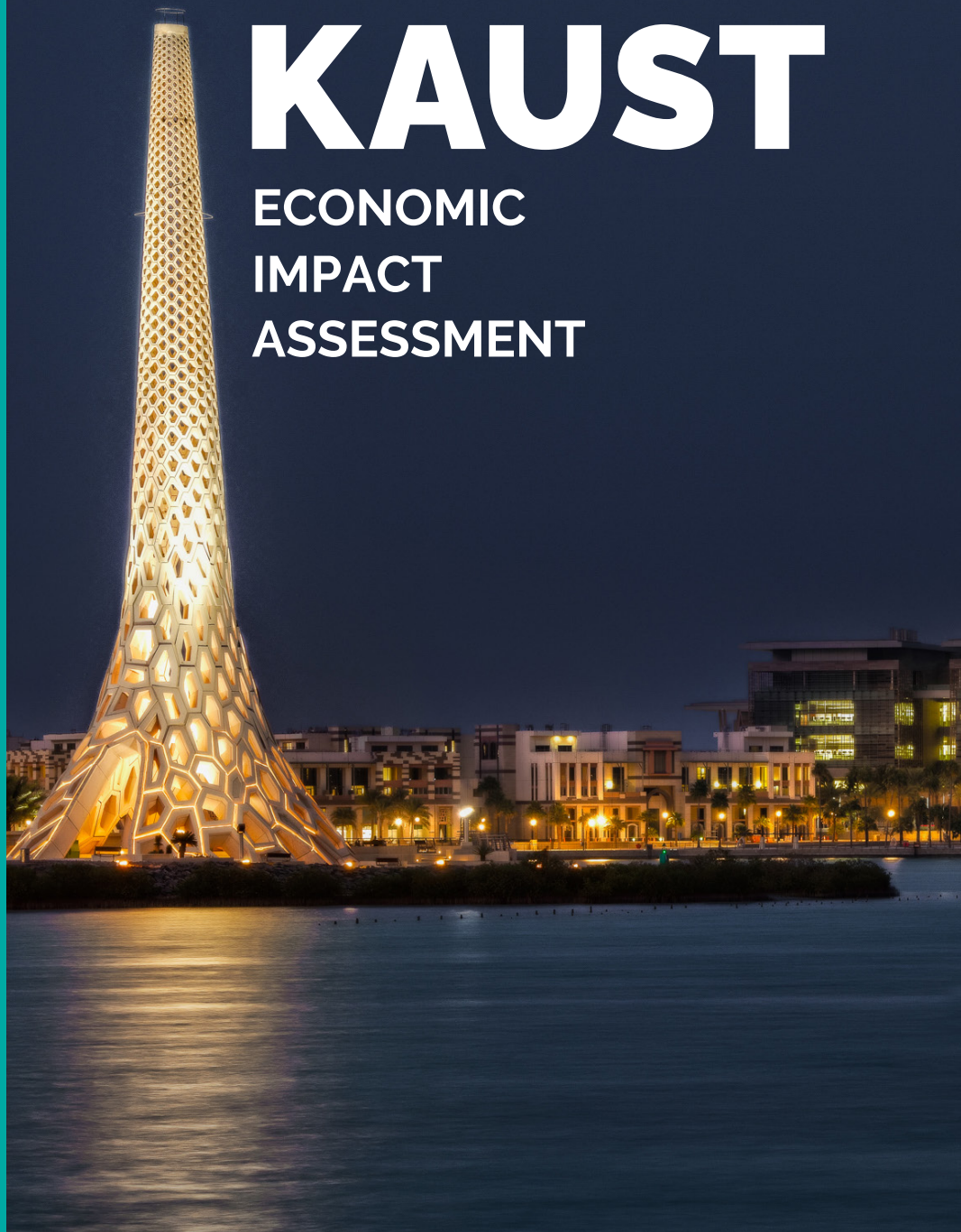
رؤية VISION 2030
المملكة العربية السعودية
KINGDOM OF SAUDI ARABIA



جامعة الملك عبدالله للعلوم والتقنية
King Abdullah University of Science and Technology

KAUST

ECONOMIC IMPACT ASSESSMENT



Foreword

Message from the Chairman of the KAUST Board of Trustees

Universities exist to serve society. Whether through advancing knowledge, educating future leaders, supporting innovation, or informing government policy, their purpose is ultimately grounded in the public good. As expectations of universities evolve, particularly in the context of global challenges and national transformation, it becomes increasingly important not only to deliver impact, but to demonstrate clearly how that impact is realized.

There are many ways in which universities contribute to society, and not all of them are easily measured. The generation of new knowledge, the cultivation of critical thinking, and the long-term benefits of education often resist simple quantification. Nonetheless, there is value in seeking to understand, as rigorously as possible, the tangible effects that universities have on the economies and communities they serve.

At KAUST, we share this commitment to understanding and articulating our impact. As a mission-driven university aligned with the priorities of the Kingdom of Saudi Arabia, KAUST places particular importance on demonstrating how our activities contribute to economic development, diversification, and long-term prosperity. This report is an important step in that direction.

Behind the figures are the faculty, staff, students and partners who produce them. KAUST's economic contribution is not just a function of the institution's design; it is the accumulated result of research pursued, companies founded, graduates trained and partnerships sustained over time.

Economic impact, however, is only one part of a much broader picture. Not everything that matters can be monetized, and the true value of a university extends beyond what can be captured in financial terms. Nevertheless, by undertaking this analysis, we gain a deeper appreciation of the scale and nature of our contribution, and we strengthen our ability to engage with partners, policymakers, and society at large.

We hope that this report provides both insight and a foundation for further discussion. It is part of an ongoing journey; one in which we continue to refine how we understand, measure, and communicate the impact of KAUST in service of the Kingdom of Saudi Arabia and Vision 2030.



His Royal Highness, Prince Abdulaziz bin Salman bin Abdulaziz Al-Saud

Chairman
Minister of Energy
Minister of Industry and Mineral Resources

King Abdullah University
of Science and Technology (KAUST)



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Executive Summary

KAUST generates an estimated USD 5.6 billion of annual economic value for Saudi Arabia

King Abdullah University of Science and Technology (KAUST) contributes to Saudi Arabia's economic transformation through research, education, innovation and strategic partnerships. These activities strengthen the Kingdom's research and innovation ecosystem, support economic diversification and contribute directly to the ambitions of Vision 2030.

This report presents the findings of an Economic Impact Assessment undertaken by L.E.K. Consulting for the 2024–25 assessment year. It estimates that KAUST generated approximately USD 5.6 billion in annual economic value for Saudi Arabia.

This estimate incorporates the University's contribution across multiple pathways after adjusting for overlap between activities to avoid double counting. Within this total, KAUST is estimated to generate approximately USD 2.2 billion in Gross Value Added (GVA) and support at least around 28,800 full-time equivalent (FTE) jobs across the Saudi economy, where employment and GVA impacts can be robustly estimated.

The findings demonstrate that KAUST is making a substantial measurable contribution to the Kingdom's economy. At the same time, the assessment should be interpreted as conservative, reflecting only those impacts that can be quantified using internationally recognized methodologies. Many wider contributions—including policy advice, environmental stewardship, international reputation and future innovation—are not assigned monetary values.

Total Economic Value

$5.6 billion

Including:

Gross Value Added

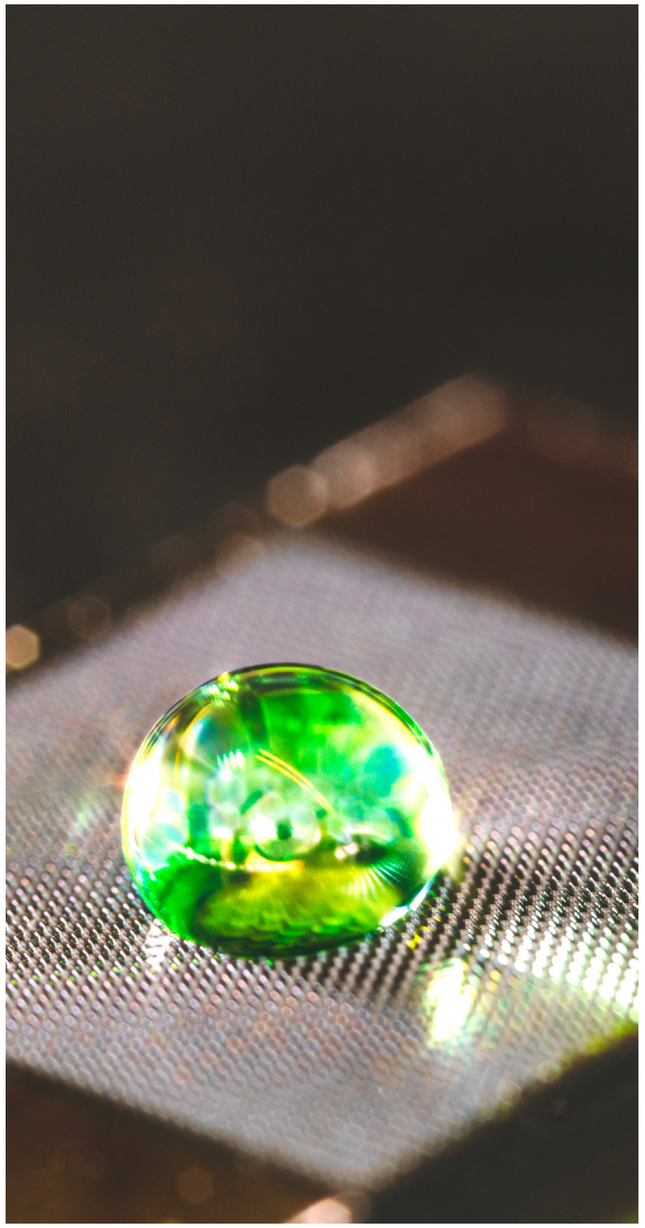
$2.2 billion

Employment Supported

28.8k FTE Jobs

Figure ES.1: Aggregate economic impact of KAUST.

Note: Total economic value reflects the overall economic activity; GVA measures the value created through core university operations such as teaching and research and aligns most closely with GDP; and FTE employment estimates the labor-market effects; GVA and FTE estimates are associated with those pathways where input-output methodologies have been applied.



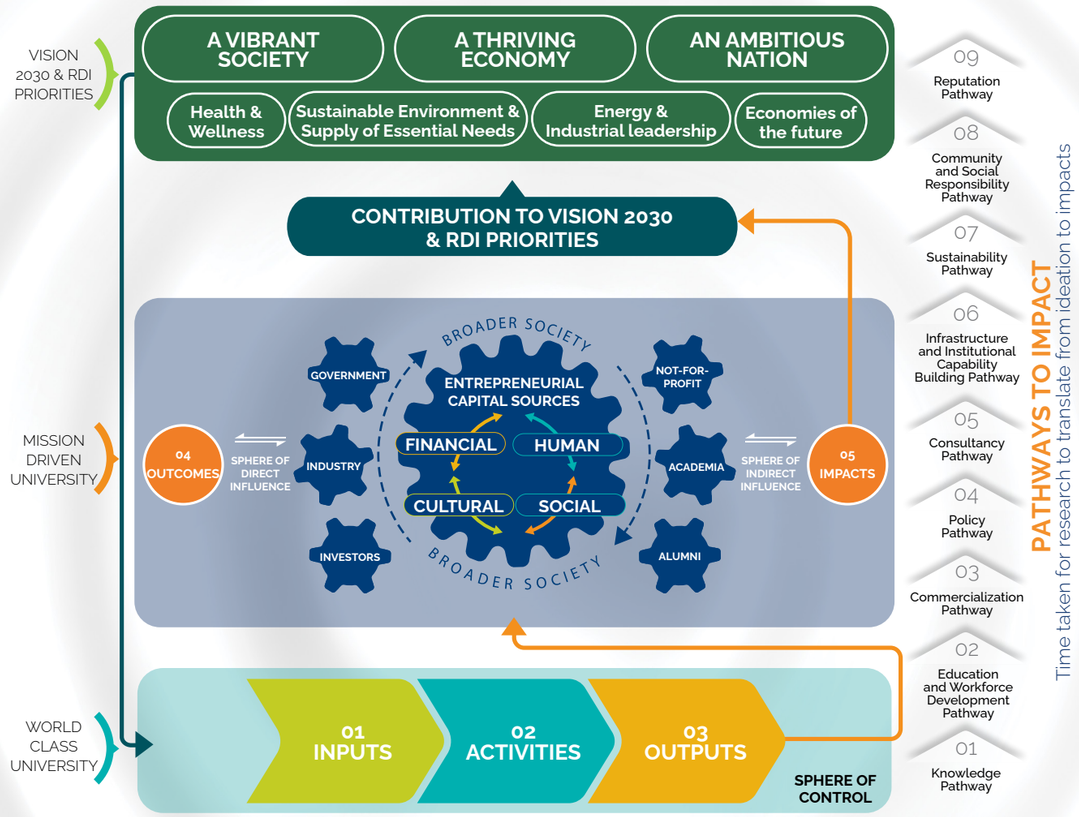
The KAUST Impact Framework

The KAUST Impact Framework (Figure ES.2) provides the conceptual foundation for the assessment by identifying different pathways through which KAUST contributes to Saudi Arabia's economy and society. It recognizes that the University's contribution extends well beyond research funding or institutional expenditure. Through research, education, innovation and engagement, KAUST creates knowledge, develops talent, builds partnerships and supports the translation of scientific discoveries into economic and societal outcomes.

The Framework recognizes that universities create value through a connected system rather than through isolated activities. Research generates new knowledge, education develops highly skilled graduates, innovation transforms discoveries into technologies and enterprises, and partnerships enable knowledge to be adopted by government, industry and society. Together these activities contribute to long-term prosperity and support the objectives of Vision 2030.

KAUST Impact Framework

KAUST priorities are shaped by Vision 2030 and the RDI priorities, informed by ongoing engagement and feedback from strategic partners



The Framework identifies nine impact pathways through which KAUST contributes to economic and societal development. Some pathways can be quantified using established economic methodologies, while others are recognized as important dimensions of KAUST's contribution but are not included in the quantitative assessment because robust monetary valuation is not yet possible (Table ES1).

Table ES.1: KAUST impact pathways.

Pathway	Levers (22 in total)	Assessed quantitatively
I. Knowledge	A. Research spillovers	✓
II. Education and Work-force Development	A. Graduate earnings premium	✓
	B. Fiscal impact from graduates	✓
	C. Global talent development	✓
	D. Executive and lifelong learning programs	✓
III. Commercialization	A. Spinouts and startups	✓
	B. Research commercialization – Licensing and IP income	✓
IV. Policy	A. Policy contributions	
V. Consultancy	A. Industry collaboration projects	✓
	B. Consultancy services	✓
VI. Infrastructure and Institutional Capability Building	A. Operating expenditure	✓
	B. Capital expenditure	✓
	C. Facility rental to external users	✓
	D. Long-term economic gains and achievability of Saudi National Agenda	
VII. Sustainability	A. Ecological impact (coral restoration, renewable energy)	
VIII. Community and Social Responsibility	A. Community engagement	
	B. Local business clustering (near KAUST)	
	C. Local community infrastructure	
	D. Impact via KAUST community services	
	E. Other humanitarian initiatives	
IX. Reputation	A. Talent flow (leadership positions held by alumni/faculty)	
	B. Campus visits and tourism	

Methodological approach

Estimating the economic contribution of a modern research university requires more than a single analytical approach. Universities create value through research, education, innovation and institutional activity, each of which generates economic benefits through different mechanisms.

Research contributes to economic growth by generating knowledge that improves productivity and stimulates innovation. Education develops highly skilled graduates whose capabilities contribute throughout their working lives. Meanwhile, the University's expenditure, capital investment, commercialization activities and industry partnerships generate economic activity through different mechanisms. Because these channels operate differently, each requires a distinct analytical approach.

Accordingly, this assessment combines three complementary methodologies, each representing internationally recognized good practice in the economic assessment of research universities. Similar approaches have been applied in studies undertaken for leading universities, including Cambridge, Oxford and Stanford[1], while the models used here have been adapted to reflect the structure of the Saudi economy and the availability of national data.

Method/ What it Measures	How it Works	Lever Assessed
Research Spillover Analysis		
The wider productivity gains generated by KAUST's research activities	Estimates how new knowledge extends beyond the University itself as it is adopted by firms, industries, and public institutions	I.A. Research Spillovers
Input-Output Analysis		
The economic activity generated by KAUST's operational and financial footprint	Captures the direct, indirect, and induced effects of KAUST's operational expenditure, capital investment, industry collaborations, startups and spinouts, consultancy services, and technology commercialization across the wider economy	II.C. Global talent development (fellowships, internships for international students) II.D. Executive and lifelong learning programs III.A. Spinouts and startups III.B. Research commercialization – licensing and IP income V.A. Industry collaboration projects V.B. Consultancy services VI.A. Operating expenditure VI.B. Capital expenditure VI.C. Facility rental to external users
Graduate Earnings Premium Analysis		
The long-term economic contribution of KAUST's educational activities	Compares the lifetime earnings of KAUST graduates with an appropriate counterfactual population to estimate the value added by a KAUST education	II.A. Graduate earnings premium II.B. Fiscal impact from graduates (VAT and General Organization for Social Insurance (GOSI)).

Taken together, these complementary methodologies provide a comprehensive and evidence-based estimate of KAUST's measurable economic contribution while ensuring that impacts are counted once, and only once, across the assessment.

Interpreting the findings

The estimated annual economic contribution of USD 5.6 billion represents KAUST's measurable contribution after adjusting for overlap between different activities. Particular attention has been given to avoiding double counting so that individual contributions are counted only once within the aggregate estimate.

The resulting estimate should be interpreted as a lower-bound estimate of KAUST's measurable economic contribution. Conservative assumptions have been adopted wherever uncertainty exists, and the assessment focuses only on those dimensions of impact that can be measured robustly using established economic methodologies. As a result, important contributions, including policy influence, environmental stewardship, community development, international reputation and future innovation - are recognized but are not reflected in the quantified estimates.

The methodologies employed in this assessment are calibrated to the current structure of the Saudi economy and therefore provide a robust estimate of KAUST's contribution today. However, they cannot fully capture the dynamic effects of structural economic transformation. As Saudi Arabia continues to diversify its economy under Vision 2030, deepen its research and innovation ecosystem, and expand knowledge-intensive industries, the returns generated by research, entrepreneurship and highly skilled graduates are likely to increase. The economic contribution estimated in this report should therefore be viewed as a robust baseline against which KAUST's future contribution can be assessed, rather than an upper bound on its long-term impact.



01





Introduction

L.E.K. Consulting was commissioned to undertake an Economic Impact Assessment (EIA) of King Abdullah University of Science and Technology (KAUST), focusing primarily on the 2024–25 assessment period. The purpose of the assessment is to estimate KAUST's measurable economic contribution to the Kingdom of Saudi Arabia and to provide a robust, transparent and evidence-based framework and baseline estimate for understanding how the University's activities contribute to research excellence, innovation, talent development and national economic transformation.

Economic impact assessments have become an increasingly important tool for research-intensive universities around the world. Alongside their traditional missions of research and education, universities are increasingly expected to demonstrate how they contribute to economic growth, technological innovation and wider societal development. While many of these contributions cannot be expressed meaningfully in monetary terms, internationally recognized economic methodologies provide a rigorous means of estimating those impacts that can be measured consistently and transparently. Consequently, economic impact assessments are increasingly used by leading universities as one component of a broader assessment of institutional impact.

For KAUST, this is particularly important. Established as a graduate research university, KAUST contributes to Saudi Arabia's national development through research, graduate education, innovation, entrepreneurship, industry collaboration and strategic partnerships. These activities support many of the ambitions of Vision 2030 and strengthen the Kingdom's research, development and innovation ecosystem. Understanding the scale and nature of these contributions provides an important perspective on KAUST's role within Saudi Arabia's transition towards a knowledge-based economy.

No single methodology can capture the full contribution of a modern research university. Some impacts, such as research spillovers, graduate productivity and expenditure effects, can be estimated using established economic methods. Others are inherently more difficult to express in monetary terms. Accordingly, this assessment focuses on those dimensions of impact that can be quantified using established economic methodologies, while recognizing that these represent only one part of KAUST's broader contribution to Saudi Arabia.



The analysis is structured around KAUST's principal sections of economic contribution. These include:

- Research and knowledge creation
- Industry collaboration and consultancy
- Technology transfer and commercialization
- Talent development and human capital
- Institutional expenditure and local economic contribution

These routes to impact represent the principal mechanisms through which KAUST creates measurable economic value. Each one is assessed using methodologies appropriate to the type of impact being measured, before being combined into an overall estimate of economic contribution. Particular attention has been given to avoiding double counting where activities contribute through more than one route.

The remainder of the report is organized as follows. Chapter 2 places KAUST within Saudi Arabia's research, development and innovation ecosystem and introduces the KAUST Impact Framework. Chapter 3 presents the overall analytical framework, including the headline estimates of economic value, Gross Value Added (GVA) and employment, together with the treatment of double counting and the principal assumptions underpinning the assessment. Chapters 4–8 examine each impact pathway in detail, describing the underlying data, analytical methodology and results.

02





The Role of KAUST in Saudi Arabia's Research, Development and Innovation Ecosystem



KAUST occupies a distinctive position within Saudi Arabia's research, development and innovation ecosystem. Established as a graduate research university with an explicit national mandate, it was designed not only to undertake world-class research, but also to contribute to the Kingdom's long-term economic transformation through science, technology, innovation and talent development. Understanding this role is essential to understanding the University's economic contribution.

Unlike many universities, KAUST's contribution extends well beyond its campus. In addition to research and graduate education, the University supports technology transfer, entrepreneurship, industry collaboration, consultancy, policy engagement, sustainability initiatives and national capability building. Together, these activities create multiple pathways through which KAUST contributes to economic growth and wider societal development.

This chapter explains how these activities align with Vision 2030 and introduces the KAUST Impact Framework, which provides the conceptual architecture for the remainder of the report. The Framework distinguishes between the full range of pathways through which KAUST creates value and those pathways that can be quantified robustly using established economic methodologies.

2.1 Alignment with Vision 2030

KAUST contributes directly to the ambitions of Vision 2030 by strengthening Saudi Arabia's research capability, developing highly skilled graduates, supporting technology commercialization, fostering entrepreneurship, private sector participation and connecting academic expertise with government and industry. Its research portfolio addresses areas central to the Kingdom's priorities, including energy, water and desalination, food, health, Red Sea research, all enabled by advanced technologies such as AI.

The University also performs an important ecosystem-building role. Through its Core Research and Technology Park, Technology Transfer Office, Entrepreneurship Center, Innovation Ventures and Beacon Development, KAUST translates research into practical applications, new companies, industrial partnerships and national capability.

These activities generate both immediate and long-term benefits. In the short term they support economic output, Gross Value Added (GVA) and employment through expenditure, collaboration and commercial activity. Over the longer term they strengthen productivity, innovation capacity, human capital and international competitiveness, thus helping achieve the three pillars of Vision 2030 - a vibrant society, a thriving economy and an ambitious nation.

2.2 KAUST's economic and societal impact pathways

This assessment is organized around the KAUST Impact Framework (KIF) that is illustrated in the Executive Summary (Figure ES.2). The framework provides the conceptual basis for understanding how KAUST creates value across multiple pathways linking university activities to the objectives of Vision 2030. At its foundation are the traditional functions of an elite university: inputs (funding, talent, infrastructure and partnerships), activities (research, education, training, policy engagement and outreach) and outputs (publications, graduates, patents and other research products). These are the areas over which KAUST has direct control and underpin its position as one of the world's leading research universities.

The KIF places these activities within the context of Vision 2030 and the national RDI priorities, which provide the strategic direction for KAUST. While research excellence remains fundamental, the objective is to maximize the University's contribution to national priorities through multiple pathways to impact.

The framework distinguishes between outputs, outcomes and impacts. Outputs, such as publications or patents, become outcomes when they are adopted beyond academia. Impact is realized only when these outcomes generate tangible economic, societal, environmental or policy benefits that contribute to Vision 2030.

This transition is enabled through engagement with government, industry, investors, academia, alumni and other partners.

At the center of the KIF is entrepreneurial capital - the combination of human, social, cultural and financial capital that acts as the University's translation engine. KAUST strengthens this capability through initiatives such as the National Transformation Institute, the TIE program, translational faculty, strategic partnerships and the KAUST Policy Institute. While the University controls how it invests in these mechanisms, the ultimate scale of impact depends on adoption across the wider innovation ecosystem. It is these deliberate translation mechanisms that distinguish KAUST as both an elite research university and a mission-driven university.

KIF also traces the flow from activities to impact via nine impact pathways. These pathways represent the primary mechanisms through which KAUST contributes to the Kingdom and the world. The nine impact pathways are listed in Figure 1, specifying those which can be monetized in full or in part.

Quantitatively vs. qualitatively assessed levers, per the established economic methodology

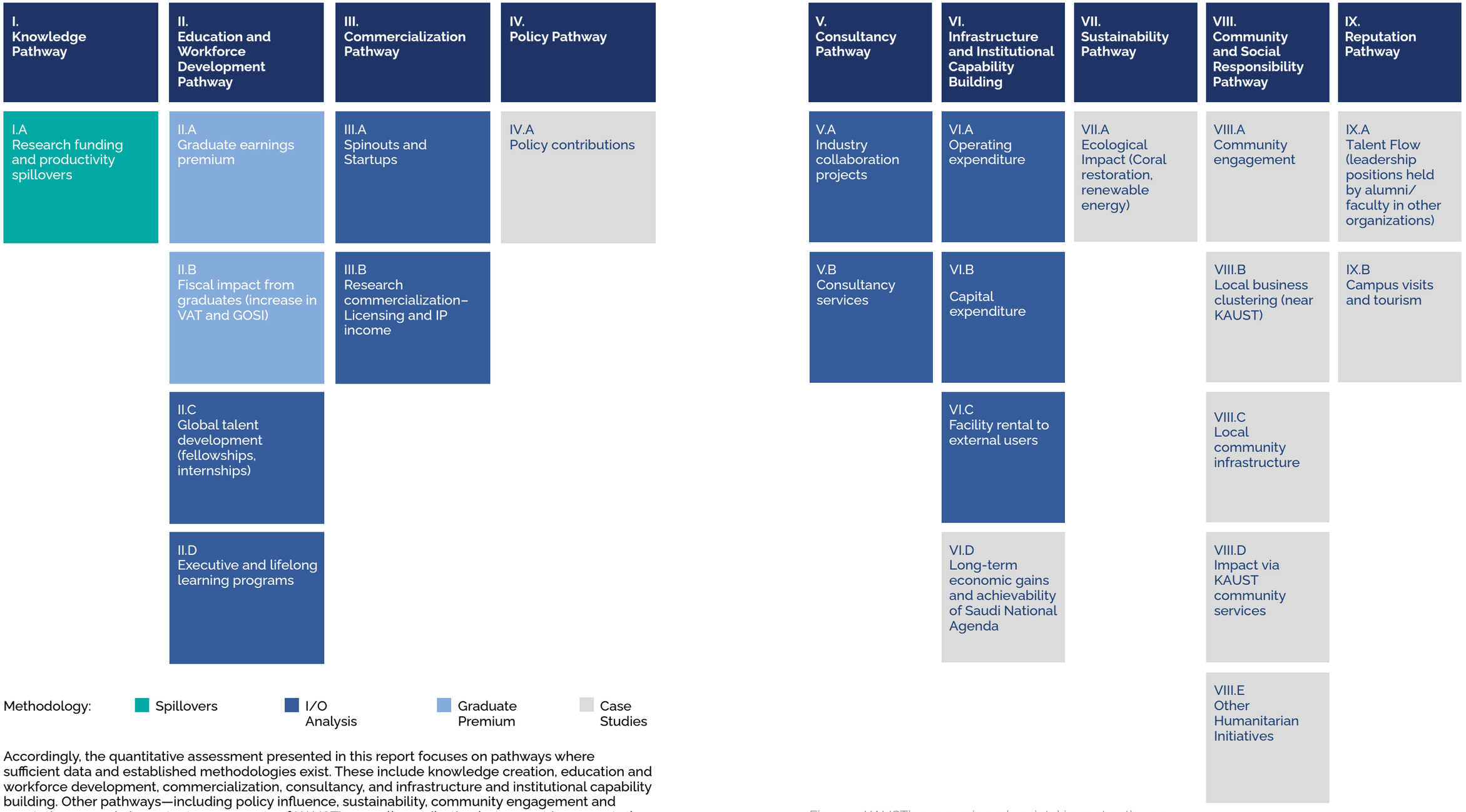


Figure 1: KAUST's economic and societal impact pathways.

Note: Quantified levers are included in the aggregate economic impact estimate where sufficient data and robust methods are available. Qualitative levers are assessed separately and are not a part of this report. Source: KAUST management input; L.E.K. research and analysis.

Accordingly, the quantitative assessment presented in this report focuses on pathways where sufficient data and established methodologies exist. These include knowledge creation, education and workforce development, commercialization, consultancy, and infrastructure and institutional capability building. Other pathways—including policy influence, sustainability, community engagement and reputation—remain important components of KAUST's overall contribution but are not incorporated into the headline economic estimate. This distinction is important. The aggregate economic impact presented in the following chapters should therefore be interpreted as a conservative estimate of KAUST's measurable economic contribution rather than a valuation of the University's full contribution to Saudi Arabia. Many of the University's most significant long-term impacts are beyond the scope of conventional economic impact assessment.

03





The Aggregate Economic and Social Impact of KAUST

3.1 Aggregate economic value, GVA and employment impact

This chapter brings together the results of the economic impact assessment and explains how the headline estimates should be interpreted. Applying the methodologies described throughout the report, KAUST is estimated to generate approximately USD 5.6 billion of total economic value annually for the Kingdom of Saudi Arabia after adjusting for overlapping impacts between pathways.

Within this total contribution, approximately USD 2.2 billion is estimated as Gross Value Added (GVA), while the quantified pathways support approximately 28,800 full-time equivalent (FTE) jobs across the Saudi economy.

These measures capture different dimensions of contribution. Total economic value reflects the overall economic activity supported across the economy; GVA measures the additional value created and aligns most closely with GDP; and FTE employment estimates the labor-market effects associated with those pathways where input-output methodologies have been applied.

3.2 Treatment of double counting and transfers

An important feature of this assessment is that the aggregate estimate explicitly adjusts for overlapping impacts between different pathways.

KAUST's activities are highly interconnected. Research supports commercialization; graduates contribute to innovation; consultancy draws upon university staff and infrastructure; and many commercial activities rely on resources already reflected within the University's operating expenditure. Simply summing the estimated contribution of every pathway would therefore overstate KAUST's overall economic contribution by counting some activities more than once.

To avoid this, the assessment distinguishes between mutually exclusive pathways, which represent distinct sources of economic value, and overlapping pathways, where part of the underlying activity is already captured elsewhere in the assessment.

Figure 2 illustrates the conceptual basis for these adjustments. It distinguishes between impact pathways that generate genuinely additional economic value and those that overlap because they draw upon the same underlying university activities. This framework underpins the aggregate estimates presented throughout the report.

Mutually exclusive impact levers (not captured elsewhere and therefore added directly)		**Double counted impact levers** (deducted from university expenditure impact)	
I.A Research funding and productivity spillovers[1]	**II.A** Graduate earnings premium	**II.C** Global talent development	**II.D** Executive and lifelong learning programs
II.B Fiscal impact from graduates	**III.A** Spinouts and Startups	**III.B** Research commercialization	**V.A** Industry collaboration projects
VI.A Operating expenditure	**VI.B** Capital expenditure	**V.B** Consultancy services[2]	**VI.C** Facility rental to external users

Figure 2. Treatment of mutually exclusive and overlapping impact pathways.

Note: 1. Direct research spending is deducted from university expenditure where relevant; however, wider research spillover impact is not treated as double-counted within university expenditure. 2. Only faculty consulting impact is included in the double-counting adjustment for consultancy services, as it is captured in university expenditure. Source: KAUST management input; L.E.K. research and analysis.

Table 1 presents the contribution of each quantified pathway before adjustments are applied. It demonstrates transparently how the gross estimate is constructed and shows that subsequent adjustments arise from interactions between pathways rather than changes to the underlying analysis.



Table 1. Gross contribution by impact pathway prior to double-counting adjustments.

Pathway	Bridge item / lever	Gross economic value created (USD)
I. Knowledge	Research spillovers	~895.3 million
II. Education and Work-force Development	Graduate earnings premium	~293.0 million
	Fiscal impact from graduates	~129.1 million
	Global talent development	~95.7 million
	Executive and lifelong learning programs	~201.8 million
III. Commercialization	Spinouts and startups	~1,888.0 million
	Research commercialization – Licensing and IP income	~3.1 million
V. Consultancy	Industry collaboration projects	~29.9 million
	Consultancy services	~166.7 million
VI. Infrastructure and Institutional Capability Building	Operating expenditure	~2,251.9 million
	Capital expenditure	~561.5 million
	Facility rental to external users	~37.2 million
Total	Total economic value created before double-counting adjustments	~6,553.1 million

Sub-lever	Justification	Amount deducted due to double-counting (USD)
I.A Research spillovers	KAUST's total economic value created from total research spending is deducted from university expenditure to avoid double counting with the estimated research spillover impact[1].	~$614.0 million
II.C Global talent development	The total economic value created due to global talent is deducted as its economic value arise from tuition, fixed and stipend costs for international students ,which are already accounted for in university expenditure.	~$95.7 million
II.D Executive and lifelong learning programs	The total economic value created due to executive and lifelong learning programs is deducted as its economic value arises from KAUST Academy, faculty salaries, and other program development and delivery course costs, which are already accounted for in university expenditure.	~$201.8 million
III.B Research commercialization – Licensing and IP income	The total economic value created due to research commercialization is deducted as its economic value arises from licensing, TTO, and research-related expenses, which are already accounted for in university expenditure.	~$3.1 million
V.A Industry collaboration projects	The total economic value created due to industry collaboration is deducted as its economic value arises from research facility and staff salary-related expenses, which are already accounted for in university expenditure.	~$29.9 million
V.B Consultancy services	The economic value created due to faculty-led consulting projects is deducted as its economic value arises from faculty salary-related expenses, which are already accounted for in university expenditure.	~$15.6 million
VI.C Facility rental to external users	The total economic value created due to facility rental is deducted as its economic value arises from facility establishment and maintenance expenses, which are already accounted for in university expenditure.	~$37.2 million
The university expenditure adjustment leads to a USD ~997.3 million deduction from total economic value created, representing ~18% of the aggregate and preserving the majority of the estimated total economic value created post-adjustment		**~$997.3 million (~18% of total economic value created)**

Figure 3. Reconciliation of gross economic contribution to the headline estimate after double-counting adjustments.



Note: 1 KAUST's total economic value created due to total research expenditure in 2025 amounted to USD ~614.0 million which was fully deducted from double-counting to avoid overlap with research spillover impact. Total direct research economic value created was calculated by considering KAUST's total research expenditure net of publicly funded research expenditure (USD ~6.3 million) which amounted to USD ~228.9 million. Source: KAUST management input; L.E.K. research and analysis.

3.3 Key assumptions and interpretation boundaries

The results presented in this report should be interpreted as a conservative estimate of KAUST's measurable economic contribution.
The assessment adopts internationally recognized methodologies, draws on the best available evidence and applies conservative assumptions wherever uncertainty exists.

Figure 4 summarizes the principal assumptions underpinning the assessment. Collectively these assumptions are intentionally conservative and reflect a preference for understating rather than overstating KAUST's measurable economic contribution where uncertainty exists.

From an overall perspective, the results in this section provide a conservative assessment of KAUST's measurable economic contribution. They do not capture the University's full strategic and societal value, including its contributions to policy, sustainability, community development, national capability building, alumni leadership and reputation.

The methodologies employed in this assessment are calibrated to the current structure and observed relationships within the Saudi economy. As with all input-output approaches, they provide a static representation of economic relationships at a point in time and cannot fully capture the dynamic effects of structural economic transformation. As Saudi Arabia continues to diversify its economy under Vision 2030, deepen its research and innovation ecosystem, and expand knowledge-intensive industries, the returns generated by research, entrepreneurship and highly skilled graduates are likely to increase. The estimates presented in this report should therefore be viewed as a robust baseline against which KAUST's future contribution can be assessed, rather than an upper bound on its long-term economic impact.

Impact Lever	Key Assumptions
I.A Research funding and productivity spillovers	• The study has linearly interpolated research expenditure data for KSA where annual data was unavailable, specifically for the years 2014–2019. • The relationship between R&D expenditure and TFP was assumed to be unidirectional, with increased R&D spend driving higher productivity, and not vice versa. • Publicly funded research expenditure was netted out of KAUST's total research expenditure when calculating the net direct research output to ensure that the costs incurred by the government are removed when estimating KAUST's impact on the economy.
II.C Global talent development	• The per-student stipend amount provided by KAUST was assumed to be the same for national and international students. • Stipend spending was assumed to follow the same pattern as household consumption in KSA, excluding rent, education and healthcare-related costs as these are fully funded by KAUST.
II.D Executive and lifelong learning programs	• As a cost range was provided for executive and lifelong learning courses delivered within KSA, the midpoint of the range was used as the assumed average cost per course. • As digital program-specific cost data was unavailable, digital programs were assumed to incur the same costs as comparable in-person training programs.
III.A Spinouts and Startups	• For startups with unreported revenue data, the study estimates revenues using the relevant sector average, excluding outliers. • For startups with unreported jobs data, the study has classified each startup as pre-revenue, low-revenue, mid-revenue, or high-revenue based on reported or imputed revenues. Sectoral averages for each classification were then used to estimate FTE counts.

Figure 4. Principal assumptions and interpretation boundaries adopted in the assessment.



04





The Impact of KAUST's Research and Knowledge Creation Activities

Research and knowledge creation represent one of the principal pathways through which research-intensive universities contribute to economic development. While research expenditure supports activity within the University, the wider economic contribution arises through the creation and diffusion of knowledge. Consistent with international practice, this chapter estimates both the direct research output associated with KAUST's research expenditure and the wider productivity spillovers generated as knowledge is adopted through publications, patents, collaboration, technology transfer and human capital formation. Together these provide an estimate of the measurable economic value generated by KAUST's research activities.

Table 2 summarizes the principal metrics used throughout this chapter, including the research funding base, the estimated net direct research output, the range of research spillover multipliers and the resulting estimate of total economic value. Rather than reporting a single spillover estimate, the assessment presents a sensitivity range and uses the arithmetic average of the three estimated spillover models in the headline impact calculation.

Table 2: Research and knowledge creation at a glance, 2024-25.

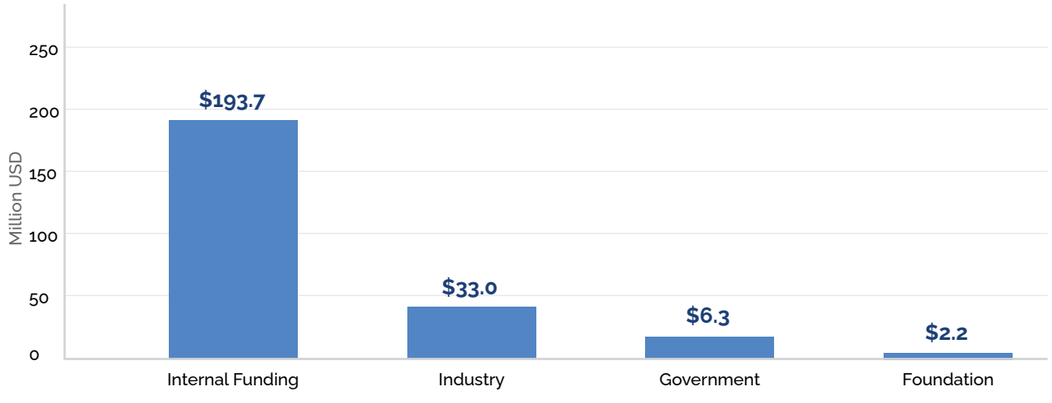
Metric[1]	Value	Interpretation
Total research spending	USD ~235.2 million	Total research expenditure supporting KAUST research activities in 2024/25
Net direct research output	USD ~228.9 million	Research output after deducting public research funding from total research expenditure
Research spillover multiplier	2.26-3.76	Multiplier range used to estimate productivity spillovers from total research funding
Total economic value created	USD ~759.7-1,114.2 million[2]	Estimated economic value supported by direct research output and productivity spillovers
Average economic value created	USD ~895.3 million[3]	Average[3] of the estimated research spillover impact range

Note: 1. Research pathway does not produce GVA or FTE estimates because it is estimated using research spillover methodology rather than input-output multipliers. GVA and FTE are therefore reported for other levers where input-output methods are applied. 2. When presenting final impact, the numerical average of the research impacts arising from the three computed spillover multipliers has been used; 3. Average value estimated from the three research spillover multipliers generated from regression. Source: KAUST management input; L.E.K. research and analysis.

4.1 Research funding base and direct research impact

The first stage estimates the direct research activity supported by KAUST during the study year. A central principle of the assessment is additionality. Consequently, government-funded research expenditure is deducted when estimating the University's net direct research contribution because these resources could, in principle, have been deployed elsewhere within the Saudi research system. This conservative assumption avoids overstating KAUST's incremental contribution.

Figure 5 illustrates the composition of KAUST's research funding. The predominance of internally funded research demonstrates that the University itself is the principal source of research investment supporting the activity captured within this pathway.



Share of research spending sources (%)			
~82%	~14%	~3%	~1%

Figure 5: KAUST research spending by source, 2025.



4.2 Methodology for estimating productivity spillovers

Direct research expenditure captures only part of the economic value generated by university research. The wider benefits arise when new knowledge diffuses beyond the institution and increases productivity across firms, sectors and the wider economy.
These productivity spillovers are well established in the economics of innovation literature and form an integral component of economic impact assessments undertaken for leading research-intensive universities.

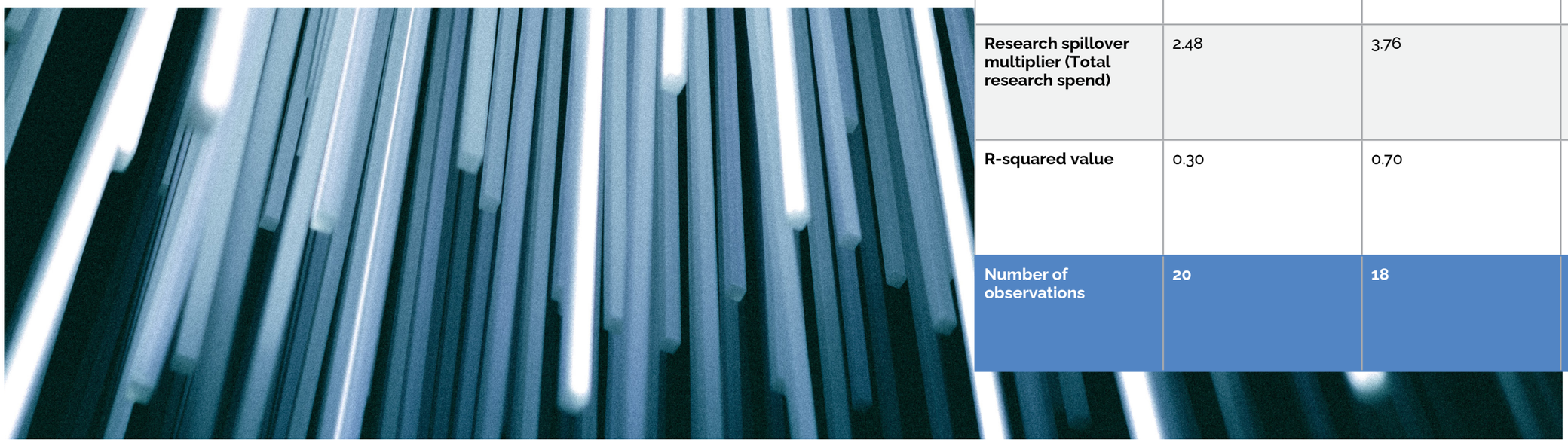
Figure 6 summarizes the analytical framework. The methodology first estimates net direct research output, then applies a Saudi-specific research spillover multiplier to total research expenditure before combining these components to estimate total economic value.

01. Public research funding was deducted from total research expenditure accrued in the study year to get net direct research output.

02. Spillovers from total research funding were calculated using the research spillover multiplier for KSA, which was estimated using published literature.

03. Total impact was calculated:
Total Economic Value Created = Direct Research Output + Spillover Impact

Figure 6: Methodology for estimating research funding and productivity spillovers[1].



Note: 1. Productivity spillovers are estimated using research spillover multipliers for KSA, informed by published literature and sensitivity analysis. Source: KAUST management input; L.E.K. research and analysis.

4.3 Research spillover multiplier sensitivity and assumptions

The spillover multiplier is estimated using a regression-based approach linking total factor productivity (TFP) growth — a measure of how efficiently an economy converts labor and capital into output — with lagged research intensity (as per Haskel and Wallis, 2010[II]), as illustrated in Table 3. Alternative specifications are estimated to test the sensitivity of the results to different assumptions regarding the timing of research impacts. Rather than selecting a single preferred specification, the assessment presents the full range of estimates and adopts the arithmetic average of the three resulting spillover estimates for the headline economic impact calculation. This provides a transparent and robust basis for the reported estimate while acknowledging uncertainty.

Table 3 reports the three alternative specifications, their associated spillover multipliers and diagnostic statistics. The analysis demonstrates that the conclusions are robust across plausible model specifications.

Table 3: Research spillover multiplier sensitivity analysis.

	Total research spending lagged by 1 year		Total research spending lagged by 2 years
	Without smoothening	**Smoothed**	**Smoothed**
Description	Annual TFP[1] growth series was used, and related to total research intensity from the previous year	Annual TFP growth series was smoothed using a three-year centered moving average, and related to total research intensity from the previous year	Annual TFP growth series was smoothed using a three-year centered moving average, and related to total research intensity from two years earlier
Research spillover multiplier (Total research spend)	2.48	3.76	2.26
R-squared value	0.30	0.70	0.86
Number of observations	**20**	**18**	**17**

Note: 1. Total factor productivity is used because it captures improvements in economic output that cannot be explained solely by increases in labor or capital inputs, and is therefore a suitable proxy for productivity gains associated with research and innovation. Source: KAUST management input; L.E.K. research and analysis.

4.4 Estimated total economic value from KAUST research

Applying the methodology described above, KAUST's research activities are estimated to generate between USD 759.7 million and USD 1,114.2 million of economic value, with a headline estimate based on the arithmetic average of the three spillover models. The majority of this value arises from productivity spillovers rather than direct research expenditure, consistent with the wider literature on the economic returns to research investment.

Figure 7 illustrates the relationship between net direct research output, productivity spillovers and the resulting estimate of total economic value. It provides a concise visual summary of the analytical framework presented throughout the chapter.

Net Direct Research Output		Spillover Impact		Total Economic Value Created	Research spillover multiplier
USD ~228.9 million	+	USD 530.9 – 885.3 million	=	USD 759.7 – 1,114.2 million[2] (~USD 895.3 million average)[3]	2.26 – 3.76[1]

Figure 7: Estimated economic value created by KAUST research funding and productivity spillovers

4.5 Contribution to the overall assessment

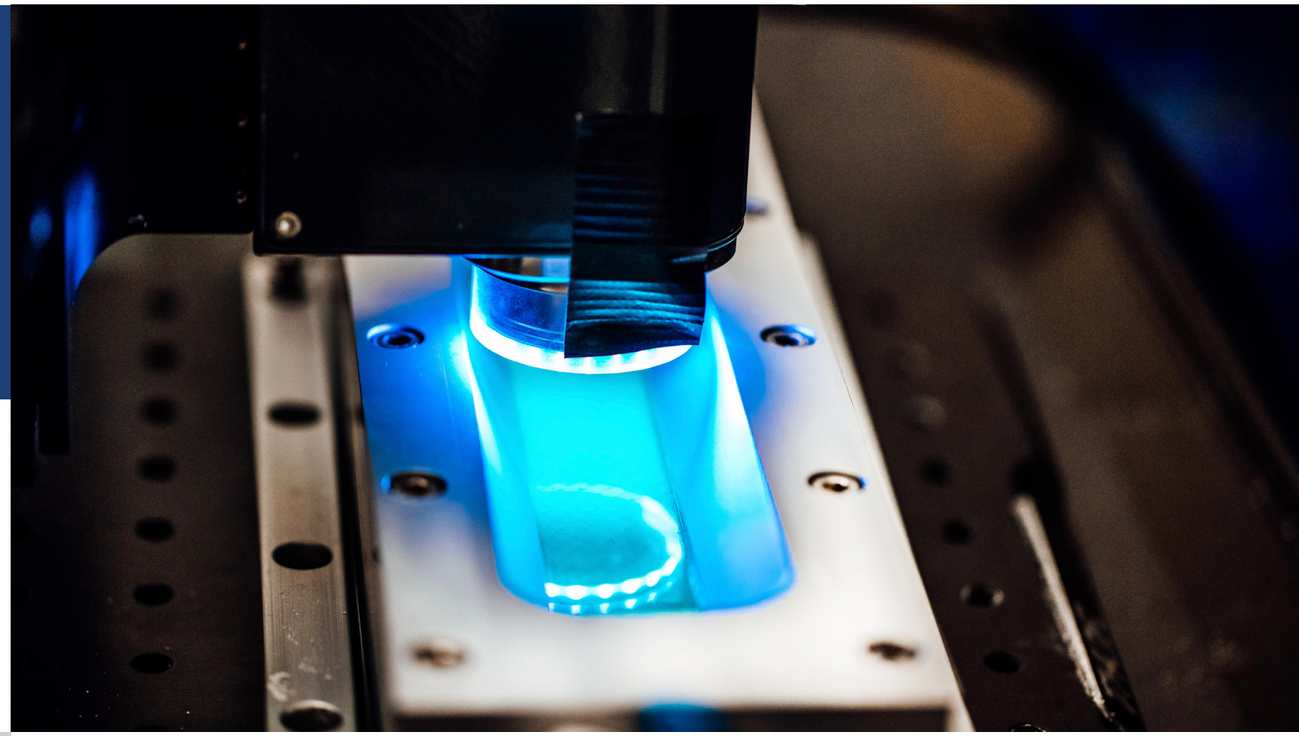
The estimates presented in this chapter represent one component of KAUST's overall measurable economic contribution. As described in Chapter 3, the research pathway is combined with the other quantified pathways and adjusted where necessary to avoid double counting. The resulting contribution therefore forms part of the aggregate economic value reported for the University rather than an additional impact to be summed independently.





Note: 1. The integrated multiplier has been calculated based on the average value of computed spillover multipliers; 2. When presenting final impact, the numerical average of the research impacts arising from the three computed spillover multipliers has been used; 3. Average value estimated from the three research spillover multipliers generated from regression. Source: Economic impact assessment reports; KAUST management input; L.E.K. research and analysis.

05





The Impact of KAUST's Industry Collaboration and Consultancy Activities

Industry collaboration and consultancy represent two important mechanisms through which research-intensive universities translate scientific capability into practical economic value. Unlike the research spillovers described in Chapter 4, which generate value indirectly through the diffusion of knowledge, these pathways capture direct engagement with external organizations where university expertise is applied to help solve industrial, governmental and societal challenges. They therefore provide an important measure of how KAUST's research capability is mobilized beyond the University itself and contributes to innovation, productivity and economic and social development across Saudi Arabia.

Although both pathways involve engagement with external partners, they represent distinct forms of activity. Industry collaborations comprise structured research partnerships undertaken with industry, government and other organizations to address shared research and innovation objectives. Consultancy services comprise advisory and applied technical services delivered through KAUST Beacon Development (KBD) and faculty-led consultancy activities, where specialist expertise is applied to address specific client needs.

Both pathways are assessed using a common input-output framework. Direct income generated through collaboration or consultancy provides the basis for estimating the wider indirect and induced economic activity supported across the Saudi economy. This approach enables the contribution of these partner-facing activities to be assessed consistently with the other income-based pathways presented in this report.

Table 4 summarizes the principal metrics presented throughout this chapter. Consultancy represents the larger quantified pathway, although both activities demonstrate KAUST's growing role as an external partner for research, innovation and technical expertise.

Table 4. Industry collaboration and consultancy activities at a glance.

Mode	Direct income	Total economic value	GVA	FTE
Industry collaboration	**USD ~11.4 million**	**USD ~29.9 million**	**USD ~15.6 million**	**~274**
Consultancy services	**USD ~63.8 million**	**USD ~166.7 million**	**USD ~86.9 million**	**~1.5k**
Combined total	**USD ~75.2 million**	**USD ~196.6 million**	**USD ~102.5 million**	**~1.7k**

5.1 Scale of industry collaboration

Industry collaboration provides an important mechanism through which KAUST works with external organizations to undertake applied research, develop new technologies and support innovation within priority sectors of the Saudi economy. Beyond generating research income, these collaborations strengthen knowledge exchange between academia, industry and government, accelerate the application of scientific discoveries, and reinforce KAUST's role within the Kingdom's research and innovation ecosystem.

The growth of industry collaboration activity over recent years demonstrates increasing demand for KAUST's research capability. Between FY2023 and FY2025, annual collaboration income increased from approximately USD 1.6 million to USD 11.4 million, while the number of active collaboration projects increased from two to twelve. Although still modest relative to the University's overall research portfolio, this growth suggests that KAUST is establishing an increasingly important role as a strategic research partner for industry and government.

Figure 8 illustrates the rapid expansion of both collaboration income and the number of active projects over the three-year period. Growth in both indicators suggests that KAUST is not only securing larger collaboration agreements but is also broadening its portfolio of external partnerships. While the absolute values remain relatively modest, the trend is consistent with the University's strategic objective of strengthening engagement with industry and increasing the translation of research into practical application.

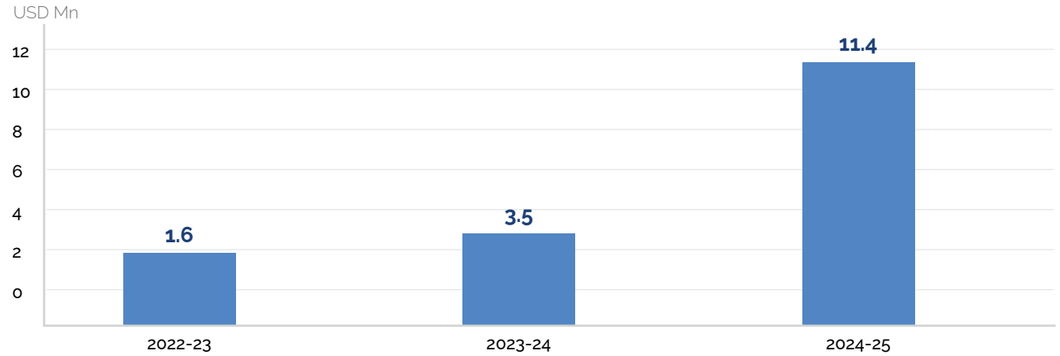


Figure 8: KAUST industry collaboration income and active projects[1,2], FY23-25, million USD.

Note: 1. Project counts refer to active industry collaboration projects in the relevant year. 2. Income and project counts are shown for industry collaboration projects only and exclude consultancy services. Source: KAUST management input; L.E.K. research and analysis.

5.2 Methodology for estimating the economic impact of industry collaborations

The direct financial value of industry collaborations represents only part of their economic contribution. Collaboration income supports economic activity within KAUST itself, but also generates wider effects through procurement, supply-chain activity and employee expenditure. Estimating these wider effects requires an analytical framework capable of tracing how expenditure associated with collaboration projects circulates through the wider economy.

Consistent with the approach adopted elsewhere in this report, the economic impact of industry collaborations is estimated using an input-output methodology. Direct collaboration income provides the starting point for the analysis and is subsequently translated into estimates of total economic value, Gross Value Added (GVA) and employment (FTEs) through the application of sector-appropriate Type II multipliers[III]. These multipliers capture both the indirect effects generated through supplier purchases and the induced effects arising from household expenditure supported by wages associated with collaboration activity.

01. Identify total direct income generated through KAUST's Strategic Partnerships and Industrial Collaborations

02. Economic multipliers were derived from Input-Output tables to estimate total impact[1]

03. Total impact was calculated:
Total economic value created = Multiplier x Total Income

04. GVA[2] impact was calculated:
Gross Value Added impact = Total income x GVA multiplier

05. FTE[3] impact was calculated:
FTE impact = Total income × FTE multiplier

Figure 9. Methodology for estimating direct, indirect and induced economic impact from industry collaborations.

Note: 1. Input-output multipliers are used to estimate economy-wide effects associated with direct collaboration income. 2. GVA refers to gross value added. 3. FTE refers to full-time equivalent employment supported. Source: KAUST management input; L.E.K. research and analysis.

5.3 Estimated economic value, GVA and employment supported by industry collaborations

Applying the methodology described above, KAUST's industry collaboration activities are estimated to have generated approximately USD 29.9 million in total economic value in 2024–25. This comprises USD 11.4 million of direct collaboration income and a further USD 18.4 million of indirect and induced economic activity generated through supply-chain purchases and wage-supported household expenditure.

Direct output		Indirect and induced output		Total Economic Value Created
USD ~11.4 million	+	USD ~18.4 million	=	USD ~29.9 million

Figure 10: Estimated economic value created from industry collaboration projects.

The same activity is estimated to support approximately USD 15.6 million in Gross Value Added (GVA) and around 274 full-time equivalent (FTE) jobs across the Saudi economy. These estimates capture the measurable economic footprint associated with KAUST's collaboration income, including the direct activity generated through the projects themselves and the wider effects transmitted through suppliers and employee spending.

GVA				Total GVA (USD)
Industry collaboration income	X	University Type II GVA multiplier	=	~15.6 million
FTE				
				Total FTE impact
Industry collaboration income	X	University Type II FTE multiplier	=	~274

Figure 11: GVA and FTE impact from industry collaboration activity.

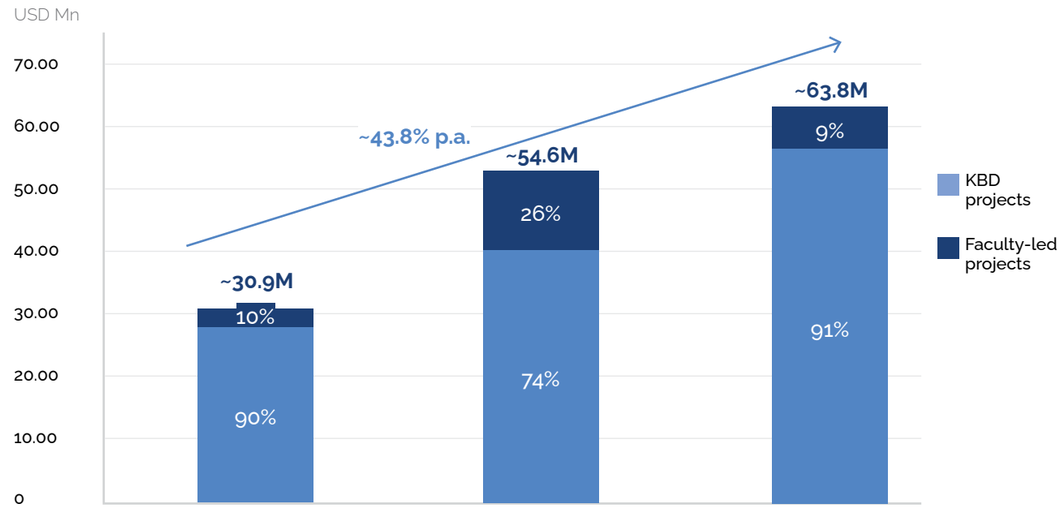
Although modest relative to some of KAUST's larger impact pathways, industry collaboration represents a distinct and strategically important mechanism through which the University applies its research capabilities to external needs. The quantified estimates do not capture wider benefits such as knowledge transfer, capability building, technology adoption or improvements in partner productivity, and should therefore be interpreted as a conservative measure of the full value generated through these collaborations.

5.4 Consultancy as a pathway to economic impact

Consultancy activities at KAUST are primarily delivered through KAUST Beacon Development (KBD) alongside faculty-led arrangements, providing external organizations with access to specialist expertise that may not otherwise be available within the Kingdom. Beyond their direct commercial value, these activities offer an important mechanism through which KAUST's research capability influences policy, improves industrial practice and supports the adoption of new technologies.

Although consultancy is often viewed primarily as a source of external income, its wider significance lies in strengthening knowledge exchange between universities and users of research. Consultancy therefore complements both research collaborations and technology commercialization by accelerating the translation of scientific expertise into practical application.

Figure 12 illustrates the rapid expansion of consultancy activity over recent years. Both the volume and value of consultancy contracts have increased substantially, reflecting growing external demand for KAUST's scientific and technical expertise. This trend is consistent with the University's broader strategy of strengthening engagement with government, industry and the wider innovation ecosystem.



Average income per project by type (USD)[1]			
~675.6k	~673.6k	~1,071.3k	KBD
~185.9k	~709.0k	~284.9k	Faculty -led

Figure 12. Consultancy income by source, FY2023–FY2025.

5.5 Methodology for estimating consultancy impacts

The methodology adopted for consultancy follows the same analytical framework used for industry collaborations. Direct consultancy income provides the basis for estimating the wider economic activity generated throughout the Saudi economy using input-output analysis.

Consultancy income represents expenditure by external organizations purchasing specialist services from KAUST. This expenditure supports direct activity within the University while also generating indirect economic activity through purchases from suppliers and induced activity arising from household expenditure associated with employment. Applying Type II multipliers therefore enables the wider economic effects associated with consultancy income to be estimated consistently with other income-generating pathways considered within this report.

As with the collaboration pathway, the analysis focuses exclusively on measurable economic activity generated through observed consultancy income. Wider benefits - including improvements in organizational performance, policy development, capability building and technology adoption within client organizations - are recognized as important outcomes but are not quantified because robust monetary valuation is currently not possible. The estimates presented here should therefore be interpreted as a conservative assessment of consultancy's measurable economic contribution.

Note: 1. Average income per project is used to compute income per project type. Source: KAUST management input; L.E.K. research and analysis

Figure 13 demonstrates how consultancy income is translated into estimates of total economic value, Gross Value Added and employment using the same input-output framework adopted throughout the report. This consistent methodological approach allows the contribution of consultancy activities to be compared directly with other pathways contributing to KAUST's overall economic impact.

01. Identify consultancy services delivered by the University in the study year for total consultancy revenue, split by client sectors.

02. Economic multipliers were derived from Input-Output tables to estimate total impact.[1,4]

03. Total impact was calculated:
Total economic value created = Multiplier × Total Income

04. GVA was calculated[2]
Gross Value Added = Total income × GVA multiplier

05. FTE[3] impact was calculated
FTE impact = Total income × FTE multiplier

Figure 13. Analytical framework for estimating consultancy impacts.

5.6 Estimated economic contribution of consultancy activities

Consultancy represents the larger of the two externally facing engagement pathways examined in this chapter. Applying the methodology described above indicates that consultancy activities generate approximately USD 167 million of total economic value annually within the Saudi economy. This comprises both the direct consultancy income received by KAUST and the wider indirect and induced economic activity supported through associated expenditure.

The corresponding estimate of Gross Value Added is approximately USD 87 million, while consultancy activity is estimated to support approximately 1,500 full-time equivalent jobs across the Saudi economy. These findings demonstrate that consultancy provides a significant mechanism through which university expertise contributes directly to economic activity while also generating wider multiplier effects.

Although the quantified impacts arise from consultancy income itself, the underlying value of consultancy extends beyond these financial flows. Consultancy enables organizations to access specialist scientific knowledge, strengthen technical capability and accelerate innovation through direct engagement with university expertise. These wider benefits are not reflected within the quantified estimates presented here and therefore reinforce the conservative nature of the overall assessment.

Figure 14 illustrates the relationship between direct consultancy income and the wider economic activity supported through indirect and induced effects. The results demonstrate that consultancy generates economic benefits extending beyond the initial contracts through expenditure across the wider Saudi economy.

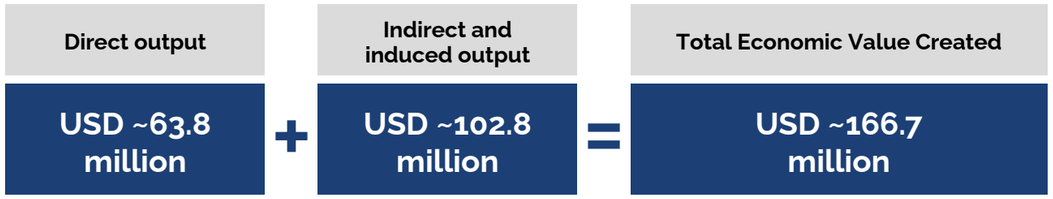


Figure 14. Estimated total economic value generated through consultancy activities.

Figure 15 presents the associated estimates of Gross Value Added and employment supported. Together with total economic value, these indicators demonstrate that consultancy contributes not only to economic output but also to value creation and employment across multiple sectors of the economy.

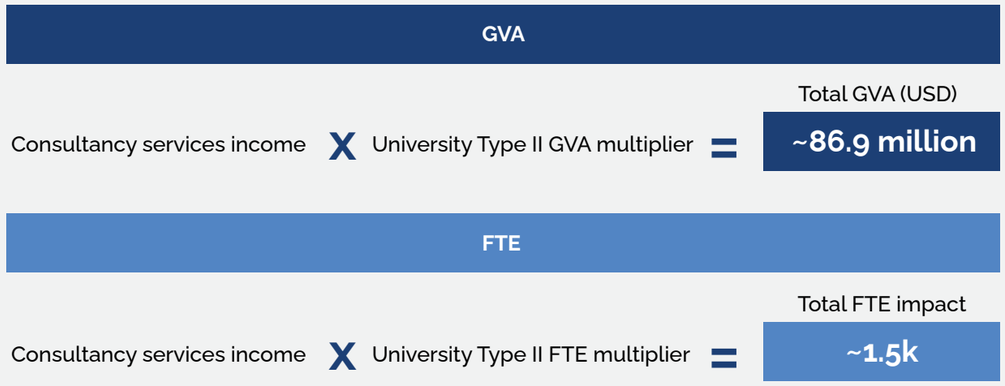


Figure 15. Estimated Gross Value Added and employment supported by consultancy activities.

5.7 Contribution to the overall assessment

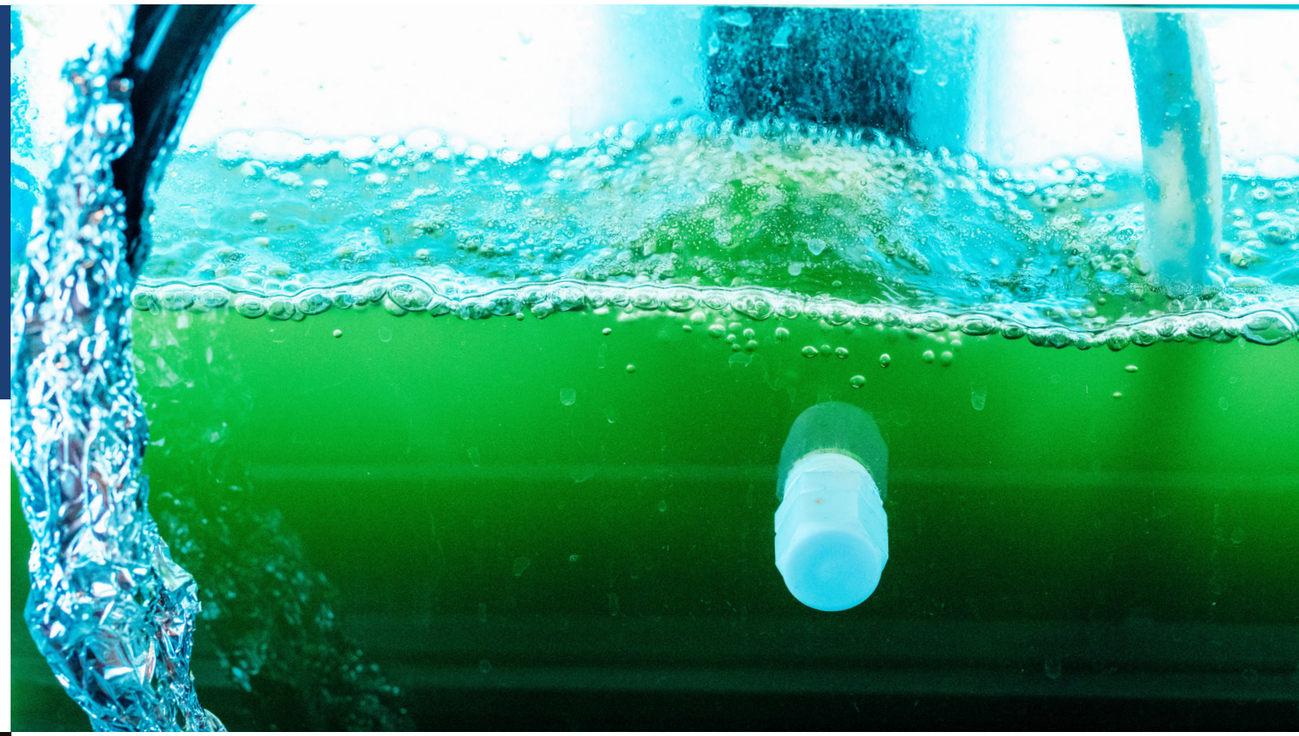
Taken together, industry collaboration and consultancy activities demonstrate the importance of external engagement as a pathway through which KAUST contributes to economic development. Although these pathways account for a smaller proportion of the University's overall economic impact than research spillovers or graduate outcomes, they represent direct and observable mechanisms through which university expertise supports innovation, industrial capability and public-sector problem solving.

The estimates presented in this chapter capture the measurable economic activity associated with collaboration and consultancy income. They do not include the wider and often longer-term benefits associated with knowledge exchange, organizational learning, policy influence or innovation adoption. Consequently, the quantified impacts should be interpreted as conservative estimates of the economic contribution generated through these activities.

As described in Chapter 3, the contribution of industry collaboration and consultancy is incorporated into the aggregate estimate of KAUST's economic impact after appropriate adjustments are made to avoid double counting with other pathways. These activities therefore form one component of the University's overall measurable contribution to the Saudi economy rather than additional impacts to be summed independently.

Note: 1. Input-output multipliers are used to estimate economy-wide effects associated with consultancy income. 2. GVA refers to gross value added. 3. FTE refers to full-time equivalent employment supported. 4. KAUST internal operational expenditure data is used to identify key sectors of engagement and compute an integrated multiplier. Source: KAUST management input; L.E.K. research and analysis.

06





The Impact of KAUST's Technology Transfer and Commercialization Activities

Technology transfer and commercialization represent the principal mechanisms through which research discoveries are translated into products, services and companies that create economic value. Whereas Chapter 4 examined the contribution of research through knowledge creation and productivity spillovers, this chapter examines the pathways through which research outputs are transformed into market-facing activity. These pathways connect KAUST's research base, intellectual property, entrepreneurial capability and innovation infrastructure with companies, investors, industry partners and end users, enabling scientific discoveries to generate measurable economic benefits.

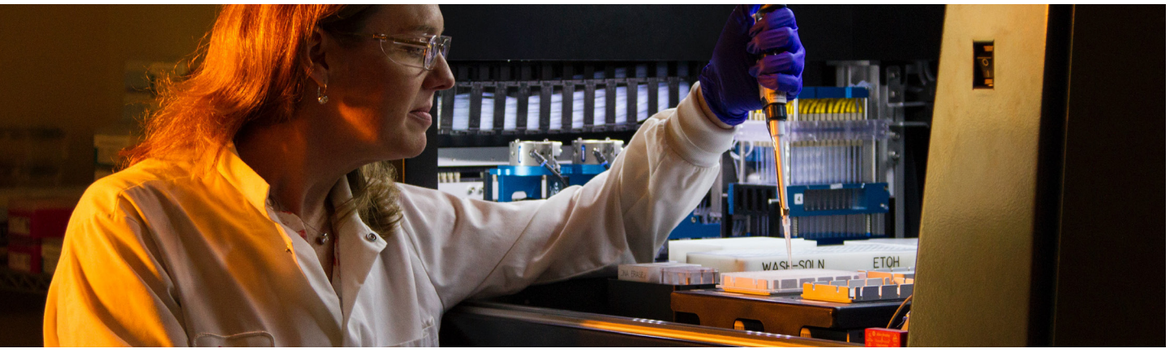
Technology transfer and commercialization are assessed through two complementary pathways. The first considers KAUST-originated startups and spinouts, which commercialize research by creating new ventures capable of generating revenue, employment and economic growth. The second considers research commercialization through licensing and intellectual property (IP), whereby technologies developed within KAUST are licensed to existing organizations for further development and deployment. Although these pathways operate through different mechanisms, both represent important routes through which research is translated into economic value.

Because the two pathways generate different forms of economic activity, separate analytical approaches are required. Startups and spinouts are assessed using company-level revenue mapped to sector-specific input-output multipliers, while licensing and IP income are assessed using the university income methodology applied elsewhere in this report. Together, these approaches estimate the direct commercial activity generated by technology transfer together with the associated indirect supply-chain and induced household expenditure effects.

Table 5 summarizes the principal results presented throughout this chapter. KAUST-originated startups and spinouts generate by far the largest quantified contribution, supporting an estimated USD 1.89 billion of total economic value, almost USD 1.0 billion in Gross Value Added (GVA), and approximately 4,200 full-time equivalent jobs across the Saudi economy. Licensing and IP income is substantially smaller in financial terms but represents an important indicator of KAUST's ability to convert research outputs into commercially relevant technologies capable of supporting future innovation and economic growth.

Table 5. Technology transfer and commercialization at a glance (2024–25).

Metric	Direct income[1]	Total economic value[2]	GVA	FTE
Startups and spinouts	USD ~838 million	USD ~1,888.0 million	USD ~997.6 million	~4.2k
Licensing and IP	USD ~1.2 million	USD ~3.1 million	USD ~1.6 million	~28



Note: 1. Direct income from startups and spinouts is based on the reported and estimated revenues of the underlying companies. 2. Given gaps in the available company-level data, L.E.K. applied a best-efforts approach using estimation and imputation methods discussed in detail in following sections and appendix

Source: KAUST management input; L.E.K. research and analysis.

6.1 KAUST startup and spinout ecosystem

KAUST has developed one of the most significant university-based technology commercialization ecosystems in the region. Through the University's entrepreneurship programs, venture support infrastructure and technology transfer activities, research discoveries are translated into new companies operating across a broad range of sectors. Collectively, these ventures represent an important mechanism through which research capability contributes directly to economic diversification, innovation and private-sector development.

The startup portfolio extends across technology-intensive sectors including information technology, advanced manufacturing, energy, health, environmental technologies and business services, reflecting both the breadth of KAUST's research strengths and the diversity of commercial opportunities emerging from the University's innovation ecosystem.

Figure 16 illustrates the distribution of KAUST startups across the principal sectors represented within the portfolio. Technology and knowledge-intensive services account for the largest proportion of ventures, although startups are present across a wide range of industrial sectors, demonstrating that commercialization activity is not confined to a single research domain but reflects the diversity of KAUST's research capability.

The portfolio currently comprises more than 428 identified startups and spinouts. However, not all ventures are included within the quantitative economic impact assessment. Revenue information was available for approximately 346 companies, while revenues for a further 41 companies were estimated using sector-specific averages. Approximately 41 ventures were excluded because insufficient information was available regarding either revenue or sector classification. Consequently, the quantified analysis covers approximately 387 ventures and should therefore be interpreted as a conservative estimate of the portfolio's economic contribution.

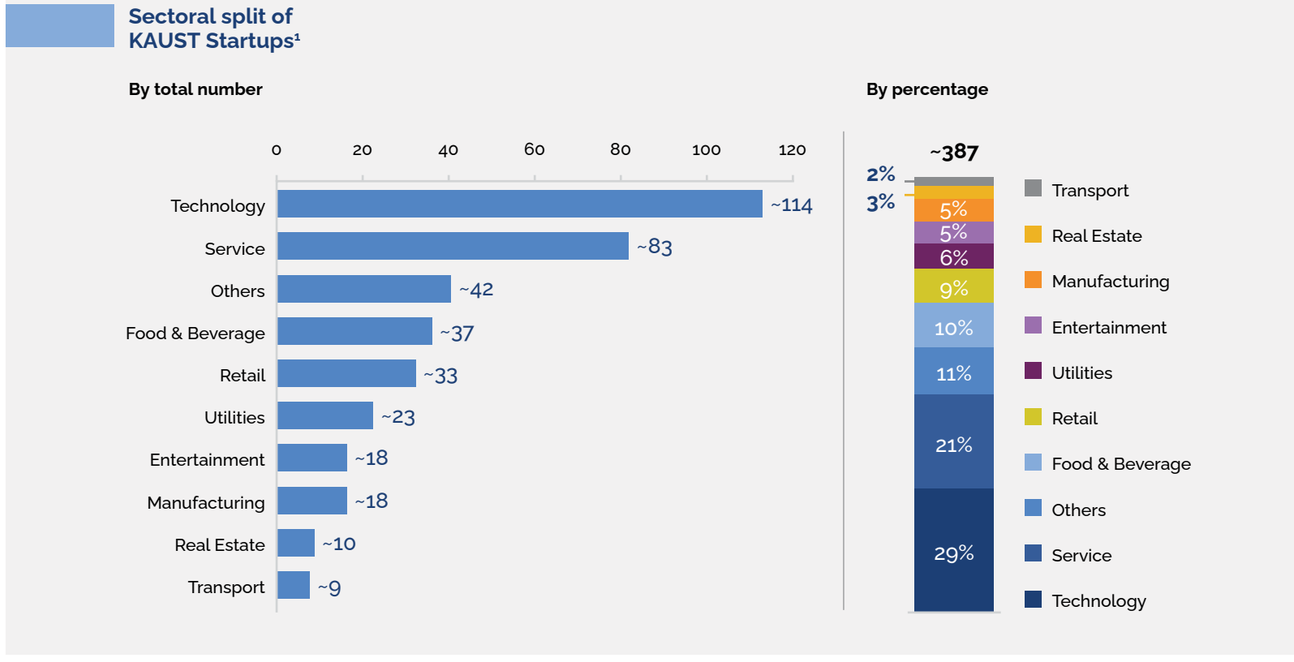


Figure 16. Sectoral distribution of KAUST startups and spinouts.

Note: 1. Sector mapping is shown on a best-efforts basis; 41 startups are excluded where revenue data or sector information is unavailable. Sector counts and percentages are approximate as reported.

Source: KAUST management input; L.E.K. research and analysis.

6.2 Methodology for estimating startup and spinout economic impact

The estimation of startup impacts follows the general principle adopted throughout this report that economic activity should be attributed to the organizations in which it occurs. Once a research-based venture becomes established, its economic contribution arises through its own production, employment and commercial activity rather than through the University itself. The role of the university is therefore reflected through the existence and growth of the venture, while the impact is measured using the economic activity generated by the company.

Accordingly, the analysis uses company revenue as the measure of direct economic output. Revenue represents the value of goods and services produced by each venture and provides the most appropriate basis for estimating the wider economic activity supported throughout the economy. Reported revenues were used wherever available. Where audited or reported revenue data were unavailable, revenues were estimated using sector-specific benchmarks derived from comparable firms. Although this introduces a degree of uncertainty for individual companies, it provides a reasonable estimate of portfolio-level economic activity and enables substantially greater coverage of the startup ecosystem than would otherwise be possible.

The resulting company revenues are assigned to the industrial sectors in which each venture primarily operates. Sector-specific Type II input-output multipliers are then applied to estimate:

Total economic value, representing the overall economic activity supported by startup revenues

Gross Value Added (GVA), representing the additional value created within the Saudi economy after accounting for intermediate consumption

Employment supported, measured as full-time equivalent (FTE) jobs associated with direct, indirect and induced activity

Using sector-specific multipliers rather than a single economy-wide multiplier recognizes that industries differ substantially in their supply-chain structures, productivity and labor intensity. This provides a more robust estimate of economic contribution while maintaining consistency with the analytical framework adopted elsewhere in the report.

Figure 17 summarizes the analytical framework adopted for the startup pathway. Company revenues provide the starting point for the analysis and are translated into estimates of total economic value, Gross Value Added and employment through the application of sector-specific multipliers. This approach enables the contribution of the startup portfolio to be compared directly with the other quantified pathways presented elsewhere in this report.

01. Active spinout and startup companies were identified in the study year and their total turnover was gathered

02. Economic multipliers were derived from Input-Output tables to estimate total impact

03. Total output was estimated by summing output across all startups: **Total economic value created = Turnover x Multiplier**

04. Total GVA was estimated by summing GVA across all startups: **Gross Value Added = Turnover x GVA multiplier**

05. Total FTE impact was estimated by summing FTE impact across all startups: **FTE impact = Turnover x FTE multiplier**

Figure 17. Methodological framework for estimating the economic contribution of KAUST startups and spinouts.

Direct output		Indirect and induced output		Total Economic Value Created
USD ~838 million	+	USD ~1,050 million	=	USD ~1,888 million

Figure 18. Coverage of the startup portfolio included within the economic impact assessment.

6.3 Estimated economic contribution of KAUST startups and spinouts

Applying the methodology described above indicates that KAUST-originated startups and spinouts generate an estimated USD 1.89 billion in total economic value annually across the Saudi economy. This represents the largest quantified contribution among the commercialization pathways examined in this report and reflects both the scale of the startup portfolio and the substantial economic activity generated by successful technology-based firms.

Figure 19 presents the associated estimates of Gross Value Added and employment supported. Together with total economic value, these indicators demonstrate that startups and spinouts contribute not only to economic output but also to value creation and employment across multiple sectors of the economy.

The corresponding estimate of Gross Value Added is approximately USD 1.0 billion, while the startup portfolio is estimated to support around 4,200 full-time equivalent jobs across the Saudi economy. Together, these results demonstrate that venture creation represents a major mechanism through which university research contributes directly to economic diversification, innovation and private-sector growth.

The scale of these impacts also reflects the cumulative nature of university entrepreneurship. Individual ventures may initially contribute relatively modest levels of economic activity, but as the portfolio expands and firms mature, their combined contribution becomes increasingly significant. This illustrates the importance of sustained investment in entrepreneurship, incubation and technology transfer as long-term drivers of economic development.

Although these estimates capture the measurable economic activity generated by the startup portfolio, they do not include a number of wider benefits that are difficult to value robustly in monetary terms. These include improvements in innovation capability, increased business dynamism, attraction of private investment, strengthening of entrepreneurial networks, and the demonstration effects associated with successful technology ventures. As with other pathways considered throughout this report, the quantified estimates should therefore be regarded as conservative measures of the startup ecosystem's overall contribution to Saudi Arabia's innovation economy.

GVA

Σ { Revenue per startup **X** Sector-relevant Type II GVA multiplier } = Total GVA (USD) **~997.6 million**

FTE

Σ { Revenue per startup **X** Sector-relevant Type II FTE multiplier } = Total FTE impact **~4.2k**

Figure 19. Estimated Gross Value Added and employment supported by startups and spinouts.

Source: KAUST management input; L.E.K. research and analysis.

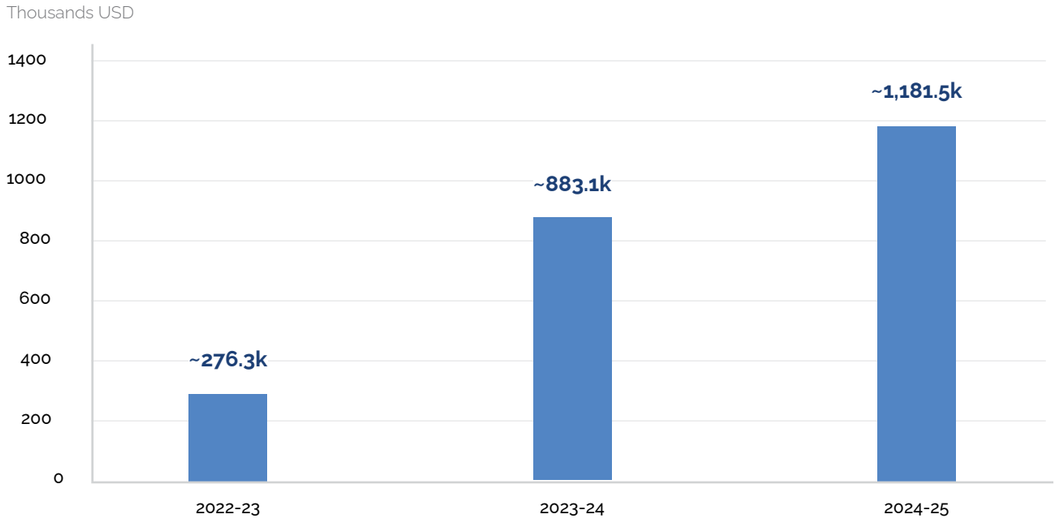
6.4 Licensing and intellectual property as a pathway to economic impact

While startup formation represents one route through which university research is commercialized, many research outputs generate economic value through licensing rather than the creation of new ventures. Licensing enables intellectual property developed within the University to be transferred to existing organizations, allowing new technologies to be developed, manufactured and commercialized using the capabilities, infrastructure and market access of established firms.

For research-intensive universities, licensing performs an important economic function. It enables discoveries to reach the marketplace where creating a standalone company would be impractical or unnecessary, while also providing a mechanism through which universities recover part of the value created by their research investments. Licensing therefore complements entrepreneurship by providing an alternative pathway through which research contributes to innovation, industrial competitiveness and economic growth.

At KAUST, licensing activities are managed through the University's technology transfer system and encompass patents, software, plant varieties and other forms of intellectual property. Although licensing income represents a relatively small component of the University's overall commercialization portfolio, it provides an important indicator of the commercial relevance of KAUST's research and its ability to generate technologies with demonstrable market value.

Figure 20 illustrates recent trends in licensing activity. While annual licensing income fluctuates because of the timing of individual agreements and milestone payments, the broader trend demonstrates continued commercial interest in technologies emerging from KAUST's research portfolio. Licensing activity should therefore be interpreted alongside other indicators of technology transfer rather than as a standalone measure of commercial success.



Number of KAUST licenses YoY[1]		
70	60	26

Figure 20. Licensing income and licensing activity, FY2023–FY2025.

Note: 1. License counts are shown for each year as reported. Source: KAUST management input; L.E.K. research and analysis.

6.5 Methodology for estimating licensing impacts

The economic contribution associated with licensing differs fundamentally from that of startups and spinouts. Startup impacts arise through the economic activity generated by independent companies, whereas licensing income represents payments made to the University in exchange for rights to exploit intellectual property developed through KAUST research.

Consequently, licensing impacts are estimated using the same income-based input-output methodology applied elsewhere in this report for externally generated income streams. Licensing income is treated as the direct economic input and translated into estimates of total economic value, Gross Value Added and employment through the application of Type II input-output multipliers.

This approach estimates the measurable economic activity directly associated with licensing revenues received by KAUST. It does not attempt to estimate the potentially much larger downstream economic value generated by licensed technologies once they are commercialized by industry. Estimating those wider impacts would require detailed information regarding the revenues, market penetration and productivity effects associated with each licensed technology, data that are not currently available in a sufficiently consistent form. The estimates presented in this section should therefore be interpreted as conservative measures of the measurable economic contribution associated with licensing activity rather than the full economic value created by licensed innovations.

Figure 21 summarizes the methodology adopted for licensing. Observed licensing income provides the starting point for the analysis and is translated into estimates of total economic value, Gross Value Added and employment using the same input-output framework applied to other externally generated income streams throughout the report. This consistent methodology enables licensing impacts to be interpreted alongside the other quantified pathways contributing to KAUST's overall economic impact.

01. Identify total licensing income generated through KAUST's IP and licensing activities

02. Economic multipliers were derived from Input-Output tables to estimate total impact

03. Total impact was calculated:
Total economic value = Multiplier x Total Income

04. GVA impact was calculated:
Gross Value Added = Total licensing income × GVA multiplier

05. FTE impact was calculated:
FTE impact = Total licensing income × FTE multiplier

Figure 21. Analytical framework for estimating licensing impacts.

Note: The methodology identifies total licensing and IP income, applies economic multipliers derived from input-output tables, and estimates total economic value, GVA and FTE impact. KAUST internal operational expenditure data is used to identify key sectors of engagement and compute an integrated multiplier.
Source: KAUST management input; L.E.K. research and analysis.



6.6 Estimated economic contribution of licensing activities

Applying the methodology described above indicates that licensing and intellectual property activities generate a measurable, although comparatively modest, economic contribution relative to the University's startup ecosystem. Licensing income supports additional economic activity through direct expenditure within KAUST together with the associated indirect supply-chain and induced household expenditure effects captured through the input-output framework.

Although licensing contributes a smaller proportion of the quantified economic impact than startup formation, this should not be interpreted as evidence that licensing is of lesser strategic importance. The scale of licensing income reflects the University's share of the commercial value generated by intellectual property rather than the economic value created by the technologies themselves. In many cases, the principal economic benefits arise after technologies have been adopted, further developed and commercialized by industry—impacts that extend well beyond the licensing revenues received by the University and are not captured within the present analysis.

Consequently, the estimates reported here should be interpreted as conservative measures of the measurable economic contribution associated with licensing income rather than comprehensive estimates of the economic value created through technology commercialization.

Figure 22 illustrates the relationship between licensing income and the wider economic activity supported through indirect and induced effects. Although the quantified impacts are modest in comparison with those associated with startup creation, they demonstrate that licensing provides a measurable contribution to economic activity while also representing an important mechanism for transferring research outputs into commercial application.

Direct output		Indirect and induced output		Total Economic Value Created
USD ~1.2 million	+	USD ~1.9 million	=	USD ~3.1 million

Figure 22. Estimated economic value generated through licensing activities.

Figure 23 illustrates the role of licensing within KAUST's wider commercialization system. Whereas some research outputs progress through startup creation, others generate value through licensing to established firms. Together these pathways demonstrate that successful technology transfer encompasses multiple routes to commercial application, each contributing to the translation of research into economic and societal value.

GVA				
Research commercialization - licensing and IP income	X	University Type II GVA multiplier	=	Total GVA (USD) ~1.6 million
FTE				
Research commercialization - licensing and IP income	X	University Type II FTE multiplier	=	Total FTE ~28

Figure 23. Estimated Gross Value Added and employment support though licensing.

Source: KAUST management input; L.E.K. research and analysis.

6.7 Contribution to the overall assessment

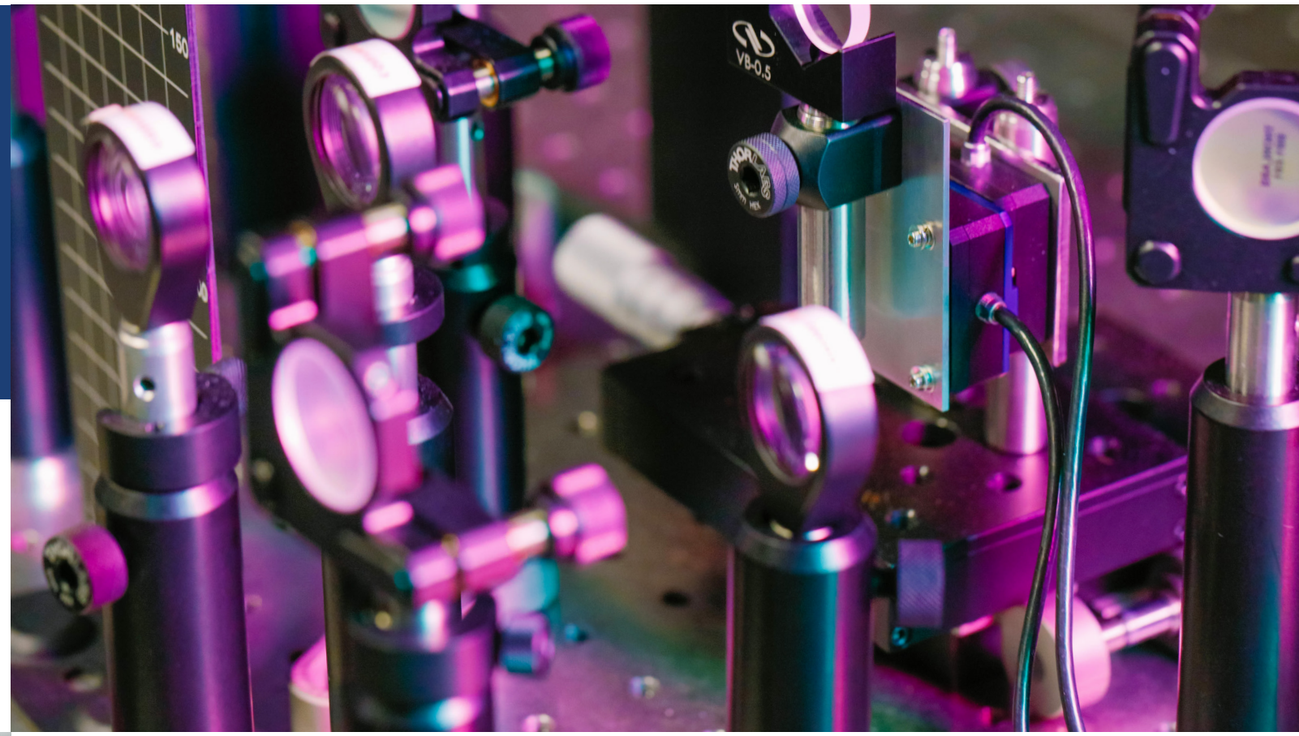
Technology transfer and commercialization represent one of the clearest examples of how research capability can be translated into measurable economic value. Whereas Chapter 4 demonstrated the broader productivity benefits arising from research through knowledge spillovers, this chapter has focused on the direct commercial application of research through entrepreneurship and intellectual property.

The analysis indicates that startup formation is the dominant quantified commercialization pathway, reflecting the maturity and scale of KAUST's entrepreneurial ecosystem. Licensing provides a complementary mechanism through which research outputs generate economic value without the creation of new companies. Together, these pathways demonstrate that successful commercialization requires a diverse innovation ecosystem capable of supporting multiple routes from research to market.

It is important to recognize that the quantified estimates presented in this chapter capture only those impacts that can currently be measured robustly using observed company revenues and licensing income. They do not include a range of wider benefits associated with technology transfer, including follow-on private investment, productivity improvements within adopting firms, export growth, enhanced industrial capability and the broader societal impacts arising from the deployment of new technologies. These omissions reinforce the conservative nature of the estimates presented throughout the report.

As described in Chapter 3, the contribution of technology transfer and commercialization is incorporated into the aggregate estimate of KAUST's measurable economic impact after appropriate adjustments have been made to avoid double counting with the other quantified pathways. Consequently, the results presented here should be interpreted as one component of the University's overall contribution to the Saudi economy rather than as additional impacts to be summed independently.

07





The Impact of KAUST's Talent Development and Human Capital Activities

Research-intensive universities create value not only through the knowledge they generate but also through the people they educate, attract and develop. Graduates carry advanced skills, scientific expertise and professional networks into industry, government and academia, where they contribute to innovation, productivity and long-term economic growth. Human capital is therefore one of the principal mechanisms through which universities generate lasting economic and societal impact.

For KAUST, talent development is central to its mission. The University educates highly skilled scientists, engineers and entrepreneurs who contribute to Saudi Arabia's research and innovation ecosystem, while also attracting international talent and delivering executive and lifelong learning programs that strengthen workforce capability beyond the enrolled student population. Together, these activities support the development of a knowledge-based economy consistent with the ambitions of Saudi Vision 2030.

The economic value of talent development is assessed through four complementary pathways. The first estimates the graduate earnings premium associated with KAUST qualifications relative to an appropriate counterfactual educational pathway. The second estimates the associated public fiscal benefit, reflecting additional tax and social insurance (GOSI[IV]) contributions generated through higher graduate earnings. The third considers the contribution of international students, whose expenditure supports economic activity while strengthening Saudi Arabia's global research connections. Finally, the chapter examines the contribution of executive and lifelong learning programs, which extend KAUST's impact by developing the skills of professionals already participating in the workforce.

Table 6 summarizes the principal findings presented throughout this chapter. Collectively, KAUST's talent development activities generate substantial measurable economic value through graduate earnings, public fiscal contributions, international student expenditure and executive education. Among these pathways, the graduate earnings premium and associated fiscal benefits represent the largest quantified contribution, highlighting the importance of advanced human capital development as a driver of long-term economic growth.

Table 6. Talent development and human capital at a glance (2024–25).

Metric	Value	Interpretation
Net graduate premium	USD ~293.0 million	Estimated lifetime private income uplift for KAUST graduates versus counterfactual qualification baselines
Net public benefit from graduates	USD ~129.1 million	Estimated fiscal benefit from incremental VAT and GOSI[1] contributions, net of foregone public benefit during study
Total net graduate impact	USD ~422.1 million	Combined net graduate premium and net public benefit
International student enrollment	~1.2k	Total international student enrollment at KAUST in 2024-25
Global talent total economic value	USD ~95.7 million	Estimated total output supported by international student spending and related multiplier effects
Global talent GVA /FTE impact	USD ~49.9 million / ~1.0k FTE	Estimated GVA and employment supported by global talent development activity
Executive and lifelong learning enrollment	~29.3k learner	Learner enrollment reached by KAUST executive and lifelong learning programs in 2024-25
Executive and lifelong learning total economic value	USD ~201.8 million	Estimated total output supported by executive and lifelong learning program delivery
Executive and lifelong learning GVA /FTE impact	USD ~105.3 million / ~1.8k FTE	Estimated GVA and employment supported by executive and lifelong learning activity

Note: The 2025 international student cohort represents 54 nationalities, reflecting KAUST's role as a globally diverse research community. Source: KAUST management input; L.E.K. research and analysis.

7.1 Estimating the economic value of KAUST graduates

The largest component of KAUST's human capital contribution arises through the labor-market outcomes achieved by its graduates. By equipping students with advanced scientific and technical capabilities, KAUST increases their productivity in ways that employers value – both because highly skilled graduates directly raise organizational output and because such capabilities remain in scarce supply across the Saudi economy. This productivity premium translates into higher lifetime earnings for graduates themselves and, through value-added taxes (VAT) and social security contributions (GOSI), into additional fiscal revenues for the Kingdom. The earnings differential between KAUST graduates and those who followed the most plausible alternative educational route therefore provides a measurable indicator of the economic value created through investment in KAUST's graduate programs.

Graduates would have generated earnings even if they had pursued alternative educational pathways, so the analysis aims to estimate how much additional economic value is generated because an individual studied at KAUST rather than following the most plausible alternative educational route. For Master's graduates, this counterfactual is an individual whose highest relevant qualification is a Bachelor's degree. For PhD graduates, the counterfactual is an individual whose highest relevant qualification is a Master's degree. The difference between observed graduate outcomes and these counterfactual scenarios provides an estimate of the additional earnings attributable to a KAUST qualification.

This additional earnings premium generates value in two ways. First, it increases the lifetime earnings received by graduates themselves, representing a private return to education. Second, higher earnings generate additional public revenues through VAT and GOSI contributions, creating wider fiscal benefits for Saudi Arabia. Together, these private and public benefits provide a comprehensive estimate of the measurable economic contribution associated with KAUST's graduate programs.



7.2 Methodology for estimating the graduate earnings premium

Estimating the graduate earnings premium requires the comparison of KAUST graduates with an appropriate counterfactual population while controlling for observable differences that influence labor-market outcomes. Simple comparisons of average graduate salaries are insufficient because earnings vary systematically according to factors such as educational attainment, academic discipline, gender, employment sector and labor-market experience. Without accounting for these characteristics, differences in observed earnings cannot be attributed confidently to a KAUST qualification alone.

The analysis therefore adopts a structured econometric approach that combines KAUST alumni data with national labor-market statistics to estimate the additional lifetime earnings associated with obtaining a KAUST degree. This approach enables the graduate earnings premium and associated public fiscal benefits to be estimated on a consistent basis while recognizing the diversity of graduate characteristics and career pathways.

The analysis draws upon two principal data sources:

KAUST alumni survey microdata, providing information on graduate salaries, employment status, educational background and demographic characteristics; and

GASTAT graduate earnings data, providing the national labor-market benchmark against which comparable STEM graduates can be evaluated.



To maximize comparability between the two datasets, the analysis focuses on full-time STEM graduates employed within Saudi Arabia. Restricting the analysis to this population ensures that observed labor-market outcomes reflect comparable educational backgrounds and employment contexts, thereby strengthening the validity of the estimated earnings premium. Graduates employed outside Saudi Arabia are therefore excluded from the quantified analysis. Their wider contribution through international research collaboration, knowledge exchange and global reputation is recognized elsewhere in the report but cannot be robustly quantified within the present framework.

The analytical process comprises five sequential stages, moving from data preparation through to the estimation of aggregate graduate impacts.

Figure 24 summarizes the overall analytical workflow. KAUST alumni data and GASTAT labor-market data are first harmonized to ensure consistent definitions of educational attainment, academic discipline, employment sector and salary. Graduates are then allocated to appropriate comparison groups before lifetime earnings, graduate premiums and public fiscal benefits are estimated and aggregated across the graduate population. This staged approach ensures that each element of the analysis is transparent and reproducible.

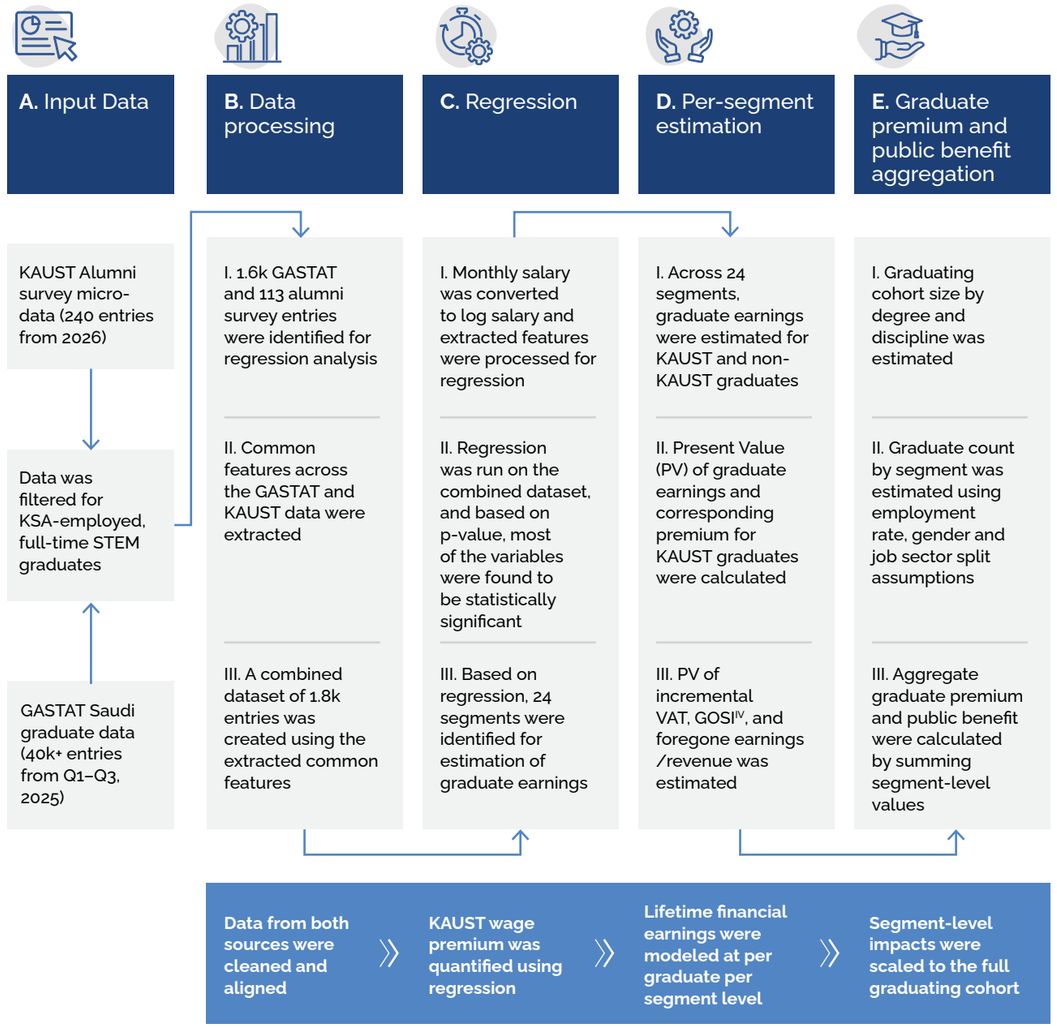


Figure 24. Overview of graduate premium data processing and estimation approach.

Note: The analysis harmonizes KAUST alumni survey and GASTAT wage data across comparable salary, demographic, academic and employment variables. Source: KAUST alumni survey; GASTAT; KAUST management input; L.E.K. research and analysis.

The analytical approach undertaken is translated into two estimation approaches – one estimating the graduate premium for KAUST graduates (Figure 25) and the other estimating the public fiscal benefit generated through higher graduate earnings (Figure 26).

Figures 25 and 26 illustrate the two linked components of the analysis: the first estimates the graduate earnings premium, representing the additional lifetime earnings attributable to a KAUST qualification after deducting foregone earnings and other relevant educational costs. The second estimates the associated public fiscal benefit, comprising additional GOSI contributions and VAT revenues generated through higher graduate earnings, net of foregone public revenues during the period of study. Estimating these components separately distinguishes the private returns accruing to graduates from the wider fiscal benefits generated for the Saudi economy.

The analytical framework described above establishes the overall methodology used to estimate graduate impacts. The next section applies this framework by defining the counterfactual groups used for Master's and PhD graduates and estimating earnings premiums across different combinations of qualification level, academic discipline, gender and employment sector. These segment-level estimates provide the basis for the aggregate graduate impacts presented later in the chapter.

01. Identify graduates by degree, gender and specialization, job sector and assign an appropriate counterfactual group for each sub-group

02. Model expected lifetime earnings for graduates versus counterfactuals using earnings functions, with earnings discounted to present value using KSA discount rate

03. **Net Graduate Earnings Premium = Lifetime post-tax & GOSI earnings – (foregone earnings[1] + tuition fees net of grants and bursaries)**

04. Calculate Total Impact:
Total Impact = Sum of (Net Lifetime earnings[2] per sub-group per student) × Number of students per sub-group

Figure 25. Overview of the graduate earnings premium estimation process.

Following data preparation, graduate earnings are estimated using Mincer (1974) earnings functions[V], the standard econometric approach for analyzing returns to education within labor economics. The model estimates expected lifetime earnings while controlling for observable characteristics including educational attainment, academic program, gender and employment sector. Lifetime earnings are subsequently discounted to present values using the Saudi government discount rate, ensuring consistency with standard economic appraisal practice.

Rather than applying a single average earnings premium across all graduates, the analysis estimates separate earnings profiles for different graduate segments. This recognizes that labor-market returns vary across disciplines and employment sectors and therefore provides a more realistic estimate of the economic value associated with KAUST qualifications.

Fig. 25: Note: 1. Foregone earnings are deducted for the period of study. 2. Lifetime earnings are estimated using Mincerian earnings functions and discounted to present value using KSA discount rate. Source: KAUST management input; KAUST alumni survey; GASTAT; L.E.K. research and analysis.

01. Calculate present value of gross lifetime benefit generated by KAUST graduates versus the counterfactual non-graduates

02. Estimate public benefit generated from incremental earnings through applicable GOSI contributions and VAT receipts from the VAT-taxable share of incremental household consumption

03. **Public Benefit = GOSI Contributions + VAT receipts**
Estimate public benefit foregone during the study period
Foregone public benefit = Foregone VAT + Foregone GOSI Contributions

04. Calculate net public benefit by deducting foregone VAT[1] and GOSI contributions from public benefit:
Total Impact = Sum of (Present value of Net Public benefit per sub-group per student) × Number of students per sub-group

Figure 26. Methodology for estimating graduate earnings premium and public fiscal benefit.

7.3 Estimating graduate earnings by counterfactual group and segment

The graduate earnings model estimates the additional lifetime earnings associated with a KAUST qualification relative to the earnings that comparable individuals would be expected to achieve under the relevant counterfactual educational pathway. The objective is not simply to compare average salaries, but to isolate the contribution of a KAUST degree after accounting for observable differences between graduates.

To achieve this, expected earnings are modeled as a function of characteristics known to influence labor-market outcomes, including work experience, qualification level, academic program, gender and employment sector. These variables allow graduates to be compared with individuals who have similar characteristics but followed different educational pathways, thereby providing a more robust estimate of the earnings premium attributable to a KAUST qualification.

Consistent with the conceptual framework introduced in the previous section, separate counterfactual groups are defined for Master's and PhD graduates:

- KAUST Master's graduates are compared with individuals whose highest relevant qualification is a Bachelor's degree.
- KAUST PhD graduates are compared with individuals whose highest relevant qualification is a Master's degree.

This reflects the additional educational attainment associated with each qualification and provides an estimate of the incremental value created by progressing to the next level of advanced education.

Why segment the analysis?

A single average graduate earnings premium would mask important differences across the graduate population. Labor-market outcomes vary systematically according to discipline, gender, employment sector and qualification level. For example, earnings trajectories for engineering graduates employed in the private sector may differ substantially from those of natural science graduates working in government.

To reflect these differences, the analysis estimates earnings premiums separately for distinct groups of graduates before aggregating the results. This segmented approach produces a more realistic estimate of graduate impact than applying a single average premium across all graduates and ensures that the diversity of KAUST's graduate population is appropriately represented.

Fig. 26: Note: 1. VAT is based on taxable household consumption. GOSI is applied to Saudi nationals only and reflects employer-employee contributions of approximately 10.5% - 13.75% of gross salary. Source: KAUST management input; KAUST alumni survey; GASTAT; L.E.K. research and analysis.

Figure 27 illustrates the segmentation framework used throughout the analysis. Graduates are classified according to four characteristics.

- Qualification level (Master's or PhD)
- Academic program (Information and Communication Technologies; Engineering, Manufacturing and Construction; Natural Sciences, Mathematics and Statistics);
- Gender
- Employment sector (government or private)

Combining these characteristics produces 24 distinct graduate segments, enabling separate earnings premiums and fiscal benefits to be estimated for graduates with comparable educational and employment profiles. This approach recognizes that labor-market returns differ across groups while maintaining a consistent analytical framework across the graduate population.

The resulting segment-level estimates provide the foundation for the remainder of the analysis. Separate estimates are produced for:

- Gross lifetime earnings benefits;
- Net graduate earnings premiums;
- Gross public fiscal benefits;
- Net public fiscal benefits.

Further details of the regression specification, segment-level calculations and estimated premiums for each graduate group are provided in Appendices A2.8.3 and A2.8.4.

Once the graduate earnings premium and public fiscal benefit have been estimated for each of the 24 graduate segments, these estimates are combined with the observed distribution of KAUST graduates to calculate the University's overall human capital contribution. The aggregation methodology is described in the following section.

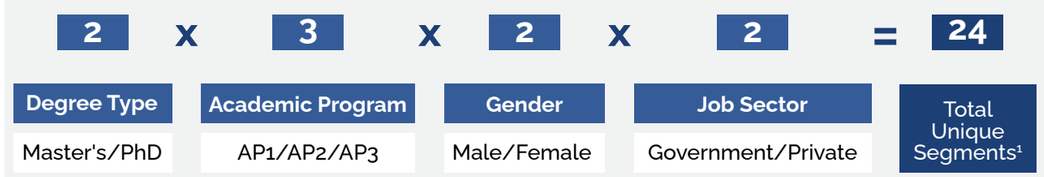


Figure 27. Graduate segmentation framework used to estimate the KAUST earnings premium.

7.4 Aggregating segment-level estimates

The segment-level earnings premiums estimated in the previous section provide the basis for calculating the overall economic contribution generated by KAUST graduates. Aggregating these results requires more than simply averaging the estimated premiums across graduate groups. Different segments vary in size, employment patterns and expected labor-market outcomes, and these differences need to be reflected in the overall estimate.

Accordingly, each of the 24 graduate segments is weighted according to the observed distribution of KAUST graduates before the individual earnings and fiscal estimates are combined. This produces portfolio-level estimates that reflect both the diversity of the graduate population and the differing economic returns associated with individual disciplines, qualification levels and employment sectors. The resulting estimates therefore represent the aggregate contribution of KAUST's graduate population rather than the experience of a typical individual graduate.

The aggregation process produces four complementary indicators:

- Gross graduate earnings benefit, representing the additional lifetime earnings generated before accounting for educational costs or foregone earnings;
- Net graduate earnings premium, representing the additional lifetime earnings attributable to a KAUST qualification after relevant deductions;
- Gross public fiscal benefit, representing the additional government revenues generated through higher graduate earnings; and
- Net public fiscal benefit, representing the fiscal return after allowing for foregone public revenues during the period of study.

Considering these indicators together provides a comprehensive assessment of both the private and public economic returns generated through KAUST's investment in advanced human capital.

Figure 28 illustrates how individual segment-level estimates are combined to produce aggregate estimates for the University's graduate population. Segment-specific earnings premiums and fiscal benefits are first weighted according to the observed graduate profile before being aggregated to estimate the total contribution generated by KAUST graduates. This approach ensures that the overall results accurately reflect the composition of the University's graduate population while maintaining consistency with the underlying econometric analysis.

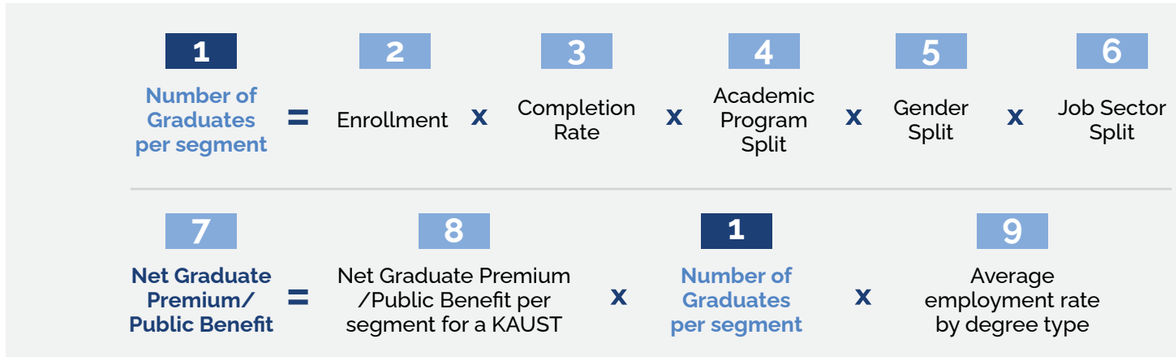


Figure 28. Aggregation of graduate segment estimates into overall graduate impact.

7.5 Graduate earnings premium and public fiscal benefit

Applying the methodology described above indicates that KAUST graduates generate a substantial lifetime earnings premium relative to their respective counterfactual populations. These additional earnings represent the measurable economic value associated with the advanced knowledge, technical skills and research capability acquired during study at the University.

The analysis also demonstrates that these private returns are accompanied by significant public benefits. Higher graduate earnings generate additional fiscal revenues through increased GOSI contributions and VAT receipts, while the higher productivity associated with advanced qualifications strengthens the long-term performance of the Saudi economy. Together, these private and public returns demonstrate that investment in postgraduate education generates benefits extending well beyond the individual graduate.

Importantly, the estimates presented here represent net benefits. They explicitly recognize that graduates would have earned income under alternative educational pathways and that governments would have continued to receive tax revenues in the absence of further study. By estimating only the incremental value attributable to a KAUST qualification, the analysis provides a more realistic assessment of the University's contribution than would be obtained from observing graduate salaries alone.

Note: 1. The segmentation combines two degree types, three academic program groups, two gender categories and two job sector categories, resulting in 24 unique graduate segments. Source: KAUST management input; L.E.K. research and analysis.

Note: Estimates are aggregated separately for master's and PhD graduates before being combined to estimate total graduate impact. Source: KAUST management input; KAUST alumni survey; GASTAT; L.E.K. research and analysis.

Tables 7-10 present the estimated lifetime earnings premium together with the associated fiscal benefits generated by KAUST graduates. The results demonstrate that investment in advanced postgraduate education generates substantial returns for both individuals and the wider public sector. While graduates receive higher lifetime earnings through improved labor-market outcomes, governments also benefit through increased fiscal revenues generated over graduates' working lives.

Table 7. Estimated net graduate premium by segment: Master's versus Bachelor's counterfactual (2024–25).

KAUST Master's vs Bachelor's Counterfactual (per segment level)	Sr. No.	Academic Program	Gender	Job Sector	Enrollment
	1	Information and Communication Technologies (ICTs)	Male	Government	1,336 (Enrollment numbers for Master's graduates AY23-24 & AY24-25)
	2	Information and Communication Technologies (ICTs)	Male	Private	
	3	Information and Communication Technologies (ICTs)	Female	Government	
	4	Information and Communication Technologies (ICTs)	Female	Private	
	5	Engineering, Manufacturing and Construction	Male	Government	
	6	Engineering, Manufacturing and Construction	Male	Private	
	7	Engineering, Manufacturing and Construction	Female	Government	
	8	Engineering, Manufacturing and Construction	Female	Private	
	9	Natural Sciences, Mathematics and Statistics	Male	Government	
	10	Natural Sciences, Mathematics and Statistics	Male	Private	
	11	Natural Sciences, Mathematics and Statistics	Female	Government	
	12	Natural Sciences, Mathematics and Statistics	Female	Private	
		Total			

The relationship between these two outcomes is important. The graduate earnings premium provides the principal measure of private economic value created through human capital development, while the fiscal estimates demonstrate that investment in postgraduate education also generates measurable public returns. Together, they provide complementary evidence that advanced research training contributes to long-term economic growth through both individual productivity and broader public finances.

Completion Rate[1]	Academic Program Split[2]	Gender Split[2]	Job Sector Split[2]	Number of graduates per segment	Employment Rate[3]	Per-segment Net Graduate Premium (USD)	Aggregate Net Graduate Premium (USD Mn)
32%	32%	63%	25%	22	94%	786,231	16
32%	32%	63%	75%	64	94%	501,010	30
32%	32%	37%	25%	13	94%	675,572	8
32%	32%	37%	75%	37	94%	432,176	15
32%	47%	63%	25%	32	94%	828,625	25
32%	47%	63%	75%	93	94%	527,462	46
32%	47%	37%	25%	18	94%	711,781	12
32%	47%	37%	75%	54	94%	454,556	23
32%	22%	63%	25%	15	94%	718,828	10
32%	22%	63%	75%	43	94%	458,953	19
32%	22%	37%	25%	8	94%	618,002	5
32%	22%	37%	75%	25	94%	396,228	9
				424			219

Note: 1. Completion rate is calculated as AY23-24 graduates divided by AY22-24 enrollment; 2. Academic-program shares are based on the AY24–25 graduate cohort; gender and job-sector shares are based on filtered KAUST alumni survey responses. 3. Employment rate reflects AY22–23 Master's graduate employment data. Source: KAUST management input; KAUST alumni survey; GASTAT; L.E.K. research and analysis.

Table 8. Estimated net graduate premium by segment: PhD versus Master's counterfactual (2024–25).

	Sr. No.	Academic Program	Gender	Job Sector	Enrollment[1]	Academic Program Split[2]	Gender Split[3]	Job Sector Split[3]	Number of graduates per segment	Employment Rate[4]	Per-segment Net Graduate Premium (USD)	Aggregate Net Graduate Premium (USD Mn)
KAUST PhD vs Master's Counterfactual (per segment level)	1	Information and Communication Technologies (ICTs)	Male	Government	230 (Number of PhD graduates in AY24-25)	9%	62%	46%	6	96%	449,696	2
	2	Information and Communication Technologies (ICTs)	Male	Private		9%	62%	54%	7	96%	324,022	2
	3	Information and Communication Technologies (ICTs)	Female	Government		9%	38%	46%	3	96%	399,917	1
	4	Information and Communication Technologies (ICTs)	Female	Private		9%	38%	54%	4	96%	288,647	1
	5	Engineering, Manufacturing and Construction	Male	Government		56%	62%	46%	37	96%	406,190	14
	6	Engineering, Manufacturing and Construction	Male	Private		56%	62%	54%	43	96%	294,246	12
	7	Engineering, Manufacturing and Construction	Female	Government		56%	38%	46%	23	96%	362,758	8
	8	Engineering, Manufacturing and Construction	Female	Private		56%	38%	54%	26	96%	270,731	7
	9	Natural Sciences, Mathematics and Statistics	Male	Government		35%	62%	46%	23	96%	396,963	9
	10	Natural Sciences, Mathematics and Statistics	Male	Private		35%	62%	54%	27	96%	290,998	8
	11	Natural Sciences, Mathematics and Statistics	Female	Government		35%	38%	46%	14	96%	354,877	5
	12	Natural Sciences, Mathematics and Statistics	Female	Private		35%	38%	54%	17	96%	260,526	4
		Total							230			74

Note: 1. AY24-25 PhD graduate counts are used directly because the five-year program duration and three years of available data did not support a reliable completion-rate estimate. 2. Academic-program shares are based on the AY24-25 PhD cohort. 3. Gender and job-sector shares are based on filtered KAUST alumni survey responses. 4. Employment rate reflects AY22–23 PhD graduate employment data. Source: KAUST management input; KAUST alumni survey; GASTAT; L.E.K. research and analysis.

Table 9. Contribution of KAUST Master's graduates to the Saudi research and innovation ecosystem.

	Sr. No.	Academic Program	Gender	Job Sector	Enrollment	Completion Rate[1]	Academic Program Split[2]	Gender Split[3]	Job Sector Split[3]	Number of graduates per segment	Employment Rate[4]	Per-segment Net Public Benefit (USD)	Aggregate Net Public Benefit (USD Mn)
KAUST Master's vs Bachelor's Counterfactual (per segment level)	1	Information and Communication Technologies (ICTs)	Male	Government	1,336 (Enrollment number of Master's graduates AY23-24 & AY24-25)	32%	32%	63%	25%	22	94%	360,228	7
	2	Information and Communication Technologies (ICTs)	Male	Private		32%	32%	63%	75%	64	94%	226,006	14
	3	Information and Communication Technologies (ICTs)	Female	Government		32%	32%	37%	25%	13	94%	308,153	4
	4	Information and Communication Technologies (ICTs)	Female	Private		32%	32%	37%	75%	37	94%	193,335	7
	5	Engineering, Manufacturing and Construction	Male	Government		32%	47%	63%	25%	32	94%	381,731	11
	6	Engineering, Manufacturing and Construction	Male	Private		32%	47%	63%	75%	93	94%	239,424	21
	7	Engineering, Manufacturing and Construction	Female	Government		32%	47%	37%	25%	18	94%	326,519	6
	8	Engineering, Manufacturing and Construction	Female	Private		32%	47%	37%	75%	54	94%	204,973	10
	9	Natural Sciences, Mathematics and Statistics	Male	Government		32%	22%	63%	25%	15	94%	329,065	5
	10	Natural Sciences, Mathematics and Statistics	Male	Private		32%	22%	63%	75%	43	94%	206,562	8
	11	Natural Sciences, Mathematics and Statistics	Female	Government		32%	22%	37%	25%	8	94%	281,537	2
	12	Natural Sciences, Mathematics and Statistics	Female	Private		32%	22%	37%	75%	25	94%	176,728	4
		Total								424			99

Note: 1. Completion rate is calculated as AY23-24 graduates divided by AY22-24 enrollment. 2. Academic-program shares are based on the AY24–25 graduate cohort. 3. Gender and job-sector shares are based on filtered KAUST alumni survey responses. 4. Employment rate reflects AY22–23 Master's graduate employment data. Source: KAUST management input; KAUST alumni survey; GASTAT; L.E.K. research and analysis.

Table 10. Contribution of KAUST PhD graduates to the Saudi research and innovation ecosystem.

	Sr. No.	Academic Program	Gender	Job Sector	Enrollment[1]	Academic Program Split[2]	Gender Split[3]	Job Sector Split[3]	Number of graduates per segment	Employment Rate[4]	Per-segment Net Public Benefit (USD)	Aggregate Net Public Benefit (USD Mn)
KAUST PhD vs Master's Counterfactual (per segment level)	1	Information and Communication Technologies (ICTs)	Male	Government	230 (Number of PhD graduates in AY24-25)	9%	62%	46%	6	96%	190,510	1
	2	Information and Communication Technologies (ICTs)	Male	Private		9%	62%	54%	7	96%	123,115	1
	3	Information and Communication Technologies (ICTs)	Female	Government		9%	38%	46%	3	96%	164,595	1
	4	Information and Communication Technologies (ICTs)	Female	Private		9%	38%	54%	4	96%	106,283	0
	5	Engineering, Manufacturing and Construction	Male	Government		56%	62%	46%	37	96%	176,311	6
	6	Engineering, Manufacturing and Construction	Male	Private		56%	62%	54%	43	96%	114,855	5
	7	Engineering, Manufacturing and Construction	Female	Government		56%	38%	46%	23	96%	152,467	3
	8	Engineering, Manufacturing and Construction	Female	Private		56%	38%	54%	26	96%	99,978	3
	9	Natural Sciences, Mathematics and Statistics	Male	Government		35%	62%	46%	23	96%	166,083	4
	10	Natural Sciences, Mathematics and Statistics	Male	Private		35%	62%	54%	27	96%	107,875	3
	11	Natural Sciences, Mathematics and Statistics	Female	Government		35%	38%	46%	14	96%	143,732	2
	12	Natural Sciences, Mathematics and Statistics	Female	Private		35%	38%	54%	17	96%	93,267	1
		Total							230			30

Note: 1. AY24-25 PhD graduate counts are used directly because the five-year program duration and three years of available data did not support a reliable completion-rate estimate. 2. Academic-program shares are based on the AY24-25 PhD cohort. 3. Gender and job-sector shares are based on filtered KAUST alumni survey responses. 4. Employment rate reflects AY22–23 PhD graduate employment data. Source: KAUST management input; KAUST alumni survey; GASTAT; L.E.K. research and analysis.

7.6 Total net graduate economic contribution

The total measurable economic contribution generated by KAUST graduates is established by combining the private earnings premium with the associated public fiscal benefits. Bringing these two components together demonstrates that investment in advanced human capital yields returns that are shared between individuals and the wider Saudi economy.

On this basis, KAUST graduates are estimated to generate approximately USD 422.1 million in total net graduate impact. This aggregate figure comprises approximately USD 293.0 million in net graduate earnings premium, and approximately USD 129.1 million in net public fiscal benefit. The results confirm that KAUST's graduate programs generate substantial, measurable economic value.

Gross Lifetime Benefit	−	GOSI[1], VAT, Foregone Earnings	=	Net Graduate Premium
USD ~451.4 million		USD ~158.4 million		USD ~293.0 million
Public Benefit	−	Foregone Public Benefit	=	Net Public Benefit
USD ~142.7 million		USD ~13.6 million		USD ~129.1 million
Net Graduate Premium	+	Net Public Benefit	=	Net Graduate Impact
USD ~293.0 million		USD ~129.1 million		USD ~422.1 million

Figure 29. Total net graduate impact from KAUST graduates.



Note: 1. General Organization for Social Insurance. Source: KAUST management input; KAUST alumni survey; GASTAT; L.E.K. research and analysis.

7.7 Talent retention and the Saudi research ecosystem

The long-term economic contribution of postgraduate education depends not only on educating highly skilled graduates but also on retaining and deploying that talent effectively within the economy. Graduates who enter Saudi universities, research institutes, technology companies and government organizations contribute to the accumulation of scientific capability that underpins long-term innovation and economic diversification.

For KAUST, talent retention therefore represents an important mechanism through which investment in advanced education supports the objectives of Saudi Vision 2030. Graduates contribute directly through research and innovation while also strengthening the capability of organizations that employ them. These wider institutional benefits—including knowledge diffusion, improved research capability and enhanced innovation performance—are difficult to quantify robustly but are recognized as important outcomes within the KAUST Impact Framework.

The graduate earnings estimates presented earlier in this chapter should therefore be interpreted as one measurable indicator of a broader process of human capital formation. They provide a robust estimate of the economic value associated with improved labor-market outcomes but do not capture the wider contribution graduates make to scientific capability, organizational learning or innovation performance.

The analysis presented above focuses on the measurable economic returns generated by KAUST graduates who participate in the Saudi labor market. However, the University's contribution to human capital development extends beyond graduate earnings alone. International students, talent attraction and executive education also strengthen Saudi Arabia's research and innovation ecosystem, although their impacts arise through different mechanisms. These complementary pathways are considered in the following section.

7.8 Global talent development and contributions: The KAUST Fellowship Program

While the wider ecosystem benefits of international students are discussed above, their direct economic footprint can also be quantified. The economic contribution associated with global talent development is estimated by translating the costs incurred in supporting international students into direct, indirect, and induced economic value. The direct impact captures the relevant expenditure generated by international students, primarily through living costs within Saudi Arabia. The indirect impact reflects the University's expenditure on goods and services procured from local suppliers to support these students, while the induced impact captures the subsequent household spending by workers employed within those supported businesses.

01. Calculate total spend for international students by considering tuition costs, fixed costs and stipends

02. For each cost type (tuition, fixed costs and stipends), assign Type II multipliers based on the relevant economic activity mapped to the IO tables

03. Calculate output for each cost type, and aggregate to find the total output:
Economic Value Created = Cost-Specific Multiplier x Total Relevant Cost

04. Calculate GVA for each cost type, and aggregate to find the total GVA:
Cost-Specific GVA = Cost-Specific GVA Multiplier x Direct Cost-Specific Output[1]

05. Calculate FTE impact for each cost type, and aggregate to find the total FTE Impact:
Cost-Specific FTE impact = Cost-Specific FTE Multiplier x Direct Cost-Specific Output[1]

Figure 30. Methodology for estimating economic impact from global talent development.

Note: 1. The methodology estimates total student-related spending, applies Cost-Specific Type II multipliers and aggregates output, GVA and FTE impact across tuition, fixed cost and stipend categories. Direct output refers to the total costs incurred by KAUST for international students across tuition costs, fixed costs and stipends. To ensure analytical rigor, the methodology disaggregates student costs into distinct categories: tuition, fixed costs, and stipends. Each category maps to different underlying economic activities. This disaggregation allows for the application of tailored input-output multipliers rather than relying on a single, generic student-spending multiplier. Source: KAUST management input; L.E.K. research and analysis.

As an international research university, KAUST attracts highly talented students from around the world, many of whom undertake postgraduate study and research within Saudi Arabia. During their period of study, these students contribute directly to the economy through their expenditure on accommodation, food, transport and other living costs, while also strengthening the University's international research environment.

Table 11: KAUST Fellowship Program annual support by category.

Support category	Approx. annual support
Tuition coverage	**USD ~35k**
Annual stipend	**MS: USD ~20k** **PhD: USD ~30k**
On-campus housing and utilities	**USD ~7k**
Health insurance	**USD ~1.5k**

Table 12. Multiplier assumptions for global talent development cost categories.

Cost category	Output multiplier	GVA multiplier	FTE impact multiplier
Fixed costs[1]	**2.21**	**1.13**	**7.38**
Tuition costs[2]	**3.00**	**1.53**	**7.43**
Stipends[3]	**2.16**	**1.14**	**5.87**

The results indicate that the presence of international students at KAUST generates substantial economic activity within the Kingdom.



Figure 31. Estimated economic value created by global talent development.

International students are estimated to generate approximately USD 95.7 million in total economic value annually. This figure comprises

USD 42.6 million in direct output and an additional USD 53.1 million in indirect and induced output generated through supply-chain linkages and household expenditure.

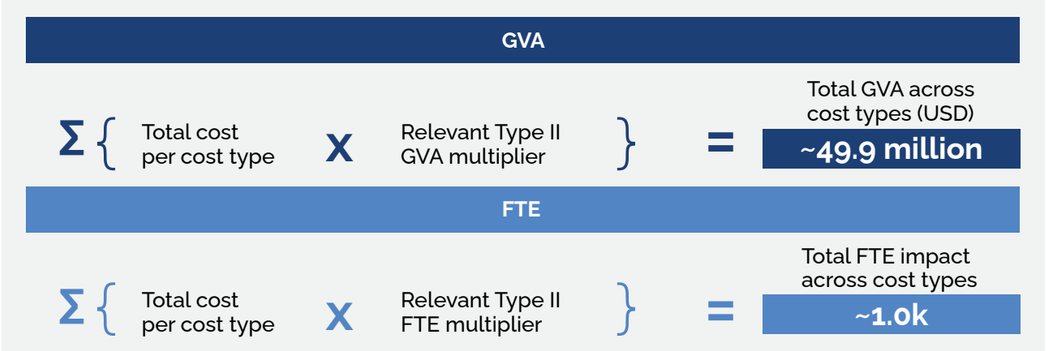


Figure 32. GVA and FTE impact from global talent development.

Note: Direct output refers to the total costs incurred by KAUST for international students across tuition costs, fixed costs and stipends. Source: KAUST management input; L.E.K. research and analysis.

Note: 1. Fixed costs cover housing, health insurance and relocation support. 2. Tuition costs are mapped to education activity. 3. Stipends are estimated using KSA household expenditure patterns, excluding housing, health and tuition costs already covered by KAUST. Student stipend spending is assumed to mirror household spending in KSA; approximately 60% of stipend spending is assumed to occur on campus, and international and domestic students are assumed to incur the same costs and receive the same stipend amounts. Source: KSA 2023 input-output tables; KAUST management input; L.E.K. research and analysis.

Note: Figures have been estimated based on $2.9k tuition cost per student derived post subsidies. GVA refers to gross value added. FTE refers to full-time equivalent employment supported. GVA and FTE impacts are estimated by applying relevant Type II multipliers to cost categories. Source: KAUST management input; L.E.K. research and analysis.

Additionally, global talent development activities are estimated to support approximately USD 49.9 million in Gross Value Added (GVA) and around 1,000 full-time equivalent (FTE) jobs across the Saudi economy. These estimates reflect the measurable economic contribution arising from both direct student expenditure and the broader costs incurred by the University to support its international cohort.

More importantly, international graduates represent an important source of highly skilled talent for Saudi Arabia's research and innovation ecosystem. Those who remain in the Kingdom contribute directly to research, higher education and knowledge-intensive industries, while those who pursue careers internationally strengthen scientific collaboration, international networks and the global reputation of Saudi research. These wider benefits are not fully captured within the quantified estimates presented in this report but nevertheless form an important component of KAUST's broader contribution.

7.9 Executive education and lifelong learning

The development of human capital extends beyond degree programs. Through executive education, professional development and lifelong learning activities, KAUST also contributes to the skills and capabilities of professionals already participating in the workforce. These programs strengthen scientific, technical and managerial capability across industry and government while supporting the diffusion of new knowledge throughout the wider economy.

Unlike postgraduate education, the primary objective of executive education is not to increase formal educational attainment but to enhance the productivity of existing workers. Consequently, the economic mechanisms differ from those examined earlier in this chapter. Rather than generating a lifetime graduate earnings premium, executive education contributes through improvements in workforce capability, organizational performance and the adoption of new knowledge and technologies.

Although these wider productivity effects are well recognized within the economics of education literature, robust monetary valuation requires detailed longitudinal information regarding participants' subsequent career progression and organizational performance. Such data are not currently available on a sufficiently consistent basis to support quantitative estimation. Nevertheless, the direct economic footprint of KAUST's executive and lifelong learning programs can be quantified through the costs associated with their delivery. Using an input-output methodology, the analysis translates program delivery costs into direct, indirect, and induced economic value. Direct output reflects the expenditure incurred in developing and running these programs, while indirect and induced effects capture the wider economic activity generated through supply-chain linkages and the subsequent household spending of workers employed in supporting sectors.

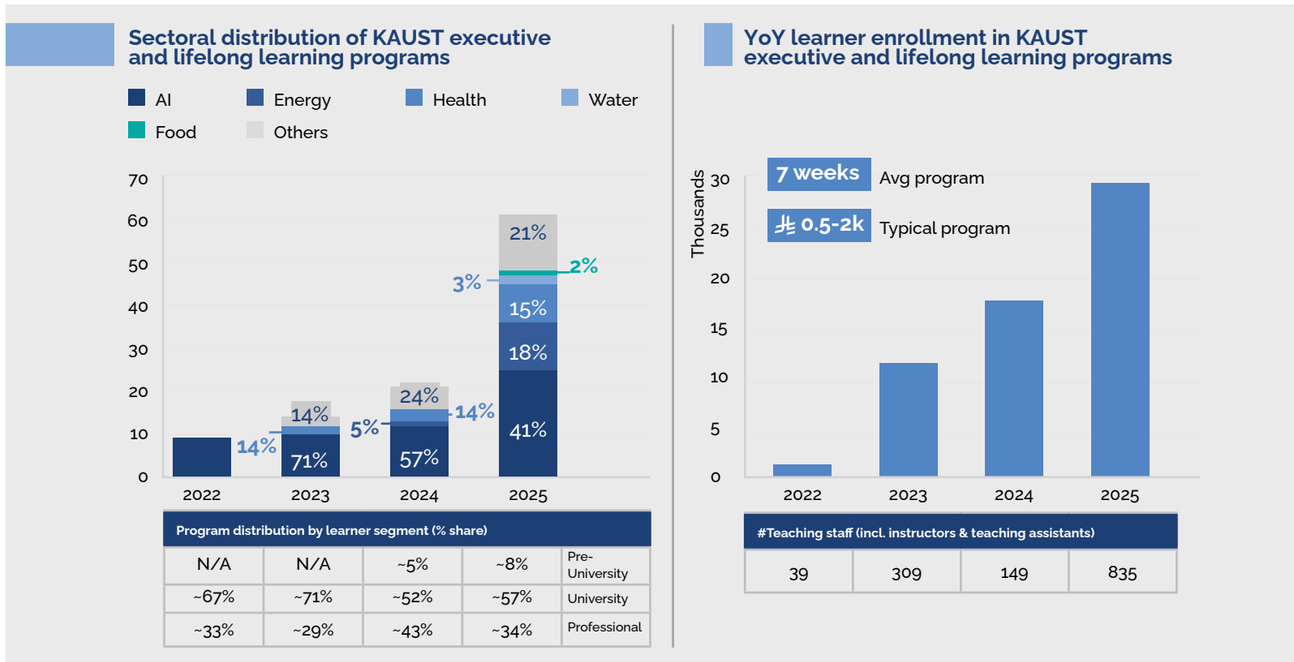


Figure 33. Sectoral distribution and enrollment of executive and lifelong learning programs.

Note: The methodology identifies total program delivery costs, applies economic multipliers derived from input-output tables, and estimates total economic value, GVA and FTE impact. KAUST internal program cost data is used to identify key sectors of engagement and compute an integrated multiplier. Source: KAUST management input; L.E.K. research and analysis.

Applying this input-output framework indicates that KAUST's executive and lifelong learning activities generate a significant economic footprint. These programs are estimated to support approximately USD 201.8 million in total economic value. This total comprises USD 77.3 million in direct output associated with program delivery costs, alongside USD 124.5 million in indirect and induced output generated throughout the wider economy.



Figure 34. Estimated economic value created by executive and lifelong learning programs.

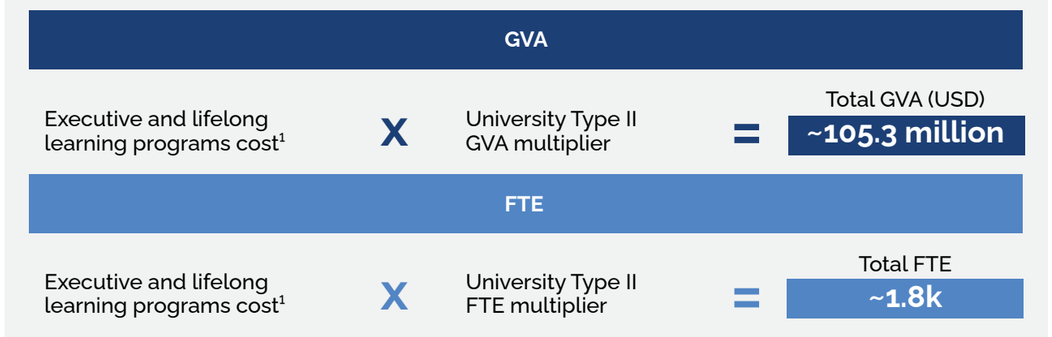


Figure 35. GVA and FTE impact from executive and lifelong learning programs.

In addition to total economic value, executive and lifelong learning activities are estimated to support approximately USD 105.3 million in Gross Value Added (GVA) and around 1,800 full-time equivalent (FTE) jobs across the Saudi economy.

These findings confirm that professional capability building not only enhances workforce productivity but also functions as a direct driver of economic activity through the expenditure required to deliver these advanced educational programs.

7.10 Contributions to the overall assessment

The analysis presented in this chapter captures three complementary pathways through which KAUST's talent development activities generate measurable economic value. First, KAUST graduates generate an estimated USD 422.1 million in total net graduate impact, comprising USD 293.0 million in net lifetime earnings premium and USD 129.1 million in net public fiscal benefit through incremental VAT and GOSI contributions. Second, the presence of international students generates approximately USD 95.7 million in total economic value and supports around 1,000 full-time equivalent jobs, reflecting both direct student expenditure and the broader costs incurred by the University in supporting its global cohort. Third, executive and lifelong learning programs generate approximately USD 201.8 million in total economic value and support around 1,800 FTE jobs, confirming that professional capability building functions as a direct driver of economic activity as well as a mechanism for workforce development.

Taken together, these estimates are deliberately conservative. They measure incremental labor-market returns, direct expenditure effects and program delivery costs, but they do not capture the wider contributions graduates make through research excellence, innovation, entrepreneurship, institutional leadership or international scientific collaboration. The talent retention and ecosystem benefits described in Section 7.7 - including knowledge diffusion, improved organizational research capability and the strengthening of Saudi Arabia's global scientific networks - are recognized within the KAUST Impact Framework but cannot be robustly quantified within the present methodology.

As described in Chapter 3, the human capital impacts presented here form one component of KAUST's overall measurable economic contribution and are incorporated into the aggregate assessment after appropriate adjustments to avoid double counting. Taken together with the wider qualitative benefits described above, the findings demonstrate that talent development is not simply an educational activity but one of the University's principal mechanisms for creating long-term economic and societal value - and a direct enabler of the knowledge-intensive economy envisaged under Saudi Vision 2030.



Note: 1. As digital program cost data is unavailable, the analysis applies the same per-student, per-week cost used for KAUST's in-person executive and lifelong learning programs to digital programs as well.
Source: KAUST management input; L.E.K. research and analysis.

08





The Impact of KAUST's Institutional Footprint

Research-intensive universities contribute to economic development not only through their research, education and innovation activities, but also through their physical and operational presence within the economy. As large and complex organizations, universities employ staff, procure goods and services, invest in infrastructure and provide facilities that support a wide range of economic activity. These activities generate direct expenditure while also stimulating additional economic value through supply-chain linkages and household spending.

For KAUST, this institutional footprint reflects the scale of its research campus, supporting infrastructure and day-to-day operations. Unlike the pathways examined in previous chapters, these impacts do not arise primarily through knowledge creation, innovation or human capital development; they reflect the economic activity generated simply by operating and maintaining a major research university and community. As such, they represent an important component of KAUST's measurable economic contribution while also providing the physical platform upon which its wider research, education and innovation activities depend.

This chapter examines the measurable economic contribution associated with KAUST's institutional footprint through three complementary pathways. The first considers operating expenditure, comprising the University's recurring annual expenditure on staff, students, facilities and institutional operations. The second examines capital expenditure, reflecting investment in buildings, infrastructure and equipment that support KAUST's long-term research capability. The third considers facility rental income, representing the economic activity associated with external organizations occupying KAUST-owned facilities. Together, these pathways capture the direct and indirect economic contribution arising from the University's physical and operational presence within Saudi Arabia.

Table 13 summarizes the principal findings presented throughout this chapter. Collectively, KAUST's operating expenditure, capital investment and facility rental activities support substantial economic activity across the Saudi economy. University expenditure represents by far the largest component of this pathway, generating an estimated USD 2.81 billion in total economic value, USD 1.47 billion in Gross Value Added (GVA) and supporting approximately 25,800 full-time equivalent (FTE) jobs. Facility rental activities provide an additional, distinct contribution through the productive use of KAUST-owned research and commercial facilities.

Table 13. KAUST's institutional footprint at a glance (FY2025).

Metric	Value[1]	Interpretation
Operating expenditure[2]	USD ~862.6 million	KAUST annual operating expenditure in FY2025
Capital expenditure	USD ~215.1 million	Capital expenditure based on FY2024 values
Total university expenditure	USD ~1,077.7 million	Combined operating and capital expenditure used for university expenditure impact estimation
University expenditure total economic value	USD ~2,813.5 million	Estimated total output supported by direct, indirect and induced effects from university expenditure
University expenditure GVA impact	USD ~1,467.4 million	Estimated gross value added supported by operating and capital expenditure
University expenditure FTE employment supported	~25.8k FTE	Estimated full-time equivalent employment supported across the economy
Facility rental income	USD ~14.3 million	Rental income generated from KAUST facilities in 2025-26
Facility rental total economic value	USD ~37.2 million	Estimated total output supported by facility rental income
Facility rental GVA / FTE impact	USD ~19.4 million / ~341 FTE	Estimated GVA and employment supported by facility rental income

Note: 1. Capital expenditure uses FY2024 values as a proxy for FY2025 due to data limitations; 2. Operating expenditure does not include depreciation. Source: KAUST management input; L.E.K. research and analysis.

8.1 Operating and capital expenditure

Operating expenditure represents the largest component of KAUST's institutional footprint. It encompasses the recurring expenditure required to support research, education, campus operations and the wider university community, including staff costs, student-related expenditure, maintenance, utilities, software licenses, administration and other operational activities.

Figure 36 illustrates the composition of operating expenditure over the three-year period. In FY2025, total operating expenditure amounted to approximately USD 862.6 million. Staff-related expenditure represented the largest component of annual operating costs, reflecting the labor-intensive nature of a research university and the central role of academic, research, technical and professional staff in supporting KAUST's activities. Maintenance, utilities, student-related expenditure and other operational costs accounted for the remainder of the University's recurring expenditure.

Capital expenditure complements recurring operating expenditure by supporting the long-term development of KAUST's research infrastructure. Investment in laboratories, scientific equipment, buildings and other physical assets enables the University to maintain world-class research facilities while expanding its capacity to support future research and innovation.

KAUST Annual Operating Expenditure (USD)

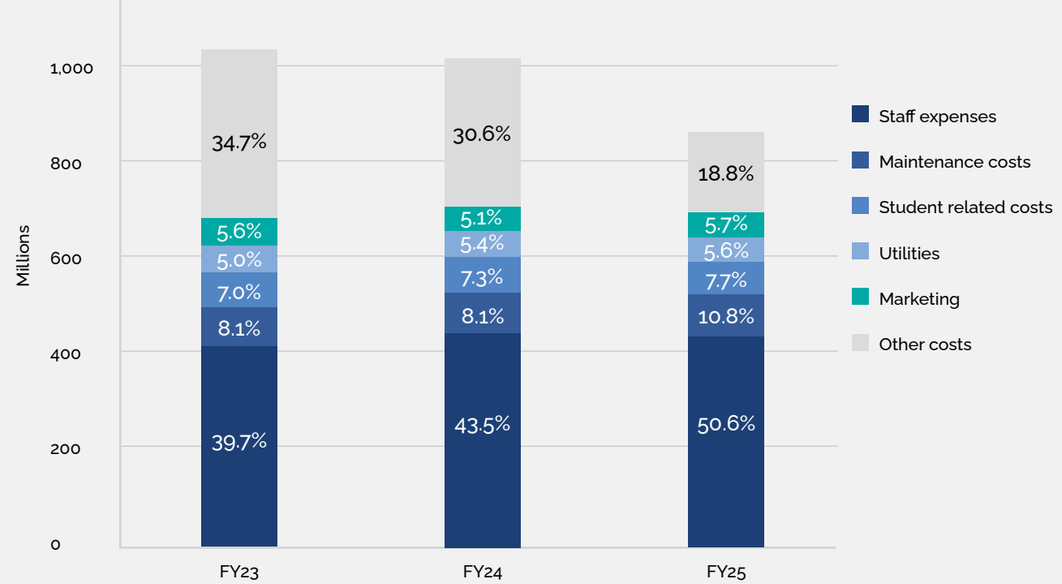


Figure 36. KAUST annual operating expenditure by cost category, FY2023–FY2025.

Note: Other costs include items such as costs for academic travel, administrative expenses and other miscellaneous expenditure. Source: KAUST management input; L.E.K. research and analysis.

Figure 37 shows that capital expenditure totaled approximately USD 215.1 million in FY2024, which is used as a proxy for FY2025 because complete data were not available for the study year. Investment was concentrated in the acquisition of property, plant and equipment, reflecting the continuing development and renewal of the University's research infrastructure. These investments not only support KAUST's future research capability but also generate immediate economic activity through construction, engineering, manufacturing and associated supply chains.

KAUST Annual Capital Expenditure[1] (USD)

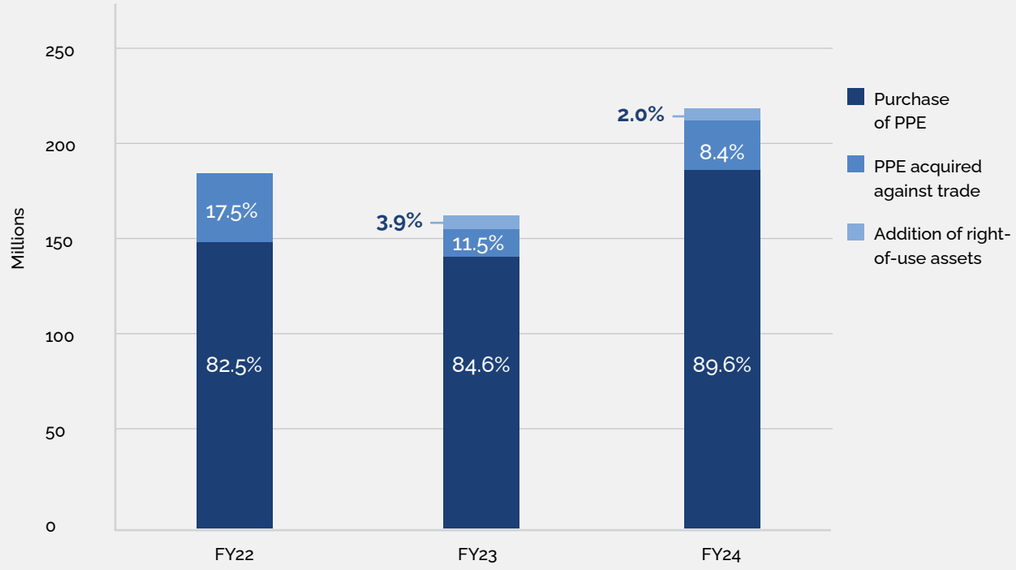


Figure 37. KAUST annual capital expenditure by category, FY2022–FY2024.

8.2 Methodology for estimating the economic impact of university expenditure

The economic contribution associated with KAUST's institutional expenditure is estimated using an input-output modeling framework, consistent with the approach adopted throughout this report. The analysis estimates not only the direct economic activity generated by the University's expenditure, but also the additional activity supported throughout the wider economy through supplier purchases and household spending.

Although operating and capital expenditure represent different forms of university activity, they generate economic value through the same underlying mechanism. Direct expenditure by the University creates demand for goods, services, labor and construction activity. Businesses supplying these goods and services subsequently purchase additional inputs from their own suppliers, while employees supported through this activity spend part of their earnings within the wider economy. Together, these indirect and induced effects increase the overall economic contribution associated with the University's expenditure beyond the initial amount spent by KAUST.

Accordingly, operating and capital expenditure are analyzed separately using a common methodological framework before being combined to estimate the University's overall expenditure impact. This ensures that the differing composition of operating and capital expenditure is recognized while maintaining a consistent analytical approach across both expenditure streams.

Note: 1. Capital expenditure is estimated as the sum of additions to right-of-use assets, Property, Plant and Equipment (PPE) acquired through trade payables, and cash purchases of PPE. Due to data limitations, FY2024 capital expenditure is used as a proxy for FY2025. Source: KAUST management input; L.E.K. research and analysis.

Operating expenditure

Operating expenditure is measured using KAUST's recurring annual expenditure, including staff costs, student-related expenditure, maintenance, utilities, licenses, administration and other institutional operating costs. These expenditures represent the resources required to sustain the University's research, education and campus operations during the study year.

Because operating expenditure recurs annually, the resulting estimates reflect the continuing economic contribution generated by the University's ongoing activities. The impacts therefore represent the annual economic footprint associated with maintaining a large research-intensive university.

Figure 38 summarizes the analytical framework used for operating expenditure. KAUST financial data is mapped and allocated to the appropriate categories of economic activity. Sector-specific input-output multipliers are then applied to estimate three complementary measures of economic contribution.

01. KAUST's total operating expenditure was identified in the study year and allocated to relevant spending categories.

02. The sector-averaged university economic multiplier was derived from I/O tables to estimate the indirect and induced impacts associated with university expenditure.

03. Total output produced due to university expenditure was calculated:
Total Economic Value Created = Multiplier × Total Operating Expenses incurred by KAUST

04. Gross Value Added was calculated:
Gross Value Added = Total Operating Expenses × GVA Multiplier

05. FTE impact was calculated:
FTE impact = Total Operating Expenses × FTE Multiplier

Figure 38. Methodological framework for estimating the economic impact of university expenditure.



Note: The methodology identifies total operating expenditure, applies economic multipliers derived from input-output tables, and estimates total economic value, GVA and FTE impact. KAUST internal operational expenditure data is used to identify key sectors of engagement and compute an integrated multiplier.

Capital expenditure

Capital expenditure comprises investment in physical assets, infrastructure, scientific equipment and other long-lived assets that enhance KAUST's research capability. Although capital expenditure is more variable from year to year than operating expenditure, it similarly generates economic activity through construction, manufacturing, engineering and associated supply chains.

Consistent with the source data available for this study, FY2024 capital expenditure is used as a proxy for FY2025, providing the most recent complete estimate of the University's investment activity. This assumption is noted in Table 13 and should be borne in mind when interpreting the results.

Figure 39 illustrates the application of the same analytical framework to capital investment. Although the composition of expenditure differs from recurring operating costs, the estimation process remains identical: direct expenditure is translated into estimates of total economic value, Gross Value Added and employment through the application of input-output multipliers derived from the Saudi economy.

Applying the two methodologies described enables the combined contribution of operating and capital expenditure to be estimated. The following section presents the resulting estimates of total economic value, Gross Value Added and employment supported by KAUST's institutional expenditure before considering the additional contribution generated through facility rental activities.

Operating and capital expenditure generate economic activity through similar economic mechanisms. In both cases, direct expenditure by the University creates demand for suppliers, employees and contractors, which in turn generates additional indirect and induced economic effects throughout the wider economy. Consequently, both expenditure streams are assessed using a common input-output methodology, described in the following section.

01. KAUST's total capital expenditure was identified in the study year, with capital items like depreciation, internal transfers and unspent project commitments excluded, and reconciled with key line items in the cash flow statement.

02. The sector-averaged university economic multiplier was derived from I/O tables to estimate the indirect and induced impacts associated with university expenditure.

03. Total output produced due to university expenditure was calculated:
Total Economic Value Created = Multiplier × Total Capital Expenditure

04. Gross Value Added was calculated:
Gross Value Added = Total Capital Expenditure × GVA Multiplier

05. FTE impact was calculated:
FTE impact = Total Capital Expenditure × FTE Multiplier

Figure 39. Application of the input-output methodology to capital expenditure.

Note: The methodology identifies total capital expenditure, applies economic multipliers derived from input-output tables, and estimates total economic value, GVA and FTE impact. KAUST internal capital expenditure data is used to identify key sectors of engagement and compute an integrated multiplier.

8.3 Estimated economic value, GVA and employment supported by university expenditure

Applying the methodology described above indicates that KAUST's operating and capital expenditure together support an estimated USD 2.81 billion in total economic value across the Saudi economy. This comprises approximately USD 1.08 billion of direct university expenditure and a further USD 1.74 billion of indirect and induced economic activity generated through supplier purchases and household spending. These estimates demonstrate that the University's operational and investment activities extend well beyond the campus itself, supporting employment and business activity throughout the wider economy.

Figure 40 illustrates the relationship between direct university expenditure and the wider economic activity generated through multiplier effects. Operating expenditure accounts for the majority of the University's economic footprint because of its scale and recurring nature, while capital expenditure provides an additional contribution through investment in infrastructure, scientific equipment and campus development. Together, these two expenditure streams support substantial indirect activity across supply chains together with induced activity arising from employee expenditure.

The distinction between direct and indirect impacts is important. The direct component reflects expenditure incurred by KAUST itself, while the indirect and induced components represent the broader economic activity stimulated throughout the Saudi economy as suppliers purchase additional inputs and employees spend their earnings. These multiplier effects explain why the University's overall economic contribution exceeds the value of its direct expenditure alone.

	Direct output		Indirect and induced output		Total economic value created
Operating Exp.	USD ~862.6 million	+	USD ~1,389.3 million	=	**USD ~2,251.9 million**
Capital Exp.	USD ~215.1 million	+	USD ~346.4 million	=	**USD ~561.5 million**
Total Exp.	USD ~1,077.7 million	+	USD ~1,735.8 million	=	USD ~2,813.5 million

Figure 40. Estimated economic value generated by KAUST university expenditure.

Note: University expenditure impact values shown are gross lever estimates and do not include adjustments for double-counted impact levers. Source: KAUST management input; L.E.K. research and analysis.

GVA

	Direct output		University Type II GVA multiplier:		GVA (USD):
Operating Exp.	USD ~862.6 million	X	1.36	=	**USD ~1,174.5 million**
Capital Exp.	USD ~215.1 million			=	**USD ~292.9 million**

FTE

	Direct output		University Type II FTE multiplier:		Total FTE impact
Operating Exp.	USD ~862.6 million	X	6.38	=	**~20.6k**
Capital Exp.	USD ~215.1 million			=	**~5.1k**

Figure 41. Gross Value Added (GVA) and employment supported by KAUST university expenditure.

Applying the same analytical framework indicates that KAUST's operating and capital expenditure support approximately USD 1.47 billion in Gross Value Added (GVA) and around 25,800 full-time equivalent (FTE) jobs across the Saudi economy. These estimates represent the value added and employment associated with the University's direct operations together with the wider activity generated through supply-chain linkages and household expenditure.

Gross Value Added provides an estimate of the additional economic value created after accounting for intermediate consumption and therefore represents the contribution of university expenditure to national economic output. Employment estimates similarly capture the jobs supported directly and indirectly by the University's operational and investment activities.

Together, these indicators demonstrate that KAUST functions not only as a research institution but also as a significant economic anchor within the Saudi economy.

Although these estimates quantify the measurable contribution associated with university expenditure, they should not be interpreted as capturing the full value generated by the University's presence. The expenditure considered here provides the physical and operational platform that enables KAUST's research, education, technology transfer and talent development activities, which are assessed separately elsewhere in this report. Consequently, the institutional footprint described in this chapter should be viewed as one component of the University's wider economic contribution rather than a substitute for its knowledge-based impacts.

Note: University expenditure impact values shown are gross lever estimates and do not include adjustments for double-counted impact levers. FTE multiplier of 6.38 applies to expenditure in SAR millions. USD to SAR conversion rate of 3.75 assumed. Source: KAUST management input; L.E.K. research and analysis.

8.4 Facility rental and the productive use of university assets

In addition to its operating and capital expenditure, KAUST generates economic activity through the provision of research, laboratory, office and commercial facilities occupied by external organizations. These facilities enable companies, research partners and service providers to operate within the University's innovation ecosystem while generating rental income that supports further institutional activity.

Unlike operating expenditure, which reflects the University's own activities, facility rental demonstrates how KAUST's physical assets continue to generate economic value by supporting external organizations. This represents a complementary dimension of the University's institutional footprint, illustrating how research infrastructure can continue to contribute to economic development beyond its direct use by the University itself.

Figure 42 illustrates the evolution of facility rental income over time. During 2025–26, KAUST generated approximately USD 14.3 million in rental income, the majority arising from research, laboratory and office facilities occupied by external organizations, with a smaller contribution from commercial tenants providing retail and community services. These activities demonstrate that the University's infrastructure supports not only its own research and education mission but also a wider innovation and business ecosystem.

The final section applies the same input-output methodology to facility rental income, estimating the total economic value, Gross Value Added and employment supported through external use of KAUST-owned facilities. Although considerably smaller than the University's operating expenditure, this pathway illustrates an additional mechanism through which the University's physical assets contribute to economic activity across Saudi Arabia.

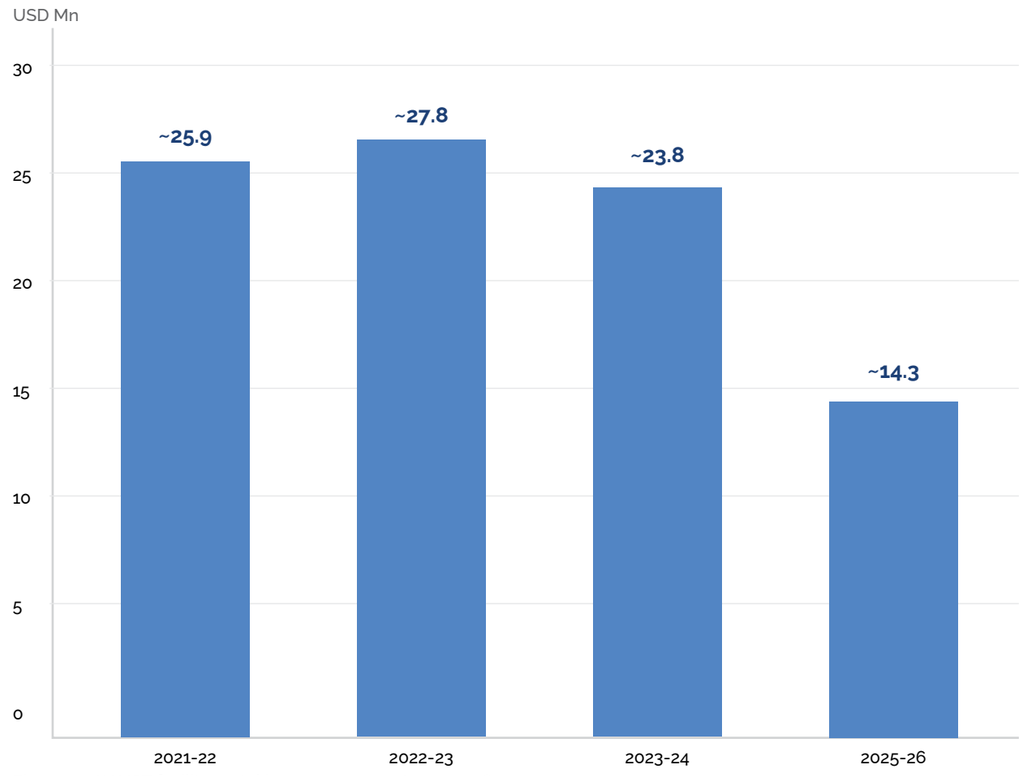


Figure 42. KAUST facility rental income, 2021–22 to 2025–26[1,2].

Note: 1. Data for 2024-25 was not available. 2. The 2025-26 value reflects total rental income as reported as of May 2026. Source: KAUST management input; L.E.K. research and analysis.

8.5 Methodology for estimating the economic impact of facility rental income

Facility rental income is estimated using the same input-output framework applied to the other expenditure pathways considered in this chapter. Direct economic activity is measured using rental income generated from KAUST-owned research, laboratory, office and commercial facilities occupied by external organizations. This income provides the starting point for estimating the wider economic activity supported through supplier purchases, operational expenditure and employee spending.

Although facility rental represents a distinct source of income, the underlying economic mechanism is identical to that used elsewhere in the report. Rental income supports the operation and maintenance of university facilities, creating demand for goods, services and labor that extends beyond the initial income received by KAUST. Applying input-output multipliers enables these wider indirect and induced effects to be estimated consistently with the other pathways examined throughout this report.

Figure 43 summarizes the analytical approach adopted for facility rental activities. Rental income generated through external occupancy of KAUST-owned facilities is used as the direct economic input and translated into estimates of total economic value, Gross Value Added (GVA) and employment through the application of input-output multipliers. This consistent methodology enables the contribution of facility rental activities to be interpreted alongside the other expenditure pathways considered in this chapter.

01. Facilities rented by the University were identified in the study year to obtain total revenue from facilities rented.

02. Economic multipliers were derived from Input-Output tables to estimate total impact.

03. Total impact was calculated:
Total Economic Value Created = Multiplier × Total Income

04. GVA was calculated:
Gross Value Added = Total facility rental income × GVA multiplier

05. FTE impact was calculated:
FTE impact = Total facility rental income × FTE multiplier

Figure 43. Methodological framework for estimating the economic contribution of facility rental income.

8.6 Estimated economic value, GVA and employment supported by facility rental activities

Applying the methodology described above indicates that facility rental activities support an estimated USD 37.2 million in total economic value across the Saudi economy. This comprises approximately USD 14.3 million of direct rental income together with USD 22.9 million of indirect and induced economic activity generated through the operation of facilities, supplier purchases and household expenditure. Although considerably smaller than the University's operating expenditure, these estimates demonstrate that KAUST's physical assets continue to generate measurable economic value through their use by external organizations.

Figure 44 illustrates the relationship between direct rental income and the wider economic activity supported through multiplier effects. The results demonstrate that the productive use of KAUST-owned research and commercial facilities generates economic activity extending beyond the University itself, supporting suppliers, service providers and employment across the wider economy.

Note: The methodology identifies total facility rental income, applies economic multipliers derived from input-output tables, and estimates total economic value, GVA and FTE impact. KAUST internal operational expenditure data is used to identify key sectors of engagement and compute an integrated multiplier.

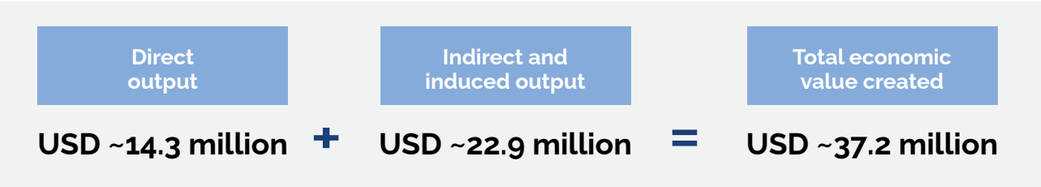


Figure 44. Estimated economic value generated by facility rental activities.

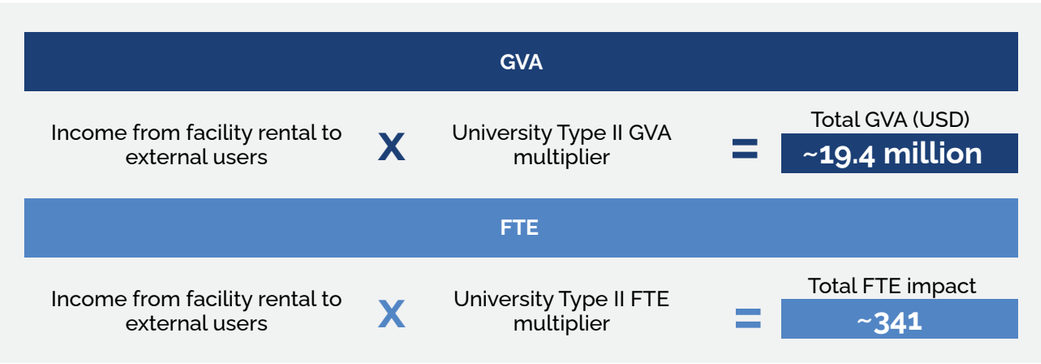


Figure 45. Gross Value Added (GVA) and employment supported by facility rental activities.

Facility rental activities are estimated to support approximately USD 19.4 million in Gross Value Added (GVA) and around 341 full-time equivalent (FTE) jobs across the Saudi economy. These estimates reflect the economic contribution generated through the occupation and operation of KAUST-owned facilities by external tenants and illustrate how the University's physical infrastructure contributes to local economic activity beyond its direct research and educational functions.

8.7 Contribution to the overall assessment

The analysis presented in this chapter demonstrates that KAUST's institutional footprint constitutes a substantial component of its measurable economic contribution. Through its operating expenditure, capital investment and facility rental activities, the University supports economic activity, employment and value creation across a wide range of sectors within the Saudi economy.

Unlike the pathways examined in earlier chapters, which focus on knowledge creation, research collaboration, technology transfer and human capital development, the impacts presented here arise from the University's role as a major institution operating within the national economy. Maintaining a world-class research campus requires significant expenditure on people, infrastructure, equipment and services. That expenditure, in turn, supports extensive supply chains, sustains employment and stimulates economic activity throughout the wider economy.

At the same time, it is important to recognize that these estimates should be interpreted as one component of KAUST's overall economic contribution. As described in Chapter 3, expenditure-related impacts are incorporated into the aggregate assessment after appropriate adjustments have been made to avoid double counting with the University's research, innovation and education activities. The expenditure pathways presented here therefore provide a measure of the University's institutional footprint rather than the full value generated through its core mission.

More broadly, the findings illustrate an important characteristic of research-intensive universities. Their contribution extends beyond the knowledge they create and the graduates they educate. By sustaining advanced research infrastructure, supporting highly skilled employment and creating demand throughout the economy, universities also function as major economic institutions whose day-to-day operations contribute directly to national prosperity. For KAUST, this institutional footprint provides the foundation upon which its wider research, innovation and societal impacts are built.



Appendices

Appendix 1: References and source categories

The assessment draws on KAUST-provided management information, economic impact modeling inputs, KSA input-output tables, graduate wage data and selected publicly available evidence. The reference categories below summarize the principal source types used across the report.

Table A1.1: Reference and source categories used in the assessment.

Reference	Use in the assessment
KAUST management input	Financial, operational, program, research, innovation, student, alumni, facilities, community and visitor data used across the impact assessment.
L.E.K. research and analysis	Economic impact modeling, source triangulation, assumptions, interpretation and synthesis across report sections.
KSA 2023 input-output tables	Source for Type II output, GVA and employment multipliers used to estimate direct, indirect and induced effects.
GASTAT Saudi graduate wage data	Counterfactual wage dataset used in graduate premium modeling for STEM graduates working in Saudi Arabia.
KAUST alumni survey microdata	KAUST graduate wage and employment information used to estimate graduate premium and public fiscal benefit.
KAUST financial statements and internal expenditure data	Operating expenditure, capital expenditure, expenditure-category mapping and internal operating-cost patterns used for multiplier construction.
KAUST startup and spinout portfolio data	Venture counts, reported revenue, FTEs, sector classifications and imputation inputs for commercialization impact estimation.
Publicly available sources	Selected public evidence used to support research priorities, venture case studies, policy initiatives, national transformation projects and community-related evidence.
Economic impact assessment reports and research-spillover literature	External methodological evidence used to inform research spillover estimation and economic impact modeling assumptions.
KSA household expenditure and fiscal rules	Inputs supporting stipend-spending assumptions, VAT treatment and GOSI-related public benefit modeling.
Mincer (1974)	Mincer, J. (1974). Schooling, Experience, and Earnings. National Bureau of Economic Research. Columbia University Press. https://www.nber.org/books-and-chapters/schooling-experience-and-earnings
Haskel and Wallis (2010)	Haskel, J., & Wallis, G. (2010). Public support for innovation, intangible investment and productivity growth in the UK market sector (IZA Discussion Paper No. 4772). Institute for the Study of Labor (IZA). https://docs.iza.org/dp4772.pdf

Appendix 2: Methodologies and calculations

A2.1 Core impact definitions and glossary

This section defines the main technical terms used to interpret the economic impact methodology, including output, GVA, FTE employment, multiplier effects, graduate premium and double-counting treatment.

Table A2.1: Core impact definitions and glossary.

Terminology	Definition
Economic value creation	Overall economic effect created by KAUST activities, including total economic output, GVA contribution and employment supported.
Gross value added (GVA)	GVA measures the value created through core university operations such as teaching and research and aligns most closely with GDP.
Full-time equivalent (FTE)	A standard employment measure that converts supported full- and part-time roles into comparable full-time employment units.
Research spillover multiplier	Multiplier applied to KAUST research spend to estimate wider productivity and innovation gains across KSA beyond direct research activity.
Input-output tables	National accounts tables used to estimate how KAUST-linked spending and revenue flows generate direct, supply-chain and wage-driven impacts across the economy.
Direct impact / direct output	Initial KAUST-linked spending, income, revenue or turnover before supplier and wage effects.
Indirect impact / supply-chain impact	Additional economic activity created when KAUST, its startups, suppliers or partners purchase goods and services from upstream industries.
Induced impact / wage-spending impact	Additional economic activity generated when workers supported by KAUST-linked direct and indirect activity spend wages on goods and services.
Graduate earnings premium	Incremental lifetime earnings generated by KAUST graduates relative to comparable graduates without the KAUST qualification or experience.
Counterfactual group	Comparison group used to estimate what KAUST graduates might have earned without the KAUST qualification or experience.
Research, development and innovation (RDI)	Research, development and innovation activity that supports scientific discovery, applied solutions, commercialization and Vision 2030 priorities.
Value-added tax (VAT)	KSA value-added tax is used in fiscal modeling to estimate public receipts from graduates' incremental taxable consumption.
General Organization for Social Insurance (GOSI)	Saudi social insurance system used in the graduate fiscal model for applicable Saudi nationals.
Double counting	Overstatement caused by counting the same activity in more than one lever, corrected by deducting overlaps from university expenditure.
Gross economic value created	Total economic value created before removing double-counted, overlapping or non-incremental activity.
Total Factor Productivity (TFP)	Measure of how efficiently an economy uses inputs such as labor and capital to produce output.
FTE Multiplier	FTE multiplier referred to in the report is estimated from I/O tables and measures no. of FTE jobs supported per million SAR of cost/ income generated.
Type II multiplier	Input-output multiplier capturing direct, supply-chain and wage-spending effects, used for total output, GVA and FTE estimates.
Present value	Current value of future KAUST-linked benefits or costs after discounting.
Discount rate	Rate used to convert future graduate earnings and public benefits into present value for consistent comparison with current costs.

A2.2 Impact lever definitions

KAUST's economic and social impact assessment is structured around a set of impact pathways and supporting levers. The definitions below clarify the scope of impact captured by each lever and distinguish between quantified and qualitative channels.

Table A2.2: Impact lever definitions.

Pathway	Impact lever	Description of impact created
Knowledge pathway	Research spillovers	Research expenditure and associated knowledge outputs that generate direct institutional activity and economy-wide productivity spillovers through innovation and industry collaboration.
Education and workforce development pathway	Graduate earnings premium	Alumni earnings premium above baseline wage levels that generates incremental household income through enhanced skills, employability and labor market productivity due to better attainment.
	Fiscal impact from graduates	Graduate earnings premium that generates incremental government revenue through higher consumption and associated VAT and GOSI contributions driven by increased lifetime income.
	Global talent development	KAUST international student body and student support model generating student-related spending and broader economic activity through living expenditures, institutional re-spending and induced employment effects.
	Executive and lifelong learning programs	Executive education and lifelong learning programs generating program-related expenditure, infrastructure costs and wider economic activity through supplier and wage effects.
Commercialization pathway	Spinouts and startups	KAUST-originated startups and spinouts generating direct company revenue and employment, and broader economic activity through supply-chain linkages and induced effects.
	Research commercialization - licensing and IP income	Licensing and IP income generated through commercialization of university research, creating institutional revenue and wider economic activity through supply-chain and wage effects.
Consultancy pathway	Industry collaboration projects	Contract research and strategic industry partnership projects generating direct collaboration income and broader economic activity through supply-chain linkages and induced wage effects.
	Consultancy services	University-led consulting engagements generating direct advisory revenue and broader economic activity through supplier purchases and induced wage effects.
Infrastructure and institutional capability building	Operating expenditure	Recurring operational spending on staff, utilities, maintenance and other non-capital activities generating direct institutional expenditure and broader economic activity through supplier demand and induced wage effects.
	Capital expenditure	Capital investment in infrastructure, construction, equipment and campus assets generating direct project expenditure and wider economic activity through contractor supply chains and induced wage effects.
	Facility rental to external users	Rental of research and commercial space and associated services to external tenants generating direct rental income and broader activity through facility operations and induced wage effects.

A2.3 Industry classifications and input-output mapping

Input-output analysis is used for levers where direct spending, revenue or cost data can be mapped to economic activity categories. The analysis applies Type II multipliers to capture direct, indirect and induced effects. Where a lever spans multiple activities, weighted or integrated multipliers are used based on KAUST expenditure patterns, cost composition or venture-level sector mapping.

Table A2.3: Input-output mapping approach by quantified lever[1].

Lever	Direct input used	Industry classification / mapping treatment
Industry collaboration projects	Direct collaboration income	KAUST internal operational expenditure data used to identify relevant sectors of engagement and compute an integrated multiplier.
Consultancy services	Consultancy revenue generated through KBD and faculty-led projects	KAUST internal operational expenditure data used to compute an integrated multiplier for partner-facing advisory and applied technical activity.
Startups and spinouts	Reported or imputed venture revenue	Venture revenues mapped to primary economic activities based on majority revenue-generating activity; sector-relevant Type II multipliers applied.
Licensing and IP income	Licensing and intellectual property income	Integrated multiplier approach based on KAUST operating expenditure patterns and relevant economic activities.
Global talent development	International student tuition, fixed costs and stipends	Cost-Specific mapping for tuition, fixed student support costs and stipend-related spending.
Executive and lifelong learning	Program delivery cost	Program costs mapped using KAUST internal operational expenditure data and an integrated multiplier.
Operating expenditure	Recurring annual expenditure	Expenditure is mapped across education, professional/ scientific activities, repair and installation, utilities, management consultancy and other activities.
Capital expenditure	Recurring annual expenditure	Integrated multiplier approach based on KAUST operating expenditure patterns and relevant economic activities; FY2024 used as proxy for FY2025 where FY2025 data was unavailable.
Facility rental income	Rental income from KAUST-owned facilities	Integrated multiplier approach based on KAUST operating expenditure patterns and relevant economic activities.

Note: 1. Industry classifications are applied on a best-efforts basis using available activity descriptions, expenditure categories and revenue information. Source: KSA 2023 input-output tables; KAUST management input; L.E.K. research and analysis.

A2.4 Computation of university multiplier

The university multiplier was developed to estimate the wider economic activity supported by KAUST's expenditure and revenue-linked activities. The multiplier is based on the KSA 2023 input-output tables and reflects the mix of economic activities most relevant to KAUST's operating expenditure profile.

KAUST's operating expenditure was first mapped to relevant input-output economic activities. Each activity was assigned output, GVA and FTE multipliers from the KSA input-output framework. These activity-level multipliers were then weighted by KAUST's operating expenditure mix to derive KAUST-specific university multipliers.

This approach ensures that the multiplier reflects KAUST's actual spend profile, rather than applying a generic economy-wide multiplier. It also allows the report to estimate three types of impact consistently across relevant levers.

Table A2.4: University expenditure activity mapping and Type II multipliers.

Economic activity	Share of operating expenditure	Output multiplier[2]	GVA multiplier	FTE multiplier
Education	~58%	3.00	1.53	7.43
Other professional, scientific and technical activities	~12%	1.84	1.09	7.25
Repair and installation of machinery and equipment	~11%	2.23	1.15	2.56
Electricity, gas, steam and air conditioning supply	~6%	2.04	1.13	1.60
Activities of head offices; management consultancy activities	~4%	2.32	1.15	8.32
Other activities[1]	~9%	2.13	1.14	5.47
Total weighted by share of operating expenditure	-	2.61	1.36	6.38

The weighted output multiplier of 2.61 means that each dollar of relevant KAUST direct expenditure or revenue is estimated to support USD 2.61 of total economic value across the economy, including direct, indirect and induced effects. The GVA multiplier of 1.36 estimates the associated contribution to gross value added per dollar input, while the FTE multiplier of 6.38 estimates the full-time equivalent employment supported by SAR millions of direct activities, subject to the employment intensity of the mapped sectors.

These multipliers are used where the report applies input-output methodology to levers with revenue / expenditure mix correlated with the overall university expenditure, including industry collaboration, consultancy, commercialization-linked revenue streams, facility-related activity, etc. They are not applied to levers estimated using specific multipliers (such as startups or spinouts) or those with different methodologies, such as research productivity spillovers or graduate earnings premiums.

Note: 1. Other activities include land transport, office administrative and support activities, computer programming and consultancy, advertising and employment activities. 2. Multipliers for other activities are calculated using a weighted average of multiple values, weighted by each activity's share of operating expenditure.

A2.5 Startup and spinout methodology assumptions

The startup and spinout impact estimate is based on company-level revenue from KAUST-originated and KAUST-supported ventures.

Revenue is treated as direct output. Each company is mapped to the most relevant KSA 2023 input-output economic activity based on its primary business model, and sector-specific Type II output, GVA and FTE multipliers are applied.

Table A2.5: Illustrative mapping of startup revenue to economic activities and Type II multipliers.

Economic activity	Illustrative share of startup revenue	Type II output multiplier	Type II GVA multiplier	Type II FTE multiplier
Human health activities	~50%	2.83	1.37	5.97
Residential care activities	~30%	2.35	1.11	5.72
Social work activities without accommodation	~20%	2.20	1.21	4.95

The input-output mapping approach assigns each startup or spinout to a primary economic activity based on its majority revenue-generating activity. This enables sector-specific Type II output, GVA and FTE multipliers to be applied consistently across the startup portfolio.

A2.6 Revenue estimation, data treatment and inclusion boundaries

Revenue estimation is required where complete company-level revenue data is not available for all startups and spinouts. The assessment combines reported company data, sector classification and limited imputation to define the revenue base used for quantitative impact estimation.

Where revenue data is available, it is used directly. Where revenue data is unavailable but sufficient sector information is available, revenue is imputed using relevant sector averages. Companies are excluded where revenue and sector information are insufficient to support a reasonable estimate.

Available data covered approximately 428 startups and spinouts. Revenue and FTE data were identified for approximately 346 ventures, while a further ~41 ventures had revenue imputed using sector information. Approximately 41 ventures were excluded where revenue or sector classification data was insufficient, meaning the estimate is conservative for startups and spinouts with unavailable data.

To avoid overstating the impact, pre-revenue ventures and selected outliers were excluded from sector-average calculations, including ~110 pre-revenue startups and ~2 startups with revenues greater than USD 100 million. Missing revenue was then estimated using relevant sector averages, and the resulting revenue base was mapped to sector-relevant Type II multipliers to estimate total output, GVA and FTE impact across the portfolio.

Note: The illustrative activity mapping shown reflects how startup revenues are assigned to relevant economic activities for multiplier application. Sector shares are used to map startup revenue to output, GVA and FTE multipliers. Type II multipliers are derived from KSA input-output tables. Source: KAUST management input; L.E.K. research and analysis.

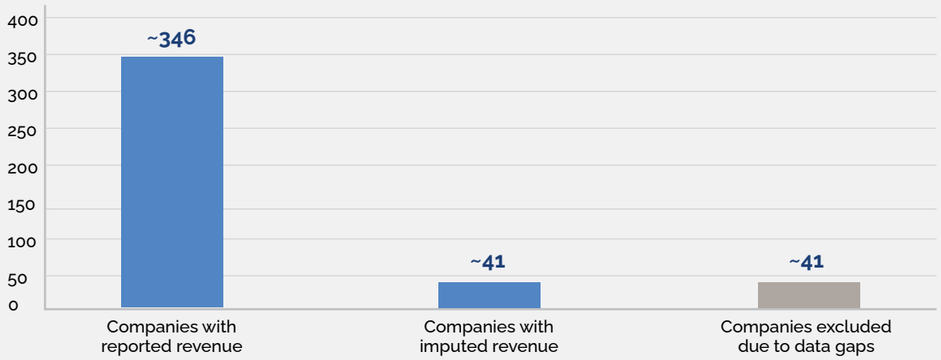
Table A2.6: Startup data availability and revenue mapping for impact estimation.

	# Startups received[1]	# Startups imputed	Total revenue (USD)[2]	% revenue imputed
Total	346	41	~838 million	~10%
Technology	109	5	~253 million	~4%
Service	73	10	~173 million	~17%
Retail	27	6	~156 million	~5%
Others	37	5	~145 million	~13%
Transport	8	1	~29 million	~17%
Food & Beverage	32	5	~28 million	~10%
Manufacturing	15	3	~28 million	~10%
Entertainment	16	2	~16 million	~34%
Real Estate	9	1	~7 million	0%
Utilities	20	3	~4 million	~31%

Note: 1. Includes startups with reported or imputed revenue data; excluded startups had insufficient revenue or sector classification data. 2. Revenue by sector reflects the split of reported and imputed revenue used for multiplier mapping. Source: KAUST management input; L.E.K. research and analysis.

The figure shows that the quantitative study includes 387 startups and spinouts, comprising ~346 ventures with reported revenue and ~41 ventures with imputed revenue. This means around 90% of identified ventures are included in the impact estimate, while approximately 41 ventures are excluded due to data gaps.
On a revenue basis, imputed startups account for only around 10% of total estimated revenue, indicating that the portfolio-level impact is driven primarily by reported financial data rather than imputation. Sector-level revenue mapping is then used to assign startup revenues to relevant input-output categories for estimating output, GVA and FTE impact.

Data Reported for KAUST Startups



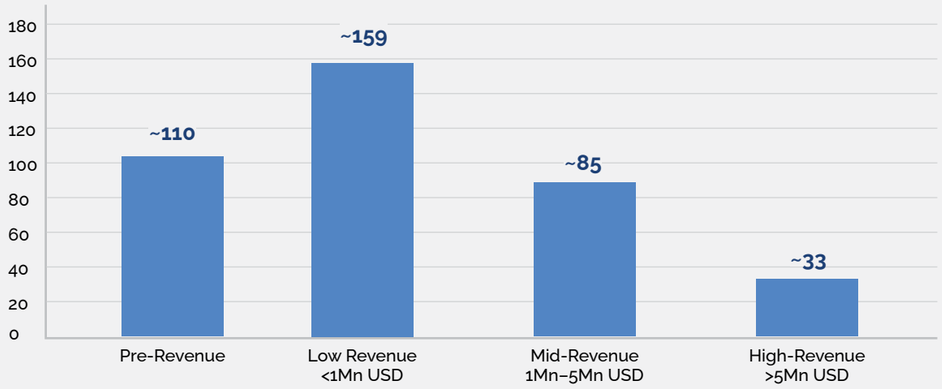
Share of Startups by data availability (%)		
~80.8%	~9.6%	~9.6%

Figure A2.6.1: Startup data availability and revenue mapping for impact estimation.

The revenue-tier distribution shows that KAUST's startup and spinout portfolio is weighted toward early-stage and lower-revenue ventures. Approximately 110 startups, or 28.4% of the portfolio, are pre-revenue, while approximately 159 startups, or 41.1%, generate less than USD 1 million in revenue.

A further 85 startups fall in the USD 1-5 million range, and approximately 33 startups generate more than USD 5 million. This suggests a broad venture base with a large early-stage pipeline, alongside a smaller set of higher-revenue companies that are likely to drive a disproportionate share of the economic impact measured.

Number of KAUST startups by revenue tier[1]



Share[2] of startups by revenue scale (%)			
~28.4%[3]	~41.1%	~22.0%	~8.5%

Figure A2.6.2: KAUST startup and spinout distribution by revenue tier.

Note: 1. Revenue tiers are based on available or estimated startup revenue data. 2. Shares may not sum to 100% due to rounding. 3. 28.4% of the startups are pre-revenue and hence the estimated economic value is likely to be conservative.
Source: KAUST management input; L.E.K. research and analysis.

A2.7 Data sources, assumptions and limitations by impact lever

The assessment uses different data inputs and assumptions depending on the nature of each impact lever. The summary below documents the principal evidence base, analytical treatment and interpretation limitations used across the quantified and qualitative pathways.

Table A2.7: Data sources, assumptions and limitations by impact lever.

Impact lever	Main input data and datapoints	Key assumptions/treatment	Limitations
Research funding and productivity spillovers	Total research expenditure in 2025: USD ~235.2m; publicly funded research expenditure: USD ~6.3m.	Public research funding is netted out from direct research output. The spillover impact is calculated by applying KAUST total research spend to the research spillover multiplier range of 2.26-3.76. Research expenditure includes internal, external and baseline funding sources.	Does not include all research infrastructure expenditure, such as core labs. Long-term scientific breakthroughs, downstream commercialisation and policy influence are not fully monetized.
Graduate earnings premium and fiscal impact from graduates	KAUST alumni wage data; GASTAT graduate wage data; gender, academic division and degree data; job-sector split; stipend assumptions; 424 Master's graduates and 230 PhD graduates used in aggregation.	Counterfactual group is GASTAT STEM graduates employed full-time. Alumni education specialization and job sector are mapped to GASTAT categories. Graduate counts are estimated from enrollment, completion rates and employment rates; gender and sector splits are based on alumni survey data. Annual salary growth is assumed at 2% and the KSA discount rate at 10% (to be conservative).	Based on available alumni survey and wage data. Long-term career progression, leadership outcomes, entrepreneurship outcomes and broader productivity effects from graduates are not fully captured.
Global talent development	International student costs, including tuition costs of USD ~3.5m, fixed costs of USD ~14.2m, stipends of USD ~24.8m and 1,197 international students in 2025.	Fixed costs are split across housing, health insurance and relocation support. Per-student costs for international and national students are assumed to be the same. Stipend spending follows KSA household consumption patterns, with housing, education and healthcare excluded where already funded by KAUST.	Does not fully capture long-term student retention, research contribution, alumni network effects or future workforce contribution in KSA.
Executive and lifelong learning	Total course delivery cost estimated at USD ~77.3m; learner counts approximately 29.3k in 2025.	Average cost is applied where exact program cost is unavailable. Enrollments are classified by location, student group and program type. Digital programs are assumed to incur the same costs as comparable in-person training programs where digital program-specific cost data is unavailable.	Learner productivity gains, employer outcomes, credential effects and longer-term skill diffusion are not monetized.
Startups and spinouts	Total active startups and spinouts: 428. Revenue and FTE data have partial coverage; the quantitative study includes reported and imputed revenue data for 387 ventures.	Spinouts are defined as entities that received direct investment from KAUST Innovation Ventures or use KAUST infrastructure and are based on KAUST capabilities. Startups are entities receiving broader KAUST support, including incubation, non-equity funding, consultancy or facilitation services. Missing revenue or FTE data is imputed using relevant sector averages where appropriate; outliers are excluded from sector-average calculations.	Impact depends on data completeness and imputation quality. Future scaling, survival, follow-on funding, exports and technology adoption effects are not fully captured.
Licensing and IP income	Research commercialization income of USD ~1.2m in 2024-25; total number of licenses issued in 2024-25: 26.	Licensing income is treated as financial-year income. Number of licenses has not been split by license type or partner. Income is presented as a lump sum rather than income per license.	Small current income base; broader technology adoption, deal quality, license performance and downstream partner outcomes are not fully monetized.
Industry collaboration projects	Industry collaboration income of USD ~11.4m in 2024-25; 12 active projects.	Income and project count are treated as FY2024-25 data. Industry collaboration income is split by partner where available and translated into output, GVA and FTE using input-output multipliers.	Limited time series; broader partner outcomes, implementation benefits, technology adoption and follow-on activity are not monetized.
Consultancy services	Consultancy income of USD ~63.8m in 2024-25; 75 consultancy projects.	Consultancy revenue includes KBD and faculty-led projects. Income and project count are treated as FY2024-25 data. Faculty-led consulting impact is included in double-counting adjustment where it is assumed to be covered under university expenditure on faculty salaries.	Partner-level outcomes, capability transfer, applied technical benefits and business impacts are not fully monetized.
Operating expenditure	Operating expenditure of USD ~862.6m in 2024-25, split across staff compensation, student-related expenses, marketing, licenses, maintenance, capital-related expenditure and other costs.	Per-staff cost uses a 4% growth rate based on KAUST management guidance and the 2025 staff headcount. Headcount includes FTE and non-FTE staff. Due to unavailable FY2024-25 financial statements, the operating expenditure spreadsheet provided by KAUST management is used.	Gross lever estimate before aggregate double-counting adjustments. Classification depends on available expenditure categorization.
Capital expenditure	Capital expenditure of USD ~215.1m in FY2024.	FY2024 capital expenditure is used as a proxy for FY2025 due to unavailable audited FY2025 capex data.	Proxy year may not reflect FY2025 capital activity precisely.
Facility rental income	Research rental income of USD ~13.3m and commercial rental income of USD ~0.93m.	Rental income includes research and commercial facility rental. Income has been split by tenant and rental type where available; financial-year treatment uses available reported data.	Tenant spillovers, collaboration benefits, local clustering and longer-term ecosystem effects are not fully captured.

Note: Assumptions and limitations are summarized by impact lever and should be read alongside the relevant pathway sections. Values are approximate where shown. Source: KAUST management input; L.E.K. research and analysis.

A2.8 Calculating KAUST's graduate earnings premium

A2.8.1 Data sources, filtering and harmonization

The graduate premium analysis uses KAUST alumni survey micro-data and GASTAT Saudi graduate wage data. The KAUST alumni survey provides salary, employment and background information for KAUST graduates, while the GASTAT data provides the wider Saudi labor-market benchmark used to estimate counterfactual graduate earnings.

The analysis focuses on full-time employed STEM graduates working in Saudi Arabia. The KAUST alumni survey data is filtered to retain graduates working in Saudi Arabia, while the GASTAT dataset is filtered to identify full-time STEM graduates in the Saudi labor market.

The two datasets are harmonized across comparable variables, including salary, gender, work experience, degree level, academic program and job sector. Salary bands are converted into midpoint estimates where required. Work experience is derived from graduation year for KAUST alumni and from age-band and education-duration assumptions for the GASTAT benchmark population.

A2.8.2 Econometric approach and earnings estimation

The analysis applies a Mincerian earnings function, consistent with established graduate-premium methodologies used in university economic impact assessments, including Cambridge. The model estimates the earnings uplift associated with KAUST qualifications relative to the GASTAT benchmark, controlling for graduate and employment characteristics.

$$\text{Log}(\text{Salary}_1) = \beta_0 + \beta_1 \text{WorkEx}_i + \beta_2 \text{WorkEx}_i^2 + \sum_k \beta_{3k} \text{Degree}_i + \sum_m \beta_{4m} \text{Program}_i + \beta_5 \text{Gender}_i + \sum_s \beta_{6s} \text{Job Sector}_{is} + \sum_k \delta_{1k} (\text{KAUST}_i \times \text{Degree}_{ik}) + \sum_m \delta_{2m} (\text{KAUST}_i \times \text{Program}_{im})$$

Figure A2.8.1: Graduate earnings regression specification and variable definitions.

Table A2.8.1: Graduate earnings regression specification and variable definitions.

Variable	Definitions
Dependent variable	• Log(Salary$_i$): Log10 of annual salary for individual i
Experience[1]	• WorkEx$_i$: Years of work experience • WorkEx$_i^2$: Work experience squared (captures non-linear effect)
Education characteristics	• Degree$_{ik}$: Dummy for degree level k (e.g., Bachelor's, Master's, PhD) • Program$_{im}$: Dummy for academic program m
Demographics & job	• Gender$_i$: Dummy for gender (e.g., 0 = male, 1 = female) • Job Sector$_{is}$: Dummy for job sector s (e.g., Industry, Government, Academia, Other)
KAUST premium terms[2]	• KAUST$_i$: Dummy for KAUST graduate (1 = KAUST, 0 = GASTAT counterfactual) • KAUST$_i$× Degree$_{ik}$: Interaction between KAUST and degree dummies • KAUST$_i$ × Program$_{im}$: Interaction between KAUST and program dummies

Note: 1. Work experience is included in both linear and squared form to capture non-linear earnings progression. 2. KAUST interaction terms are used to estimate the earnings premium associated with KAUST qualifications. Source: KAUST alumni survey; GASTAT; L.E.K. research and analysis.

Table A2.8.2: Graduate earnings regression coefficient estimates.

Coefficient Name	Coefficient Value[2]	p-value
Intercept	3.36	0.00
Workex	0.02	0.00
Workex^2	-0.00	0.00
Master's Degree	0.16	0.00
Doctorate Degree	0.26	0.00
Female	-0.07	0.00
KAUST Master's	0.25	0.00
KAUST Doctorate	0.16	0.00
Academic Program 11	**-0.02**	**0.37**
Academic Program 2[1]	0.09	0.00
Academic Program 31	**-0.02**	**0.26**
Government Job Sector	0.58	0.00
Private Job Sector	0.38	0.00
KAUST × Academic Program 1	0.16	0.00
KAUST × Academic Program 2	0.10	0.00
KAUST × Academic Program 3	0.14	0.00

The regression model demonstrates strong overall significance, with 14 of 16 coefficients statistically significant across explanatory variables. Academic Programs 1 and 3 are not individually significant due to smaller KAUST sample sizes within those specialties, but academic program remains an important control variable and is retained in the model.

Note: 1. Academic Program 1 refers to ICTs, Academic Program 2 refers to engineering, manufacturing and construction, and Academic Program 3 refers to natural sciences, mathematics and statistics. 2. Coefficients are shown as reported. Source: KAUST alumni survey; GASTAT; L.E.K. research and analysis.

A2.8.3 Segment-level calculation approach

Following the regression estimation, graduate earnings premiums and public fiscal benefits are calculated at the segment level. This allows the analysis to estimate the impact of KAUST graduates across different combinations of degree level, academic program, gender and job sector, rather than applying a single average premium to all graduates.

The analysis estimates the following components for each segment:

- Gross lifetime benefit, representing the estimated lifetime earnings benefit associated with KAUST graduates relative to the relevant counterfactual group;
- Net graduate premium, representing the gross lifetime benefit after deducting foregone earnings and direct student-related costs, where relevant;
- Gross public benefit, representing the estimated public fiscal contribution associated with higher graduate earnings; and
- Net public benefit, representing the gross public benefit after deducting foregone public benefit during the period of study.

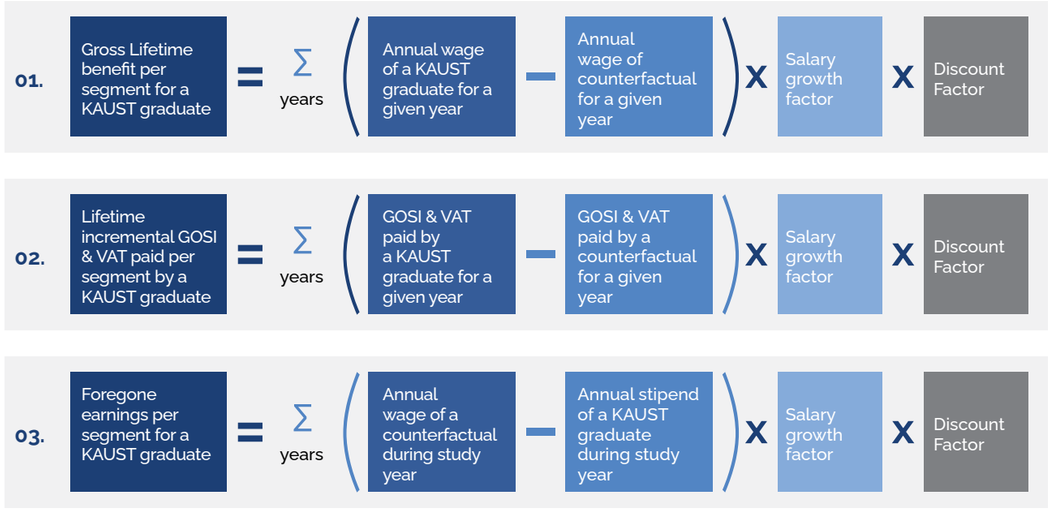


Figure A2.8.2: Per-segment graduate premium and public benefit calculation approach.

A2.8.4 Segment-level net graduate premium estimates

The segment-level net graduate premium estimates are calculated separately for KAUST Master's and PhD graduates. For Master's graduates, the counterfactual qualification group is Bachelor's degree holders. For PhD graduates, the counterfactual qualification group is Master's degree holders.

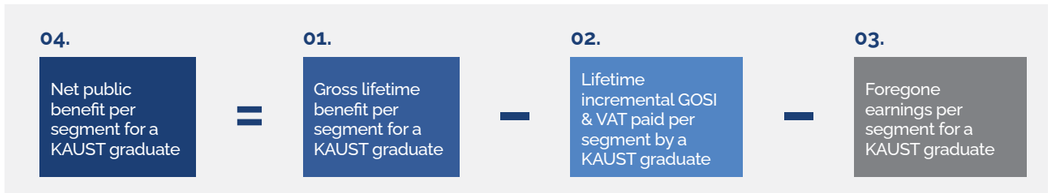


Figure A2.8.3: Segment-level net graduate premium for KAUST Master's graduates

Note: Segment-level net graduate premium estimates are presented on a per-graduate basis. Source: KAUST alumni survey; GASTAT; KAUST management input; L.E.K. research and analysis. Note: Segment-level estimates are calculated separately for graduate earnings premium and public fiscal benefit. Source: KAUST alumni survey; GASTAT; KAUST management input; L.E.K. research and analysis.

Table A2.8.3: Segment-level net graduate premium for KAUST Master's graduates

KAUST Master's vs Bachelor's Counterfactual (per segment by graduate level)	Sr. No.	Academic Program	Gender	Job Sector	(1) Gross Lifetime Benefit (USD)	(2) & (3) VAT, GOSI, and Foregone Earnings (USD)	(4) Net Graduate Premium (USD)
	1	Information and Communication Technologies (ICTs)	Male	Government	1,185,862	399,631	786,231
	2	Information and Communication Technologies (ICTs)	Male	Private	739,930	238,920	501,010
	3	Information and Communication Technologies (ICTs)	Female	Government	1,012,851	337,279	675,572
	4	Information and Communication Technologies (ICTs)	Female	Private	632,088	199,912	432,176
	5	Engineering, Manufacturing and Construction	Male	Government	1,270,861	442,237	828,625
	6	Engineering, Manufacturing and Construction	Male	Private	792,966	265,504	527,462
	7	Engineering, Manufacturing and Construction	Female	Government	1,085,449	373,668	711,781
	8	Engineering, Manufacturing and Construction	Female	Private	677,276	222,720	454,556
	9	Natural Sciences, Mathematics and Statistics	Male	Government	1,087,184	368,356	718,828
	10	Natural Sciences, Mathematics and Statistics	Male	Private	678,358	219,405	458,953
	11	Natural Sciences, Mathematics and Statistics	Female	Government	928,569	310,567	618,002
	12	Natural Sciences, Mathematics and Statistics	Female	Private	579,523	183,295	396,228

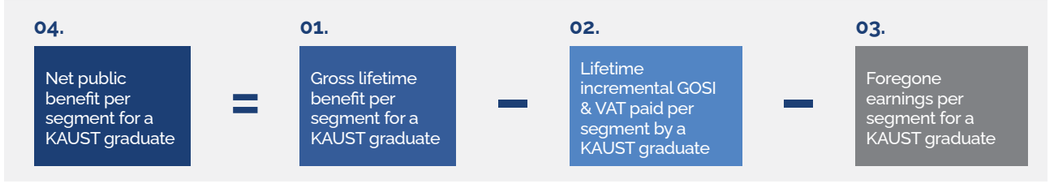


Figure A2.8.4: Segment-level net graduate premium for KAUST PhD graduates.

Note: Segment-level net graduate premium estimates are presented on a per-graduate basis.
Source: KAUST alumni survey; GASTAT; KAUST management input; L.E.K. research and analysis.

Table A2.8.4: Segment-level net graduate premium for KAUST PhD graduates

KAUST PhD vs Master's Counterfactual (per segment by graduate level)	Sr. No.	Academic Program	Gender	Job Sector	(1) Gross Lifetime Benefit (USD)	(2) & (3) VAT, GOSI, and Foregone Earnings (USD)	(4) Net Graduate Premium (USD)
	1	Information and Communication Technologies (ICTs)	Male	Government	757,853	308,157	449,696
	2	Information and Communication Technologies (ICTs)	Male	Private	474,238	150,215	324,022
	3	Information and Communication Technologies (ICTs)	Female	Government	647,286	247,369	399,917
	4	Information and Communication Technologies (ICTs)	Female	Private	418,076	129,429	288,647
	5	Engineering, Manufacturing and Construction	Male	Government	771,749	365,559	406,190
	6	Engineering, Manufacturing and Construction	Male	Private	481,540	187,294	294,246
	7	Engineering, Manufacturing and Construction	Female	Government	659,155	296,396	362,758
	8	Engineering, Manufacturing and Construction	Female	Private	411,286	140,554	270,731
	9	Natural Sciences, Mathematics and Statistics	Male	Government	680,312	283,349	396,963
	10	Natural Sciences, Mathematics and Statistics	Male	Private	425,930	134,932	290,998
	11	Natural Sciences, Mathematics and Statistics	Female	Government	581,057	226,180	354,877
	12	Natural Sciences, Mathematics and Statistics	Female	Private	376,902	116,377	260,526

Note: Segment-level net graduate premium estimates are presented on a per-graduate basis. Source: KAUST alumni survey; GASTAT; KAUST management input; L.E.K. research and analysis.

A2.8.5 Segment-level net public benefit estimates

The segment-level net public benefit estimates are calculated separately from the graduate earnings premium to distinguish the private benefit accruing to graduates from the fiscal benefit accruing to the public sector.

Public fiscal benefit is estimated using incremental VAT and GOSI contributions associated with higher graduate earnings, net of foregone public benefit during study. GOSI contributions are applied to Saudi nationals only, in line with KSA contribution rules.

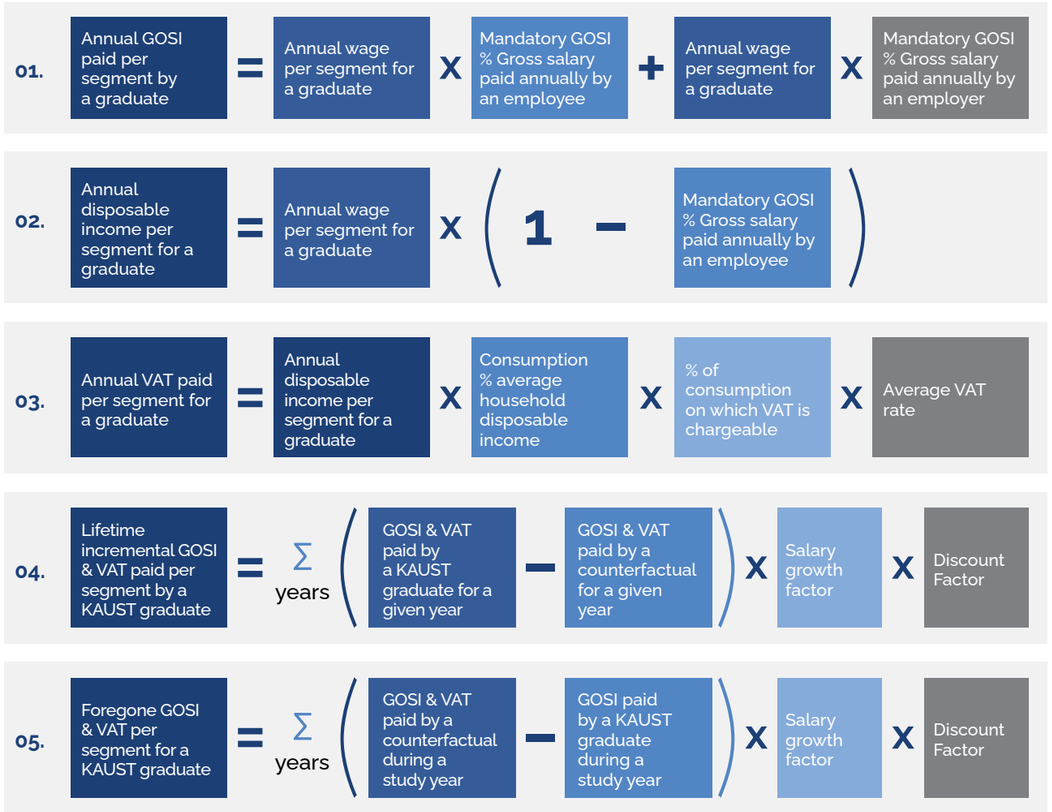


Figure A2.8.5: Segment-level public fiscal benefit calculation approach.

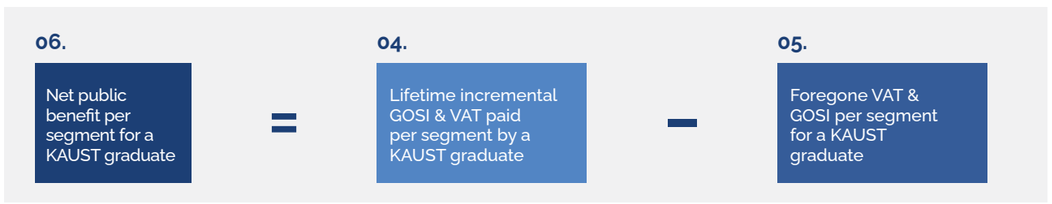


Figure A2.8.6: Segment-level net public benefit for KAUST Master's graduates.

Note: Segment-level net fiscal benefits are computed on a per-graduate basis. Source: L.E.K. research and analysis.
Note: Segment-level net fiscal benefits are computed on a per-graduate basis. Source: KAUST alumni survey; GASTAT; KAUST management input; L.E.K. research and analysis.

Table A2.8.5: Segment-level net public benefit for KAUST Master's graduates.

KAUST Master's vs Bachelor's Counterfactual (per segment by graduate level)

Sr. No.	Academic Program	Gender	Job Sector	(4) Incremental VAT & GOSI (USD)	(5) Foregone VAT & GOSI (USD)	(6) Net Public Benefit (USD)
1	Information and Communication Technologies (ICTs)	Male	Government	374,841	14,614	360,228
2	Information and Communication Technologies (ICTs)	Male	Private	233,886	7,880	226,006
3	Information and Communication Technologies (ICTs)	Female	Government	320,154	12,001	308,153
4	Information and Communication Technologies (ICTs)	Female	Private	199,912	6,577	193,335
5	Engineering, Manufacturing and Construction	Male	Government	401,709	19,978	381,731
6	Engineering, Manufacturing and Construction	Male	Private	250,650	11,227	239,424
7	Engineering, Manufacturing and Construction	Female	Government	343,102	16,583	326,519
8	Engineering, Manufacturing and Construction	Female	Private	214,082	9,108	204,973
9	Natural Sciences, Mathematics and Statistics	Male	Government	343,650	14,585	329,065
10	Natural Sciences, Mathematics and Statistics	Male	Private	214,424	7,862	206,562
11	Natural Sciences, Mathematics and Statistics	Female	Government	293,513	11,977	281,537
12	Natural Sciences, Mathematics and Statistics	Female	Private	183,295	6,566	176,728

06. Net public benefit per segment for a KAUST graduate = 04. Lifetime incremental GOSI & VAT paid per segment by a KAUST graduate − 05. Foregone VAT & GOSI per segment for a KAUST graduate

Figure A2.8.7: Segment-level net public benefit for KAUST PhD graduates.

Note: Segment-level net fiscal benefits are computed on a per-graduate basis. Source: KAUST alumni survey; GASTAT; KAUST management input; L.E.K. research and analysis. Note: Segment-level net fiscal benefit estimates are presented on a per-graduate basis. Source: KAUST alumni survey; GASTAT; KAUST management input; L.E.K. research and analysis.

Table A2.8.6: Segment-level net public benefit for KAUST PhD graduates

KAUST PhD vs Master's Counterfactual (per segment by graduate level)

Sr. No.	Academic Program	Gender	Job Sector	(4) Incremental VAT & GOSI (USD)	(5) Foregone VAT & GOSI (USD)	(6) Net Public Benefit (USD)
1	Information and Communication Technologies (ICTs)	Male	Government	239,702	49,192	190,510
2	Information and Communication Technologies (ICTs)	Male	Private	150,215	27,100	123,115
3	Information and Communication Technologies (ICTs)	Female	Government	204,731	40,136	164,595
4	Information and Communication Technologies (ICTs)	Female	Private	129,429	23,146	106,283
5	Engineering, Manufacturing and Construction	Male	Government	244,097	67,786	176,311
6	Engineering, Manufacturing and Construction	Male	Private	152,307	37,452	114,855
7	Engineering, Manufacturing and Construction	Female	Government	208,485	56,017	152,467
8	Engineering, Manufacturing and Construction	Female	Private	130,300	30,323	99,978
9	Natural Sciences, Mathematics and Statistics	Male	Government	215,176	49,093	166,083
10	Natural Sciences, Mathematics and Statistics	Male	Private	134,932	27,057	107,875
11	Natural Sciences, Mathematics and Statistics	Female	Government	183,783	40,051	143,732
12	Natural Sciences, Mathematics and Statistics	Female	Private	116,377	23,109	93,267

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II. https://docs.iza.org/dp4772.pdf

III. A Type II multiplier is a standard input–output modelling concept used to estimate the total short-run economic impact of an initial expenditure. It captures direct effects (the immediate activity generated), indirect effects (activity generated through purchases from suppliers and their supply chains), and induced effects (additional economic activity resulting from the household spending of wages earned by employees supported directly and indirectly by the initial expenditure). This provides a more comprehensive estimate of economic impact than a Type I multiplier, which includes only direct and indirect effects.

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V. Mincer, J. A. (1974). Schooling, Experience, and Earnings. New York: Columbia University Press for the National Bureau of Economic Research. https://www.nber.org/books-and-chapters/schooling-experience-and-earnings.

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