value teamwork and entrepreneurship but remain concerned about critical thinking

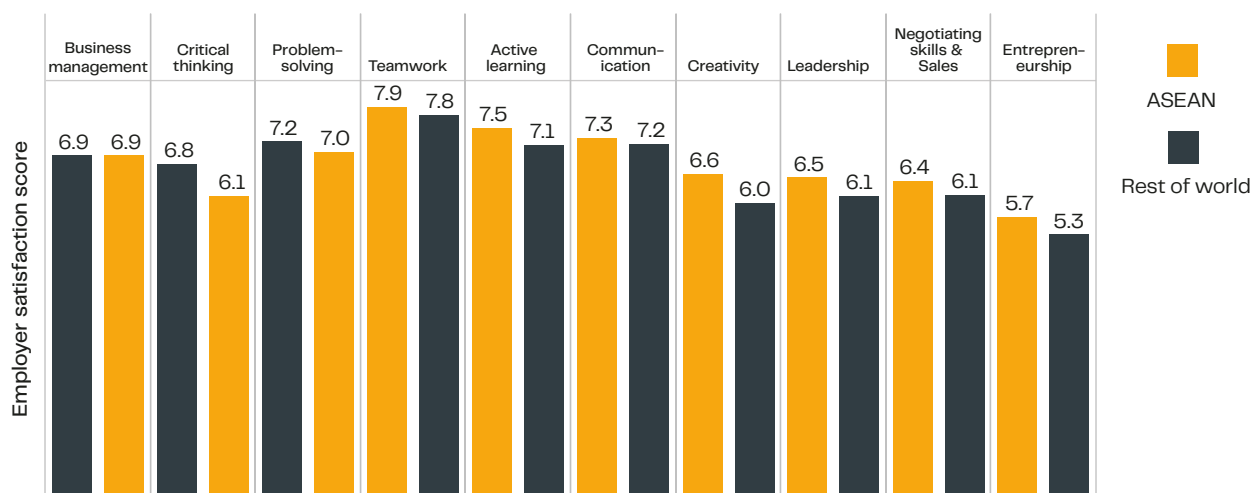
Gaps in critical thinking among finance graduates

The QS Global Employer Survey of 779 finance-sector employers in ASEAN shows a lower satisfaction score for critical thinking (6.1 vs 6.8 globally). This echoes wider concerns about how university programmes in the region still prioritise exam-based assessment and structured problem sets over open-ended reasoning. In finance, where risk modelling and scenario testing are crucial, this creates a mismatch between graduate skills and industry needs. A recent ASEAN University Network report noted that “graduates remain strong in technical mastery, but analytical and evaluative skills lag behind”¹⁴. This helps explain why critical thinking continues to be cited as a shortfall by employers.

Strength in entrepreneurship and teamwork

At the same time, the QS Global Employer Survey shows ASEAN graduates outperform global peers in entrepreneurship (5.7 vs 5.3) and teamwork (7.9 vs 7.8). Universities across the region have actively promoted business plan competitions, startup incubators, and fintech innovation labs, giving students practical exposure to venture creation. In Singapore, the National University of Singapore’s NUS Enterprise programme has supported more than 3,000 student-led startups, many in finance and fintech, building entrepreneurial capability early on¹⁵. Coupled with the collaborative nature of financial services, where projects are often team-based and cross-functional, these initiatives appear to equip graduates well in areas that employers value highly.

Figure 20. Employer satisfaction with graduate skills



Source: QS Employer Survey 2021–2025*

*QS Employer Survey 2021–2025, based on 5,051 finance industry employer responses worldwide (995 from ASEAN). Question asked: “How satisfied are you with graduates’ level of these skills?” Respondents rated each skill; scores calculated by the QS Insights team.



Spotlight on Singapore

Singapore’s skills-first blueprint: Tracking and developing future skills

Lifelong learning anchored in participation data

Singapore’s SkillsFuture movement, launched in 2015, has evolved into a widely adopted national framework. In 2023, about 520,000 individuals and 23,000 employers participated in training programmes supported by SkillsFuture Singapore (SSG). That number climbed to 555,000 learners in 2024, reflecting continued momentum. Among these learners, 260,000 used SkillsFuture Credit, a 35% increase from the prior year and 28,000 were mid-career professionals tapping into the new Mid-Career Credit top-up launched in May 2024. Notably, enrolment in IT-related courses (AI, cybersecurity, digital marketing) rose from 34,000 in 2023 to 96,000 in 2024, signalling alignment with evolving market needs. This illustrates both growing demand and strategic targeting of emergent skills by learners across experience levels.

Figure 21. Top 10 biggest skills gaps in Singapore

#1 Creativity	#6 Interpersonal skills
#2 Critical Thinking	#7 Active learning
#3 Resilience & Flexibility	#8 Entrepreneurship
#4 Emotional intelligence	#9 Leadership
#5 Problem-solving	#10 Communication

Source: QS Employer Survey 2021–2025*

ASEAN countries might draw from this blueprint by creating national portals, aligning courses to live demand, offering tiered subsidies, and working through employer channels, all backed by regularly updated labour market data. Singapore’s solid processes and incremental expansions guided by feedback, learning outcomes (e.g. 98% of learners say they perform better after training) offer a concrete, adaptable foundation.

* QS Employer Survey 2021–2025, based on 584 industry employer responses worldwide. Question asked: “Which of these skills do you find important?” and “How satisfied are you with graduates’ level of these skills?” Respondents rated each skill; scores calculated by the QS Insights team

Key recommendations for ASEAN countries to navigate the future of work

With its young workforce and expanding higher education sector, ASEAN is investing in the skills that matter most for the future of work. Stronger pathways in STEM, combined with progress in innovation and technology, show how the region is preparing graduates not only for today's labour markets but for tomorrow's opportunities.

1

Strengthen STEM foundations

Improve science and engineering education by updating curricula, supporting teachers, and encouraging more students into these fields.

Only ~19% of tertiary graduates in Indonesia are in STEM (World Bank).

2

Update curricula for the digital economy

Revise school and university programmes to include digital, AI, and data-related subjects alongside core STEM disciplines.

By 2030, 59% of employees worldwide will need reskilling or training (WEF).

3

Link higher education with industry

Create stronger ties between universities, technical schools, and employers to ensure students graduate with workplace-ready skills.

Over 80% of ASEAN youth say internships are as important as classroom learning (ILO).

4

Build human skills for future work

Develop critical thinking, leadership, teamwork, and adaptability alongside technical skills, so graduates can thrive in dynamic workplaces. Employers in ASEAN already rate critical thinking (9.4), ethics (8.6), and leadership (7.7) higher than global averages, showing the demand for well-rounded talent.

Economic impact of future skills on ASEAN's growth

US\$900B economic value by 2035

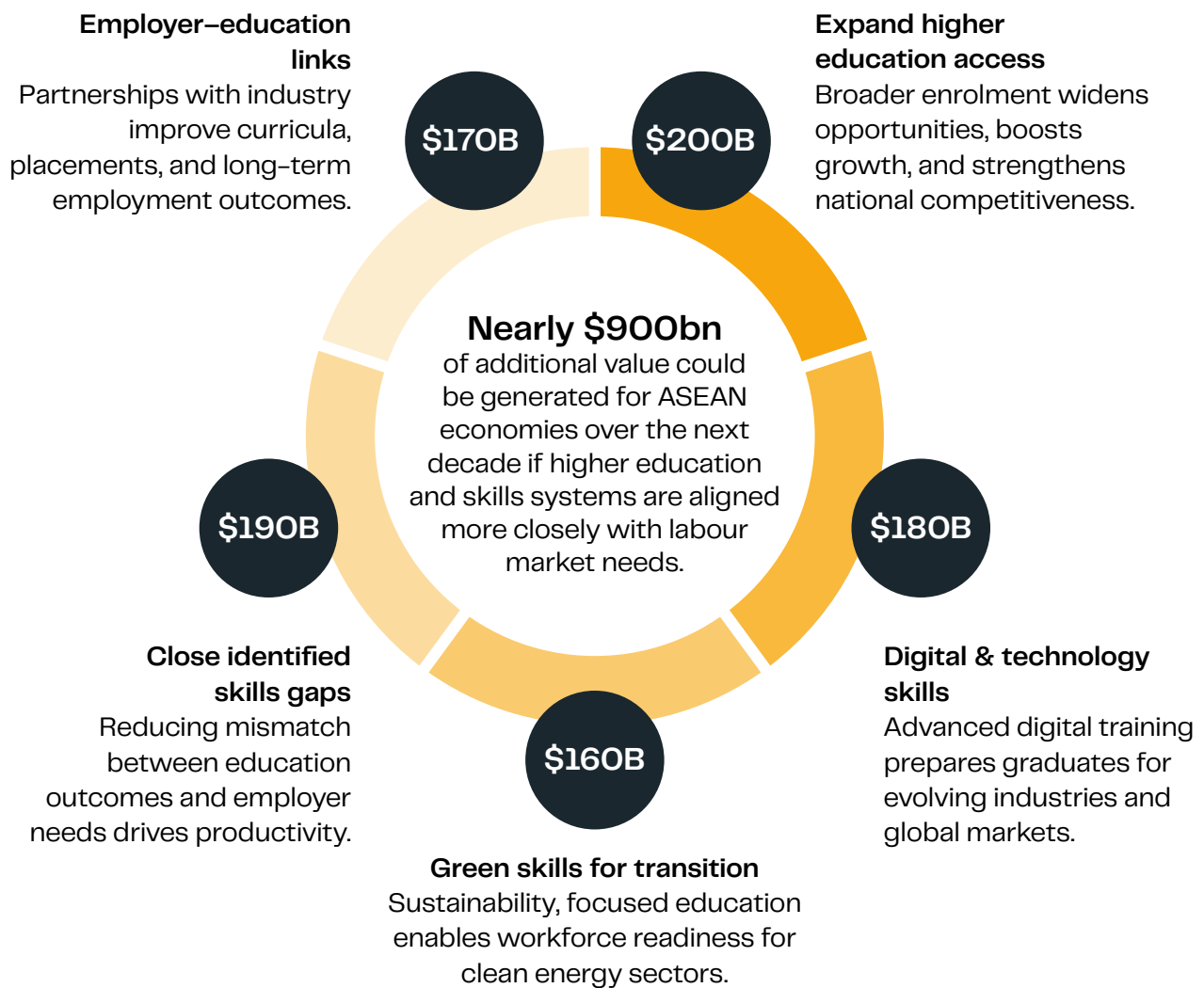
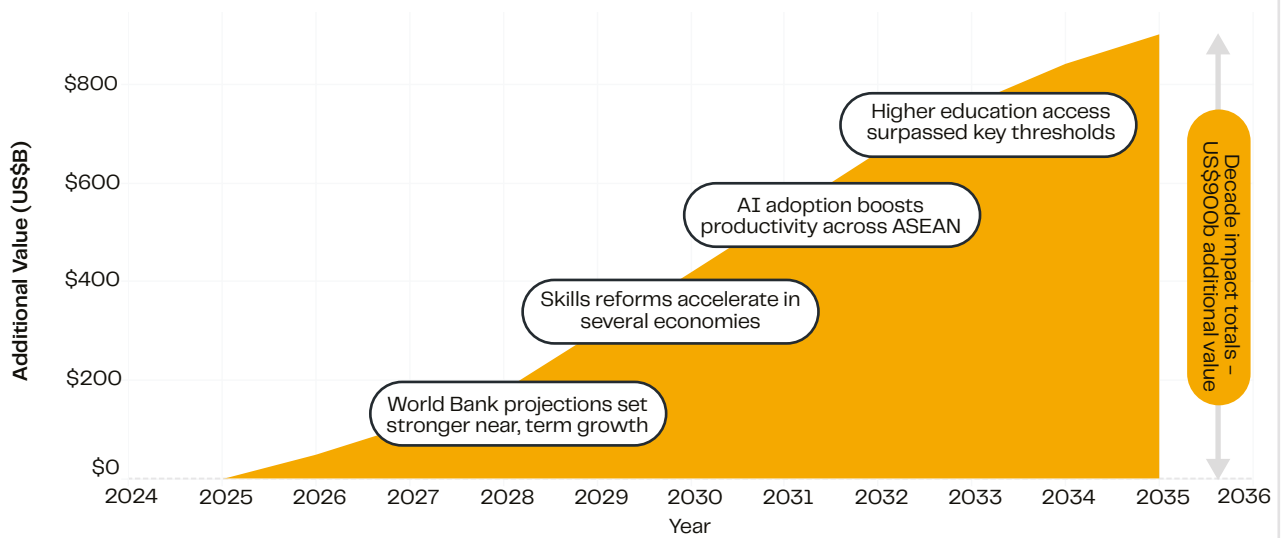
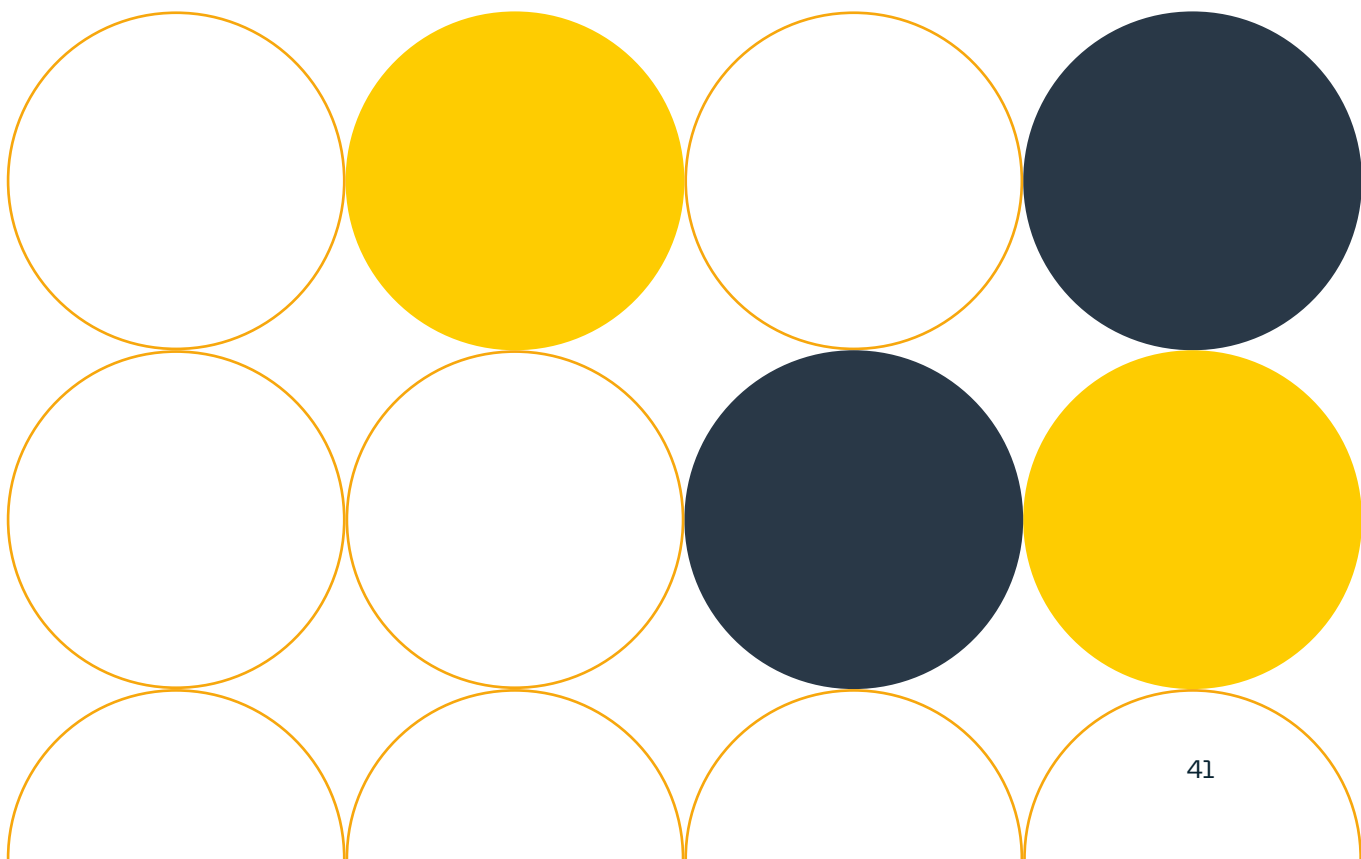


Figure 22. Potential GDP growth through to 2035



Source: Figures are QS estimations based on ASEAN GDP data (World Bank), skills gap findings from the QS World Future Skills Index, and international evidence from the World Bank, OECD, and WEF on the productivity impact of closing skills mismatches. Values are illustrative and intended to show potential additional economic gains rather than precise forecasts.



Innovation, research and sustainability

How do ASEAN countries perform in global sustainability and research benchmarks?

How do they compare to Hong Kong (SAR), Australia, Japan, India, and China?

Innovation and research trends

Slow but steady growth in R&D

ASEAN countries have gradually increased their research spending over the past two decades, though the pace has varied widely. In Singapore, research and development (R&D) expenditure rose from around 1.8% of GDP in 2000 to 2.2% in 2021, consolidating its position as the region's innovation leader. Malaysia and Thailand also moved upward, crossing the 1% mark in 2019, while Indonesia, Vietnam and the Philippines remained well below 0.5% in 2021. These gaps underline how uneven the region's research landscape is: some countries are moving quickly into high-tech and knowledge-driven economies, while others are still laying the foundations.

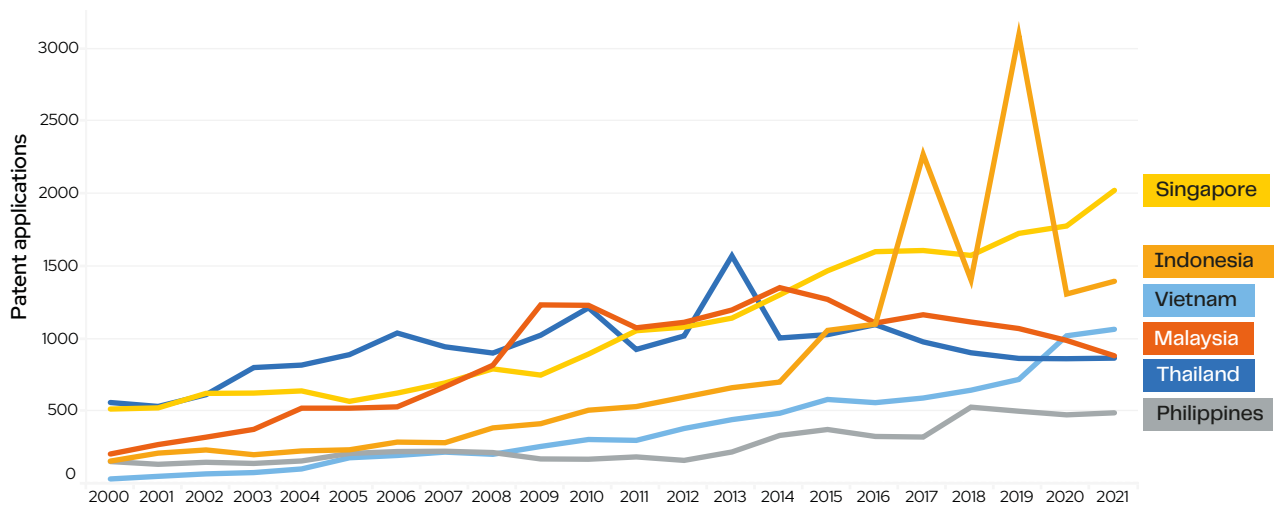
Rising patent activity across the region

Patent applications tell a similar story of both progress and divergence. Singapore's filings almost quadrupled, from just over 500 in 2000 to more than 2,000 by 2021, reflecting both strong domestic capacity and an attractive environment for global firms. Vietnam stands out for its acceleration: applications grew from 34 in 2000 to over 1,000 by 2021, making it one of the fastest risers in ASEAN. By contrast, numbers in Thailand and Malaysia levelled off after peaking around 2010–2014, while Indonesia's growth was more erratic, with a surge after 2015 but lower consistency. The overall trend is upward, but it also shows how countries are moving at different speeds.

Why research in higher education matters

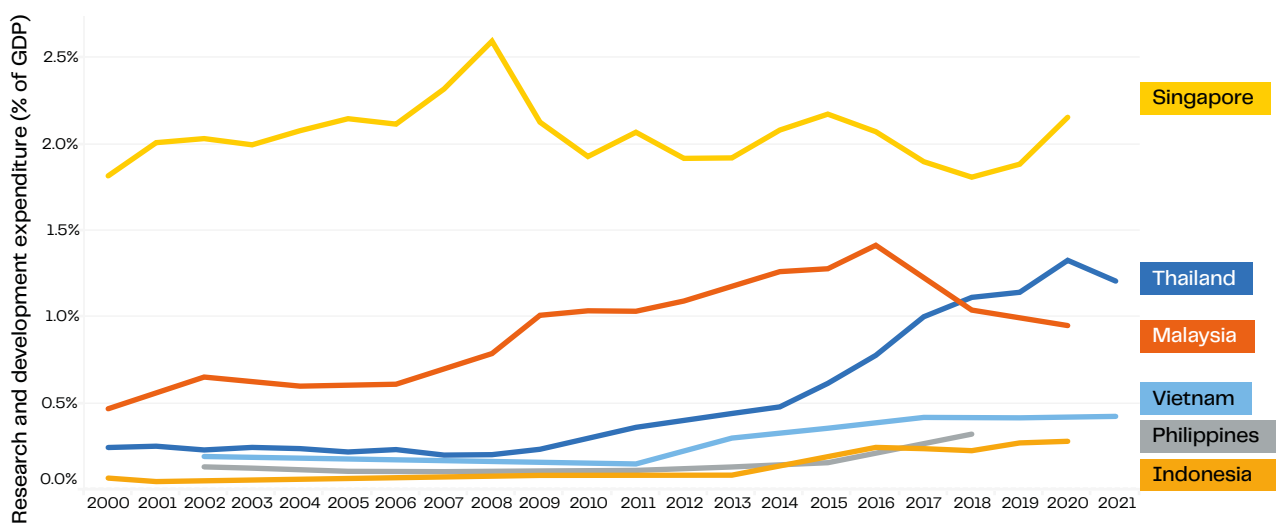
For ASEAN universities, research is more than an academic pursuit; it is now central to national development strategies. Governments have tied higher education closely to innovation policy, recognising that strong research performance boosts both economic competitiveness and visibility in global rankings. Singapore's universities, for instance, have benefited directly from sustained R&D funding since the early 2000s, while newer systems such as Vietnam's are starting to translate modest spending into rapid gains in output. By 2021, the gap between the highest and lowest spenders was stark, but all ASEAN systems share the challenge of aligning research growth with sustainability goals. This is why R&D and patent activity matter: they provide the baseline for understanding how universities can build emerging strengths, deepen their impact, and expand international collaboration in the years ahead.

Figure 23. Patent applications by ASEAN countries



Source: WIPO, via World Bank (World Development Indicators)

Figure 24. ASEAN R&D spending as % of GDP (2000–2021)



Source: UIS (via World Bank, World Development Indicators)

ASEAN's place in QS World University Rankings: Sustainability

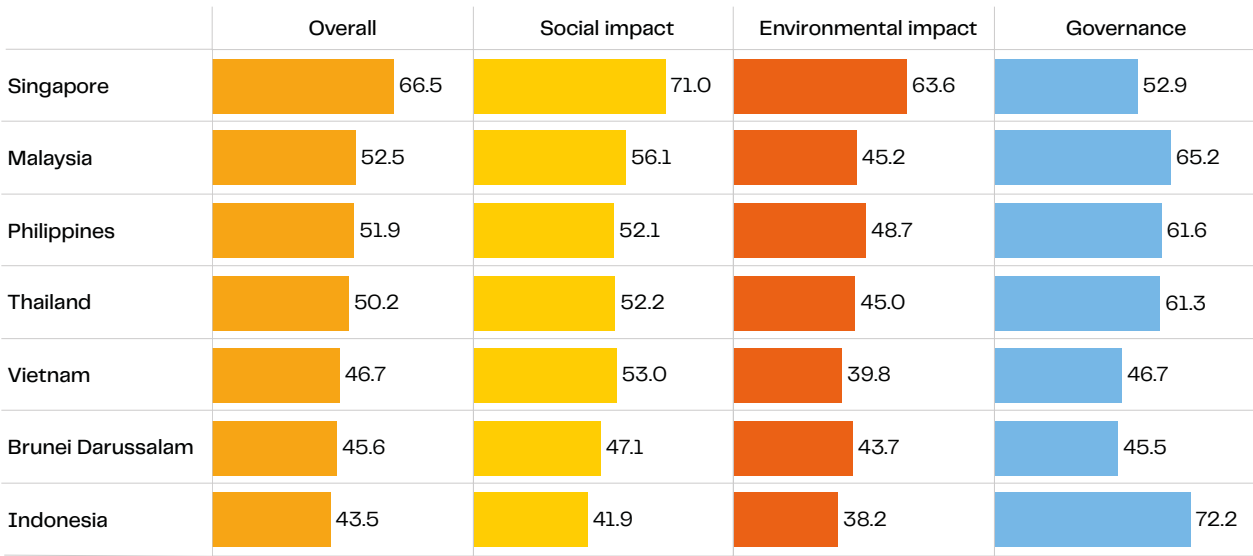
Building stronger sustainability practices

Singapore stands out with the highest overall sustainability score in ASEAN, reflecting consistently strong performance across social impact, environmental impact, and governance. This top performance is driven by Singapore's robust national sustainability policies (for instance, the Green Plan 2030 targeting carbon emissions and green urban development) and its effective governance frameworks. These real-world factors translate into the country's universities excelling in environmental research, social equity initiatives, and transparent institutional governance.

Malaysia follows as a strong performer: national strategies such as mandatory sustainability reporting and green investment incentives have bolstered Malaysian institutions' social and environmental scores. The government's promotion of renewable energy and sustainable development is reflected in universities' outputs, although challenges like deforestation from the palm oil industry and inconsistent enforcement still temper Malaysia's environmental metrics.

Thailand's average scores are moderate but on an upward trend; policies like sustainable tourism initiatives and enhanced corporate governance regulations have helped lift its performance. However, issues such as pollution and social inequality persist, meaning Thailand's gains in environmental and social impact remain limited by these longstanding challenges.

Figure 25. ASEAN QS World University Rankings: Sustainability 2025 results by score

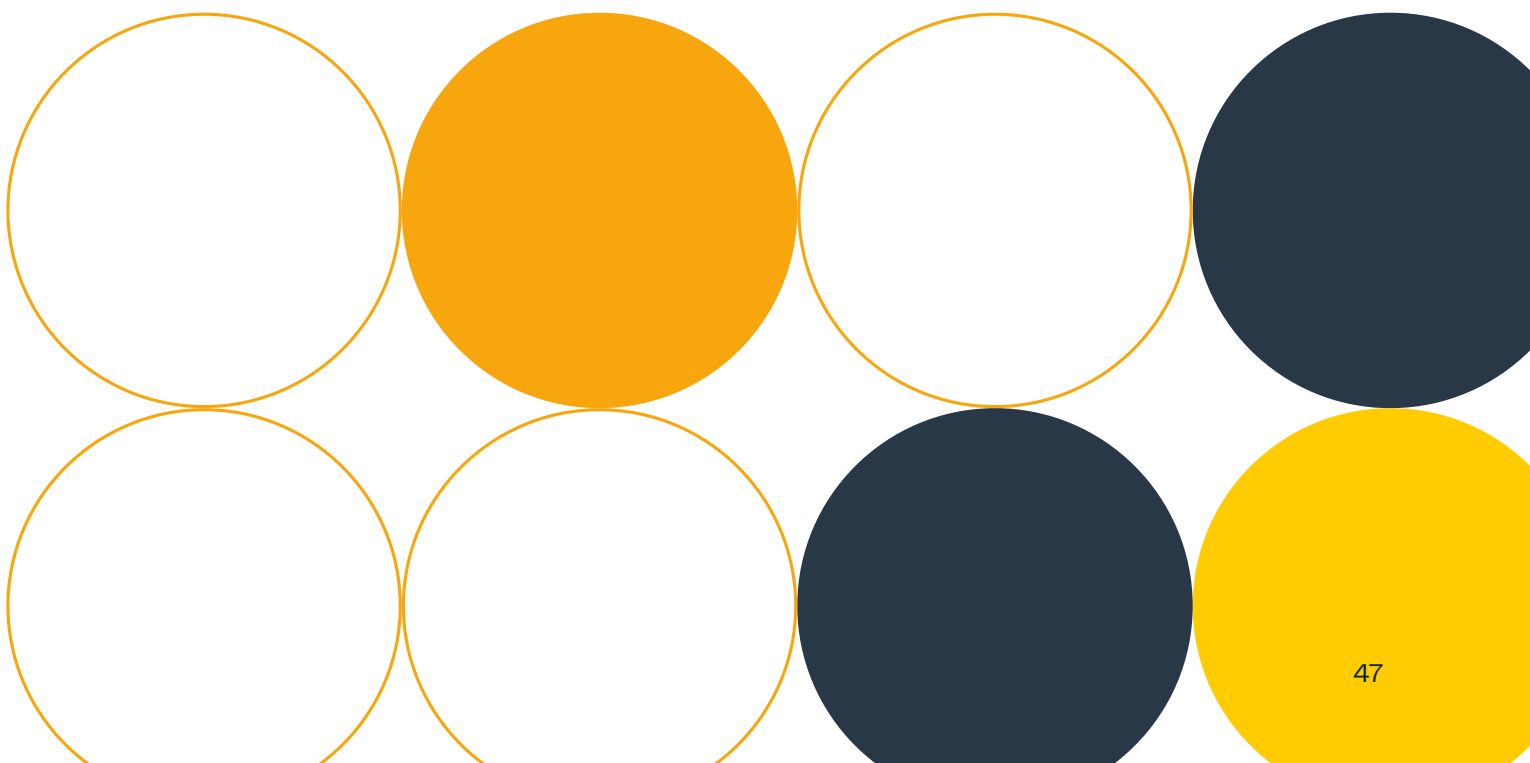


Source: QS Sustainability Rankings 2025 (average score per indicator)

Different journeys across the region

The remaining ASEAN countries show more mixed sustainability outcomes. The Philippines' scores reflect its significant climate and social vulnerabilities: as one of the world's most disaster-prone nations with widespread poverty, it struggles in environmental and social impact categories despite some renewable energy initiatives. Persistent governance issues like corruption remain a hurdle for the Philippines' overall sustainability efforts. Indonesia likewise faces sustainability hurdles: its environmental impact is constrained by ongoing deforestation and land-use emissions even though the government has pledged emission cuts and imposed a forest-clearing moratorium (with limited enforcement). Social conditions in Indonesia have seen gradual improvements in labour standards, but corruption and related governance challenges persist, even as universities and authorities adopt ESG practices to strengthen transparency and governance.

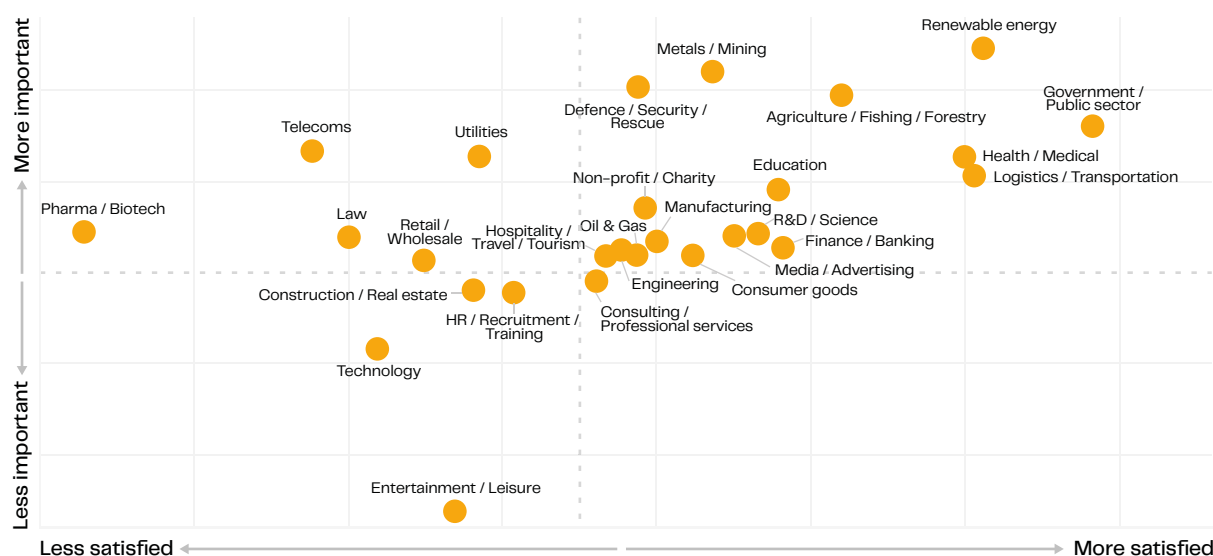
Vietnam's sustainability profile reflects a country in transition: the government has set ambitious renewable energy targets and labour reforms to improve social outcomes, yet heavy reliance on coal and still-developing governance frameworks keep its environmental and governance scores relatively low. In contrast, Brunei Darussalam's high-income welfare state provides a strong social foundation and well-regulated institutions, but its oil-dependent economy results in a relatively low environmental score due to slow adoption of renewable energy initiatives.



Green skills are a shared priority for ASEAN industries and universities

Across ASEAN, the QS Global Employer Survey shows that employers consistently place a high value on environmental awareness skills, with sectors like agriculture (9/10) and renewable energy (9.2/10) reflecting the urgency of climate pressures. Agriculture is especially vulnerable to climate change, and the push towards organic and sustainable farming is creating demand for new skills that can also lift rural incomes.

Figure 26. Employer green skills satisfaction vs. green skills importance



Source: QS Employer Survey 2021–2025*

Logistics and transportation stand out with one of the smallest gaps (8.5 importance vs 7.0 satisfaction), likely reflecting global supply chain pressures and national investment in vocational green training, such as Thailand's TVET programmes in tourism and logistics. Governments themselves are embedding green mandates into public planning, which explains why the public sector shows a smaller gap than most industries.

Other industries reveal sharper misalignments. Pharma and biotech (8.2 importance vs 4.1 satisfaction) and telecoms (8.7 vs 4.9) are clear examples where employers want graduates to apply green responsibility in practice, but higher education programmes are not yet equipping students with those skills. Malaysia's new Green Jobs Act is one policy example linking business incentives to education and workforce preparation¹⁶. Similarly, ASEAN's regional skills framework highlights the need to embed green skills into TVET and higher education, but implementation is still uneven¹⁷. These findings suggest that unless universities reform curricula in fast-growing industries like biotech and telecoms, ASEAN risks losing part of the projected US\$160 billion economic¹⁸ benefit that could come from sustainability-focused education over the next decade.

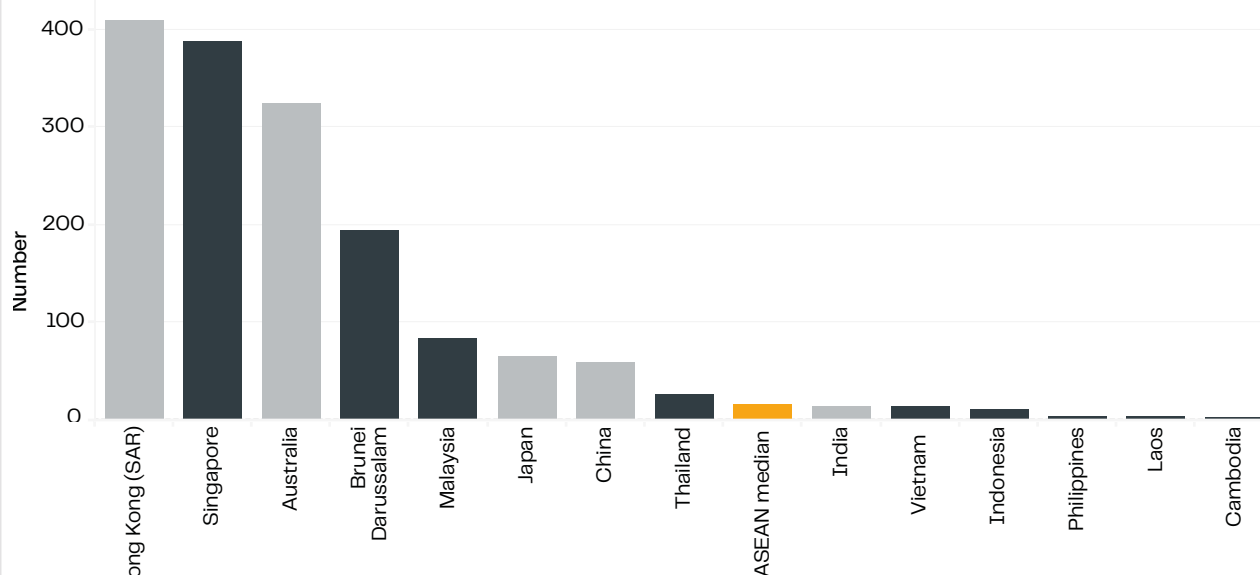
*QS Employer Survey 2021–2025, based on 12,452 employer responses from ASEAN. Question asked: "Which of these skills do you find important?" and "How satisfied are you with graduates' level of these skills?" Respondents rated each skill; scores calculated by the QS Insights team.

Research strengths emerging in ASEAN

Regional leaders and growing output show strong potential for innovation

ASEAN has clear examples of countries demonstrating world-class performance in research productivity. Singapore produces nearly 388 cited publications per 100,000 people, placing it close to Hong Kong (SAR) and Australia, economies long recognised as global research leaders. This reflects Singapore's strong, consistent investment in R&D, its globally connected universities, and its ability to attract and retain talent. Brunei Darussalam also performs impressively on a per capita basis, reflecting the benefits of a small but highly resourced higher education system with a strong international orientation. Malaysia, with more than 82 cited publications per 100,000 people, is now publishing at higher levels per capita than Japan or China, underlining the progress it has made in recent decades by investing in its universities, increasing research funding, and building international partnerships. These standouts not only highlight what is possible in Southeast Asia but also provide role models for other ASEAN members, showing that strong policy, talent mobility, and targeted investment can deliver measurable results in a relatively short period of time.

Figure 27. Number of papers cited in Scopus (per 100,000 population)



Source: Scopus

Beyond individual leaders, ASEAN's collective performance also shows important strengths. The region's average of 16 cited publications per 100,000 people is ahead of India and places ASEAN firmly within the global research conversation, despite many members still being emerging economies. This reflects the region's increasing integration into global research networks, with countries like Thailand, Vietnam, and Indonesia expanding publication output at a rapid pace.

The data also highlights ASEAN's capacity to leverage its youthful population and expanding higher education systems to strengthen knowledge production further. By linking research growth to national innovation strategies, such as Malaysia's focus on applied science and Vietnam's renewable energy and technology ambitions, ASEAN countries are creating a foundation for broader innovation-led development. The increasing number of international collaborations supported by frameworks like the ASEAN Plan of Action on Science, Technology and Innovation also enhances visibility and impact.

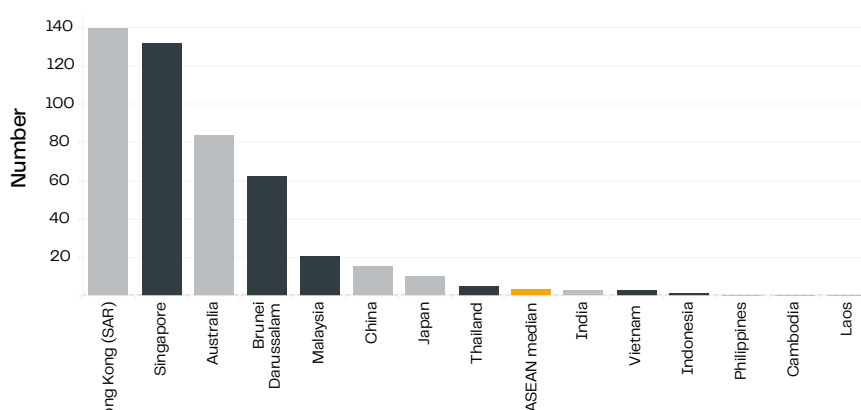
While ASEAN still has room to grow compared to some peers, the existing momentum indicates the region is on the right trajectory: research productivity is expanding, collaboration is deepening, and the long-term potential for innovation-driven competitiveness is clearly within reach.

Where research impact is rising

Highly cited papers reflect regional progress and collaboration

ASEAN's research influence is on the rise, as reflected by increasing numbers of highly cited publications across the region. Within ASEAN, Singapore stands out as a strong performer, its world-class universities and early investments in R&D have given it a leading edge in research quality. In fact, Singapore ranks among the top countries globally for the share of its publications in the top 10% most cited, an indicator of exceptional research quality.

Figure 28. Top 10% citation papers/100,000 population



Source: Scival

Malaysia and Brunei are also notable bright spots; Malaysia's robust output (the largest volume of scientific publications in ASEAN) is now coupled with improving citation, and even Brunei's niche contributions underscore how smaller nations can produce globally recognised research. Notably, many of these top-tier papers involve international and intra-ASEAN collaborations, enhancing the region's scientific visibility and networks in a constructive, forward-looking way.

Growing global visibility through high-impact collaboration

When compared with regional peers, ASEAN's trajectory remains positive. For context, Hong Kong (SAR) and Australia record about 139.5 and 84.1 top 10% citation papers per 100,000 people respectively, a testament to their mature research ecosystems. ASEAN's average of 3.46 (just above India's 2.85) may seem modest by comparison, but it reflects a region on an upswing with significant room for growth. Investment in science is bearing fruit as countries like Malaysia, Thailand, and Vietnam rapidly expand their research capabilities, helping to narrow the gap with global leaders. Indeed, more ASEAN papers are entering the world's top 10% most-cited bracket, underlining improvements in research quality and global relevance. This growing impact feeds into innovation capacity and higher education progress: research productivity is a key indicator of a country's innovation capability, and studies show that strengthening research excellence contributes to economic development and societal wellbeing. By cultivating highly cited, globally collaborative research, ASEAN countries are bolstering their knowledge economies and laying the groundwork for sustainable innovation-led growth in the years ahead.

Partnerships driving visibility and shared knowledge

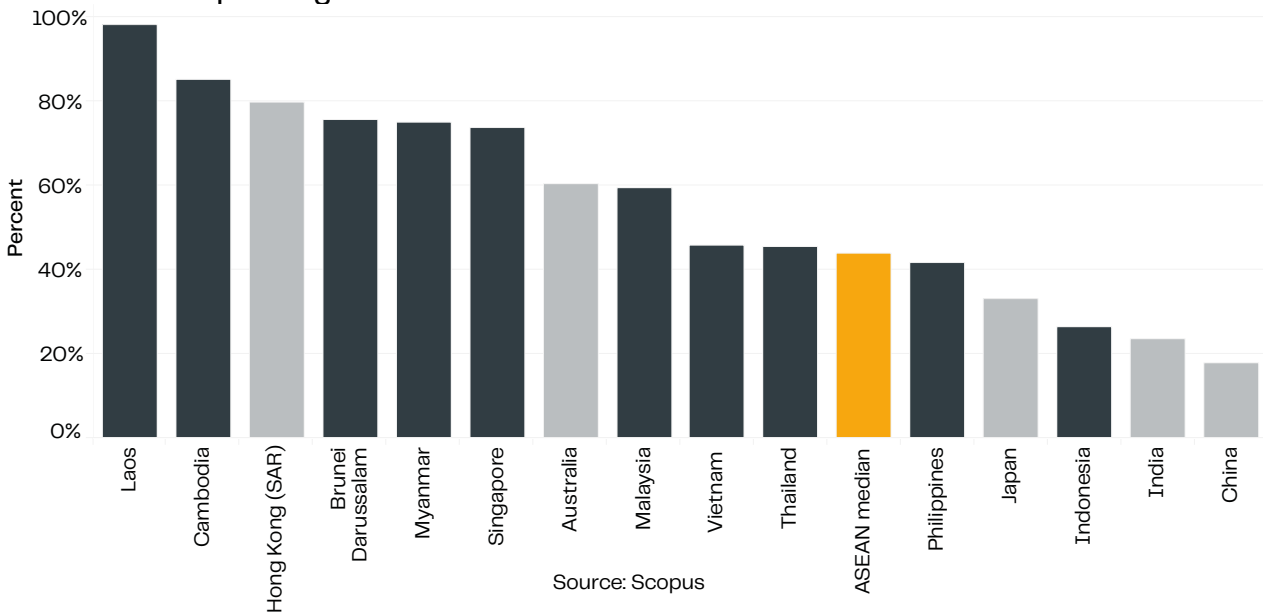
International collaboration is one of ASEAN's strongest assets in building research capacity. Several countries record exceptionally high collaboration rates, showing how global partnerships are helping smaller systems build visibility and credibility.

Laos, Cambodia, Brunei and Myanmar all publish the majority of their research with international co-authors, giving them access to wider expertise, resources and networks that strengthen the quality of their work. Singapore, with nearly three-quarters of its research involving global partners, demonstrates how even advanced systems benefit from openness, positioning itself as a trusted hub that connects Asia with leading universities worldwide. Malaysia too records over half of its publications with international collaborators, underlining the role of partnerships in broadening research scope and creating impact. These high figures reflect ASEAN's outward-facing approach and its ability to embed itself within global science.

ASEAN connecting with global research communities

On average, around 44% of ASEAN's publications are internationally co-authored – a share that places the region ahead of larger research economies like Japan, India and China. This shows how ASEAN's mid-sized systems, including Thailand, Vietnam and the Philippines, are balancing domestic capacity with strong international links. These partnerships open doors to joint funding, wider citation impact, and opportunities for researcher and student mobility. They also highlight ASEAN's emerging role as a connector between global regions: from collaborating with East Asia's science leaders to working closely with Australia and Europe. While Indonesia collaborates less by percentage, its large domestic research base illustrates the different pathways ASEAN members are taking towards impact. Overall, the data confirms that ASEAN's collaborative mindset is helping to raise the region's research profile, fostering stronger ties with the world and creating a foundation for innovation-led growth.

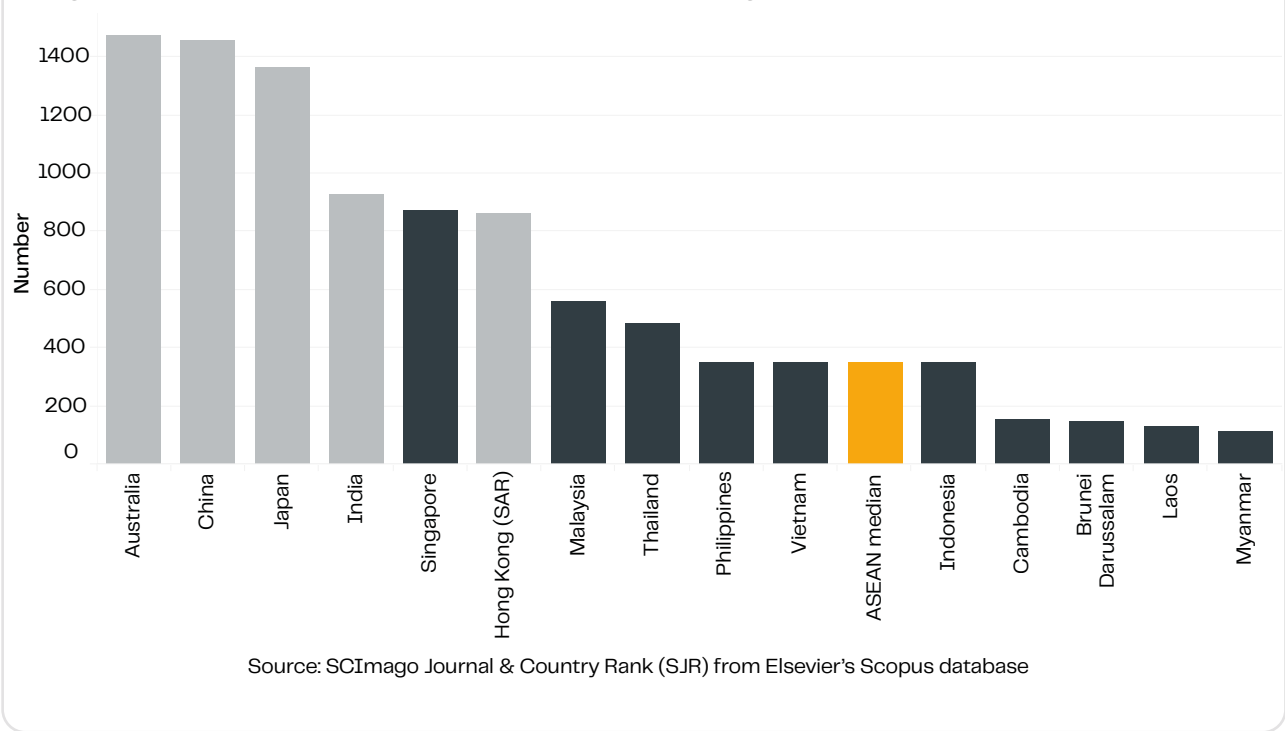
Figure 29. Share of publications with international co-authors in ASEAN and selected peer regions



Long-term impact reflected in sustained citations

The H-index highlights how ASEAN's research is gaining long-term influence, measuring not just how much is published but how often it continues to be cited. ASEAN's median score of 350 shows that countries across the region now have a base of research with lasting visibility. Singapore leads ASEAN with 873, close to Hong Kong (SAR), while Malaysia (559) and Thailand (485) reflect steady progress and a strong capacity to produce work that stands the test of time. These results confirm that ASEAN's scientific contributions are increasingly being recognised globally, not just in the short term but through continued citation and influence. They illustrate a growing maturity in research across the region, where the focus is shifting from volume alone to sustained impact.

Figure 30. H-Index comparison across ASEAN and global economies

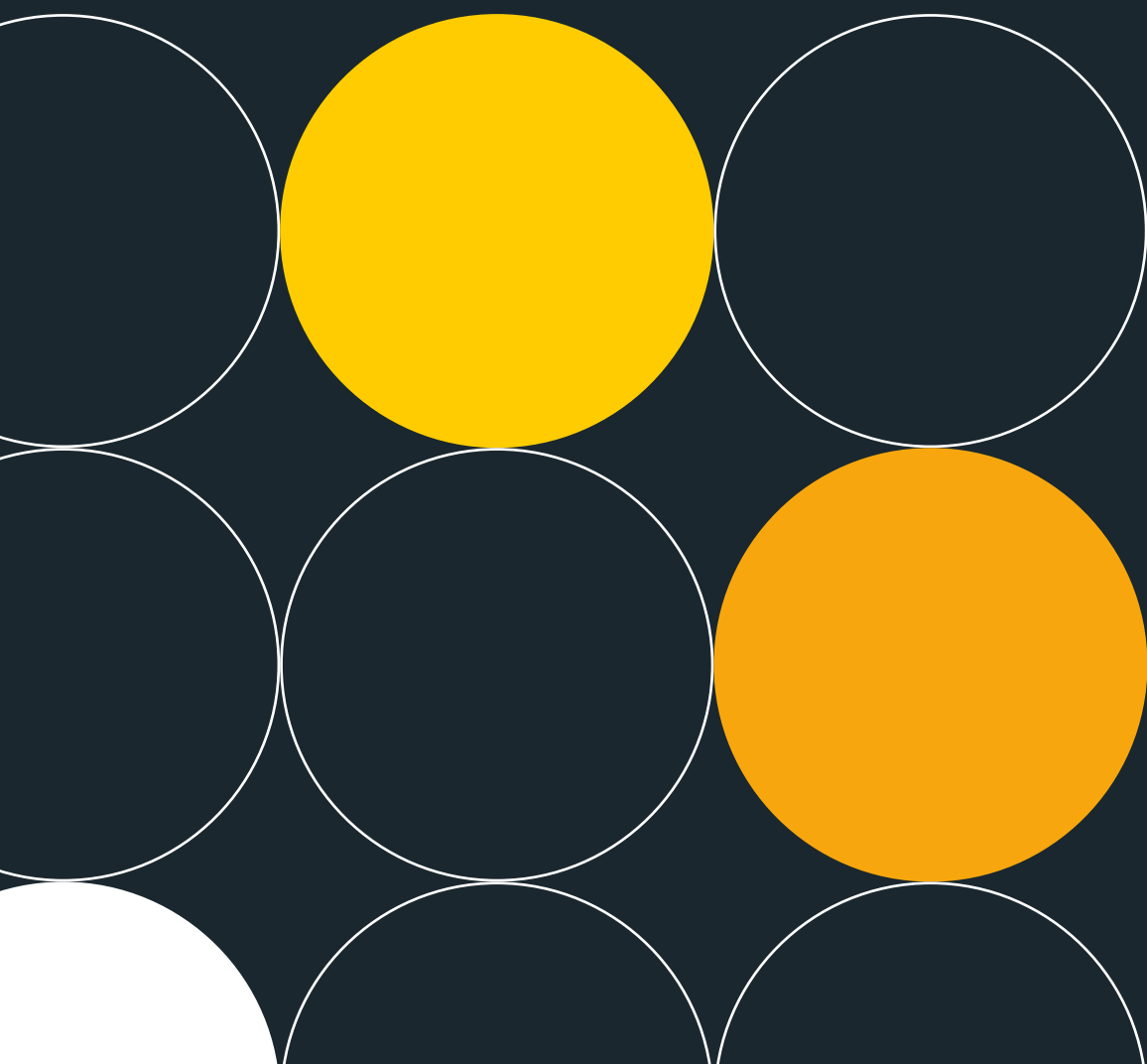


Lasting influence supports innovation and collaboration

Beyond the leading countries, the wider ASEAN region is also establishing a presence in global research impact. The Philippines, Vietnam, and Indonesia now report H-indices around 350, underlining that their universities and institutes are producing hundreds of papers with enduring global relevance. Smaller systems such as Cambodia, Laos, and Brunei are also building their citation footprint, often through partnerships and regional initiatives that give their research wider reach. Compared with peers like Australia or China, ASEAN's figures are more modest, but the direction is clear: research depth is becoming more widely shared across the region. This base of long-term influence not only raises ASEAN's visibility but also supports its ability to innovate and work with partners on challenges that matter regionally and globally.

Conclusion

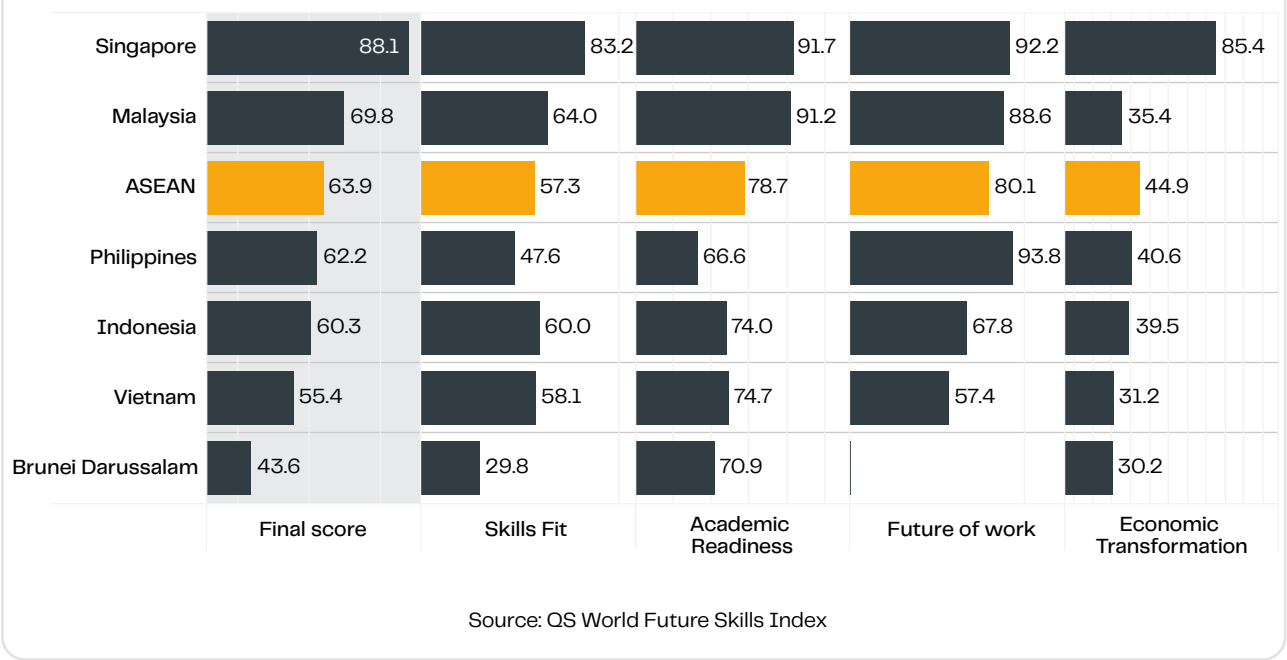
How ASEAN higher
education shapes
tomorrow's workforce



Measuring ASEAN's preparedness for the future of work

The QS World Future Skills Index, released in early 2025, measures how well countries are preparing their workforces for the jobs of tomorrow. Built on four pillars, Academic Readiness, Skills Fit, Future of Work, and Economic Transformation, the Index provides a clear picture of how education systems, labour markets, and economies align to meet future demand. For ASEAN, the results highlight both strengths and gaps: the regional average final score of 63.9 shows solid progress, but also underlines that universities, employers, and governments must work more closely together. By comparing countries side by side, the Index helps policymakers and higher education leaders understand where talent pipelines are keeping pace, where mismatches remain, and what reforms are needed to unlock the region's full potential.

Figure 31. ASEAN performance in QS World Future Skills Index



Singapore and Malaysia: Strong foundations, different challenges

Singapore's final Index score is the highest in the region at 88.1, reflecting outstanding Academic Readiness (91.7) and a strong Future of Work profile (92.2). This is no surprise given the global standing of its universities and the government's long-term investment in reskilling through SkillsFuture. Its Skills Fit score (83.2) shows how well curricula align with employer demand, making Singapore a model for balancing higher education and labour market needs.

Malaysia's final score of 69.8 also stands out, thanks to excellent Academic Readiness (91.2) and a strong Future of Work score (88.6). Yet its Economic Transformation score is just 35.4, showing how an economy still reliant on manufacturing and commodities struggles to fully use its graduate talent. This imbalance explains why so many Malaysian graduates work in roles below their qualifications, despite the country's strong higher education output.

Indonesia, Vietnam and the Philippines: Growing systems

Indonesia scores 60.3 overall, with moderate performance in Academic Readiness (74.0) and Skills Fit (60.0), but a weaker Economic Transformation score (39.5). This reflects a booming digital economy that outpaces the education system's ability to provide advanced digital skills. Vietnam is similar, with a final score of 55.4. Academic Readiness is fair (74.7) but the country's low Economic Transformation score (31.2) shows the challenge of moving from growth in manufacturing to a more innovative economy. The Philippines, with an overall score of 62.2, is unusual: its Future of Work score is very high (93.8), showing a strong demand for new skills, but its Academic Readiness is lower (66.6) and Skills Fit weaker still (47.6). This gap between employer demand and graduate preparation explains the persistent hiring challenges in areas like ICT and engineering. For these three countries, universities are expanding, and enrolment is rising, but curricula reform and investment in research remain critical bottlenecks.

Brunei: Building from a narrow base

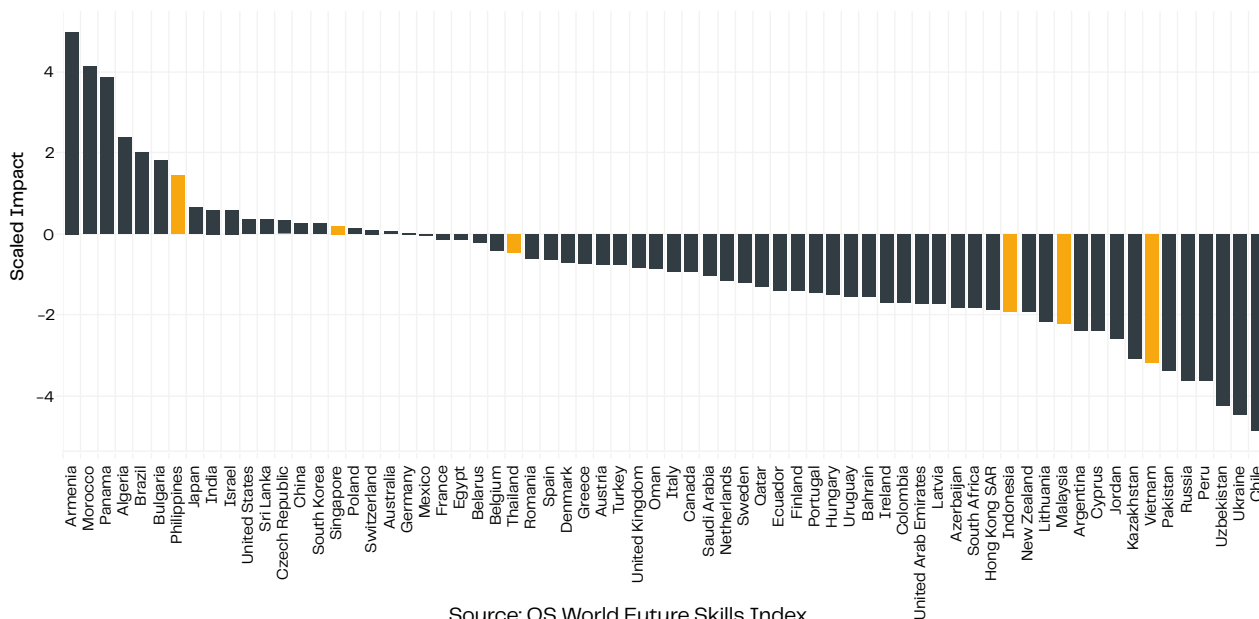
Brunei's overall score of 43.6 is the lowest in the region, with weak performance across most indicators: Academic Readiness (70.9), Economic Transformation (30.2), and Skills Fit (29.8). The small size of its higher education system, dominated by Universiti Brunei Darussalam, and its continued reliance on oil and gas leave graduates with fewer pathways into high-skill industries. The government's Digital Economy Masterplan 2025 is an acknowledgement of this gap, setting out plans to build ICT skills and diversify into new sectors. For Brunei, improving research capacity and building partnerships with international universities will be essential if the country is to improve both its skills pipeline and its ability to absorb future-ready graduates.

ASEAN's divergent skills spectrum

ASEAN economies reveal a striking three-part spectrum when it comes to skills and work. Some countries are under acute pressure, with industries expanding faster than the education system can deliver trained workers. Others show a rare balance, where government policy and university capacity keep pace with employer demand. A third group faces the reverse challenge: producing more graduates than the labour market can absorb, leaving many young people underemployed. Understanding this balance–pressure–surplus spectrum is crucial, because it shows that ASEAN is not moving in a single direction. Instead, the region embodies multiple futures of work playing out at the same time.

When compared with Asian peers, the ASEAN picture becomes even clearer. South Korea and Hong Kong (SAR), for instance, sit closer to the oversupply side of the scale, with highly educated workforces but slower job creation in emerging sectors, echoing Malaysia and Indonesia's graduate underutilisation.

Figure 32. Skills balance index (–5 to +5): From graduate oversupply to talent shortage



Source: QS World Future Skills Index

By contrast, Singapore looks more like Switzerland or Germany, where strong policies and responsive universities keep the system near balance. Meanwhile, the Philippines resembles India and Brazil, where economic growth is rapid but skills shortages risk

holding industries back. This comparison underscores that ASEAN countries are not isolated cases; their challenges mirror broader global patterns, and the solutions, from tighter university–industry links to lifelong learning incentives, can be adapted from peers both within and outside the region.

Skills under pressure in the Philippines, balanced in Singapore

The QS World Future Skills Index places the Philippines toward the higher end of the scale and Singapore much closer to zero, signalling two very different realities.

In the Philippines, a booming digital economy is creating far more jobs than the local skills pipeline can deliver. Analysts project 1.1 million new IT and digital jobs by 2028, yet 90% of Filipinos still lack basic ICT literacy, leaving employers struggling to fill roles. Around three in ten Filipino workers do not have the qualifications needed for the jobs being created, and nearly 8 in 10 employers across Asia Pacific report difficulty hiring in IT and engineering¹⁹.

Singapore, by contrast, sits close to balance. Government programmes like SkillsFuture have helped align supply and demand by supporting lifelong learning, while its universities remain strong in digital and green disciplines. There are still shortages in areas such as cybersecurity and AI, but overall, the system keeps pace, making Singapore a regional benchmark compared with the pressures facing the Philippines' labour market.

Surplus in Malaysia and Indonesia

Malaysia and Indonesia illustrate the risks on the other side of the scale. Malaysia's universities graduate large cohorts each year, but around seven in ten employed graduates work in low- or semi-skilled roles, and mismatch rates have been rising. Indonesia faces a similar problem, with over a million unemployed graduates and a growing pool of underutilised talent. Governments have launched initiatives to link universities more closely to industry, but the adjustment is slow. Without stronger job creation in knowledge-intensive sectors, both countries risk wasting the skills they are working hard to build.

Recommendations

1

Update curricula to enable current and future skills needs

Universities across ASEAN need to bring digital, AI, and green skills directly into their teaching. Closing today's gaps could add almost US\$900 billion to the region's economies by 2035.

2

Work hand in hand with industry

Employers keep saying they need more problem-solvers and critical thinkers. Universities should design programmes with industry, expand internships, and back applied research that answers real business needs. This not only makes graduates more employable but also helps keep talent in high-value sectors at home.

3

Build regional research capacity

Stronger research ecosystems will lift the whole region. Expanding investment, creating joint research centres, and encouraging cross-country projects will allow more universities to contribute to innovation. A wider base of research capacity will make ASEAN more competitive globally.

4

Ensure sustainability is front and centre of research, teaching and operations

Sustainability should run through everything universities do, teaching, research, and campus operations. From renewable energy adoption to embedding environmental responsibility in curricula, institutions that put sustainability at their core will be better placed to attract talent, investment, and partnerships.

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