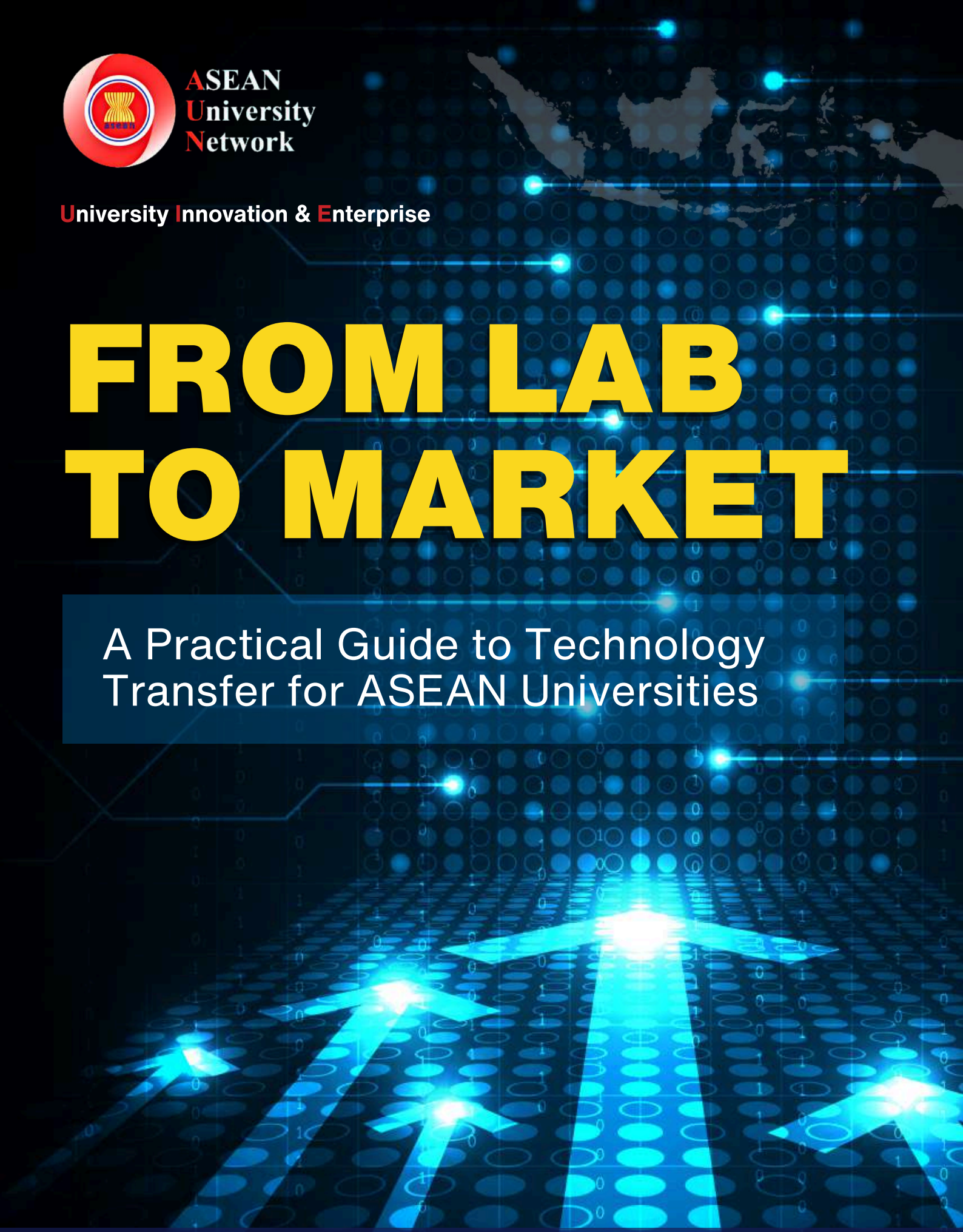
ASEAN University Network

University Innovation & Enterprise

FROM LAB TO MARKET

A Practical Guide to Technology Transfer for ASEAN Universities



Edition 2 | May 2026

Based on the AUN-UIE Webinar: Beyond Patents — Making Tech Transfer Work in Southeast Asia

SMU Singapore Management University

Institute of Innovation & Entrepreneurship

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Produced by the AUN-UIE Secretariat at the SMU Institute of Innovation and Entrepreneurship.

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About This Playbook

This playbook is for the people doing technology transfer work in ASEAN universities — whether that is a full-time Tech Transfer Office (TTO) director, a faculty member managing IP responsibilities, or a single coordinator determining where to begin.

It is not a comprehensive manual on intellectual property law or a textbook on commercialization. Resources of that kind exist, and this playbook points to the best of them. What it offers is something that did not previously exist in one place: a guide grounded in the operating realities of technology transfer in Southeast Asia — the regulatory diversity, the resource constraints, the institutional politics, and the emerging opportunities that make this region's landscape distinct from models developed elsewhere.

The playbook draws on three sources: practitioner insights shared during the ASEAN University Network – University Innovation and Enterprise (AUN-UIE) Webinar on 26 May 2026, by contributors from a university TTO (SMU, Singapore), a national research agency (NSTDA, Thailand), and a national innovation accelerator (MRANTI, Malaysia); data and frameworks from WIPO's ASEAN-specific programs; and the institutional knowledge of the AUN-UIE network — 30 member universities across all ten ASEAN member states.

How to read it. Section 1 provides context, and Section 1B turns it into a stage-by-stage operating guide. Sections 2 through 6 are organised around the challenges that shape day-to-day TTO practice in the region. Each section works standalone — start with whatever matches your most pressing concern.

How it connects. This is Edition 2 of three playbooks in 2026. Edition 1 (March 2026) covered university startup funding and deferred questions about university equity and IP licensing terms to this edition. That thread is picked up in Section 2. Edition 3, later this year, will address incubation.

How to Use This Blueprint

Identify your current role to find the most efficient starting point in this guide

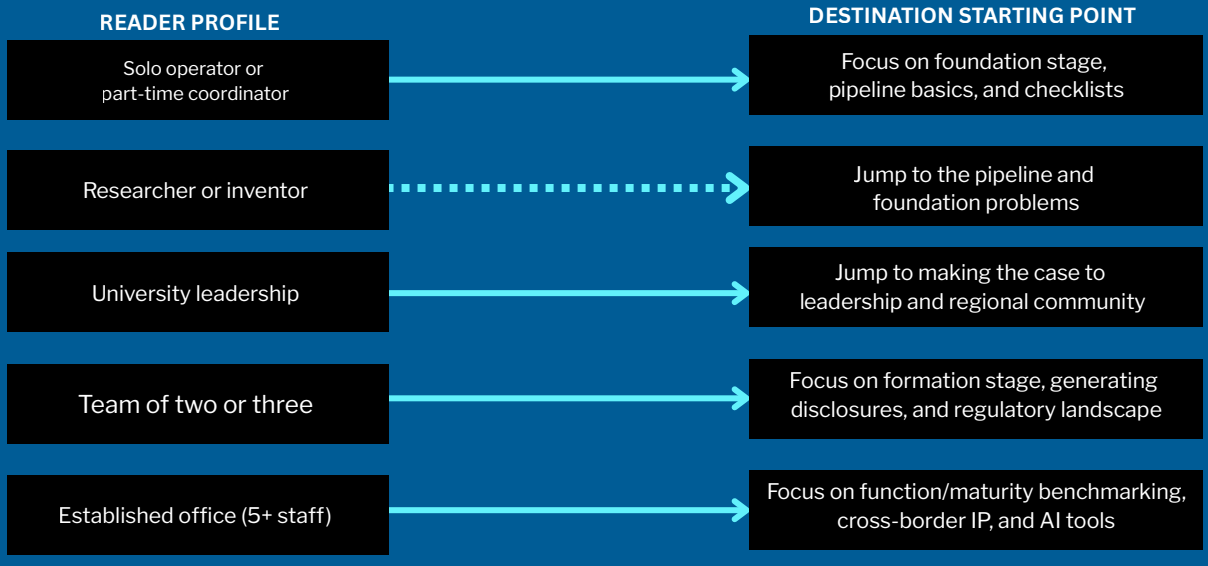


Fig 1. How to use this playbook — where to start, by reader type and office size.



Section 1

Context

Technology Transfer in ASEAN Today

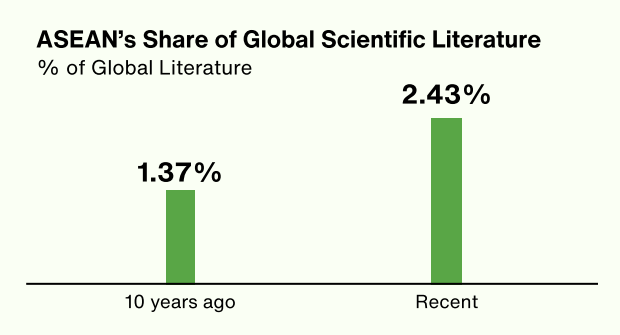


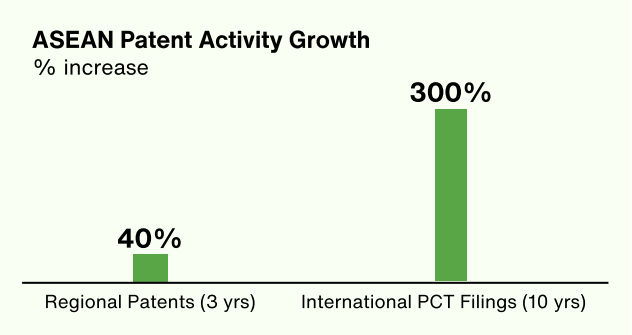
Section 1 — Context

Technology Transfer in ASEAN Today

The process of moving knowledge and inventions from universities into practical use — through licensing, spin-offs, consulting, or research collaboration — has been a recognized institutional function in North America, Europe, parts of East Asia and the Pacific (Japan, South Korea, Taiwan, Hong Kong, Australia, and New Zealand among them) for decades. The technology transfer office, or TTO, evaluates invention of disclosures, protects intellectual property, negotiates commercial arrangements, and maintains the relationships that connect research to markets and society.

In Southeast Asia, the function is at an earlier and more varied stage of development. The research base that feeds it, however, has expanded substantially. ASEAN doubled its share of global scientific literature from 1.37% to 2.43% in under a decade.[1] Patents across the region increased more than 40% over a recent three-year period, and international PCT filings quadrupled over ten years. Singapore leads in publication quality and patent output, Malaysia in volume, and Indonesia in growth rate. Similarly, Vietnam is seeing some of the fastest growth in patents and research productivity in the region.[2]





Country Spotlights: Who's Leading Where



SINGAPORE
Publication quality and patent output



MALAYSIA
Volume



INDONESIA
Growth Rate



VIETNAM
Some of the fastest gains in patents and research productivity

Governments are responding by attaching commercialisation expectations to research funding. Thailand and the Philippines have enacted national legislation modeled on the US Bayh-Dole Act. Singapore's National Research Foundation has introduced commercialisation KPIs for universities. Malaysia has designated the Malaysian Research Accelerator for Technology and Innovation (MRANTI)[3] as its central research commercialisation agency. At the regional level, ASEAN adopted the IP Rights Action Plan 2026–2030, launched the ASPEC+ patent harmonisation programme in April 2026, and published an ASEAN IP Experts Directory. The EU-ASEAN Technology Management Hub is currently developing a regional platform to connect university research with the private sector across national boundaries for the first time, though the initiative itself noted that only 15% of ASEAN-based startups currently expand beyond their home markets.[4]

Across the region, technology transfer offices exist at vastly different stages of development. Singapore's research universities operate professional commercialisation units, and Malaysia's larger research universities have established structures. In Thailand, the TRIUP Act requires public research organizations to demonstrate IP management capabilities to claim ownership of publicly funded research. Within this landscape, Thailand's National Science and Technology Development Agency (NSTDA) is comprised of a team of twenty-five staff with two decades of history. The team includes licensing agents, policy team, and in-house patent prosecutors. Across many other institutions in the region, however, TTO functions are still managed by just one or two individuals alongside other responsibilities.

The global frameworks most commonly referenced in the field — AUTM's practice manuals, WIPO's general toolkits — were developed in different operating contexts. WIPO has recognised the need for region-specific resources and invested accordingly: an Institutional IP Policy Model developed in 2023 with the ASEAN Secretariat, based on a review of 58 laws and over 60 institutional policies across all ten member states; a Lab-to-Market Program providing ATTP-accredited (Alliance of Technology Transfer Professionals) training and nine months of mentoring for ASEAN practitioners; an IP Valuation Toolkit rolled out through seminars reaching 450 professionals in Indonesia, Malaysia, and the Philippines; and a guide on designing incentive programs for researchers and TTO staff. An Institutional Capability Framework for research institutions is currently in development.

These resources provide the most practical foundation for the region. This playbook builds on them, adding practitioner context and organising it around the specific challenges that shape TTO work in Southeast Asia.

The Realities of Technology Transfer in Southeast Asia

There is no question about Southeast Asia's interest in technology transfer. Government policy across the region points consistently toward commercialisation. Universities are establishing TTOs, sending staff to training programs, and joining networks. The webinars, conferences, and workshops dedicated to the subject are well attended and the questions asked are substantive.

The bigger question is: Is the infrastructure sufficient to support the ambition? Across the 137 academic and research institutions surveyed in the WIPO-ASEAN assessment, the picture that emerges is of a region where the intent is strong but the operating conditions are challenging: small teams doing broad work, limited access to training, high turnover in professional staff, inconsistent institutional support, and regulatory environments that range from well-established to barely formed. The research base is growing faster than the capacity to translate it.

Global benchmarking data provides useful context. Across the AUTM (the Association of University Technology Managers) and ASTP (the Association of European Science and Technology Transfer Professionals: datasets, academic institutions spend on average 0.6% of their research budgets on technology transfer operations. The staffing ratios derived from these surveys — disclosures per $100 million of research expenditure, licensing officers per 100 disclosures — were developed in contexts where TTOs typically employ fifteen to fifty people within mature legal and financial ecosystems. These ratios serve as reference points, though they reflect a different operating context from the one most ASEAN institutions work within. The technology transfer landscape in the region has its own characteristics and requires approaches that account for them.



This playbook is structured accordingly. It is an operational guide for practitioners working with limited resources who need to make decisions about what to prioritise, what to defer, and where to look for help. The challenge-based organisation reflects how practitioners encounter their work: as a set of problems to be navigated with whatever capacity is available. The playbook also emphasizes community. Evidence from other regions suggests that technology transfer capacity develops most effectively as a shared endeavour, offering a vital path forward for ASEAN to overcome its limited individual institutional resources through a common goal.

Is There an Optimal Size for a Tech Transfer Office?

The question comes up in almost every conversation about building a technology transfer office: how many people should it have? The honest answer from both the research and the practice is that there is no optimal size — because headcount is a consequence of how much intellectual property flows through an office, and which operating model it has chosen. A headcount ill-suited for the volume of IP and the operating model results in an office that is either too thin to capture what its researchers produce, or left with capacity waiting for deal flow that does not exist.

The evidence is that very different sizes are all "right" — for their model. Consider four offices that each work well at radically different scales:

Two-Three people — the relationship model. SMU's knowledge transfer function operates in just a two-person team, yet structured a licensing deal within five months of its current lead joining — driven by conversations with faculty rather than rigid processes. For an institution with modest disclosure volume, this office is just the right size. The binding constraint at low volume is relationship coverage, which does not scale with headcount.

Around thirty — the national agency model. NSTDA in Thailand runs a technology licensing office of twenty-five, a size driven by a specific choice: drafting and prosecuting patents in-house rather than paying outside counsel, in addition to in-house licensing agents and a policy team. That choice only pays itself above a certain filing volume — the headcount exists because the model demands it, not the other way round.

A licensing engine — sized by the docket. Stanford's Office of Technology Licensing is staffed mostly by professionals engaged directly in licensing, managing a portfolio of more than 3,000 active dockets.[5] The caseload sets the staffing. An office with thirty active cases running Stanford's structure would be carrying overhead, not capability.



More than a hundred — the fully integrated model. KU Leuven's LRD, one of Europe's oldest TTOs, runs a central team of over 140 experts plus around forty innovation managers embedded across thematic domains[6] — because LRD does everything in one shop: contract research, patenting, licensing, spin-off creation, and its own seed fund. The size is the price of integration.

What does this mean for an ASEAN office?
Most offices in the region sit closer to the first profile than the last: across the region, disclosure volume — not processing capacity — tends to be the bottleneck (as Section 2 discusses), and volume is grown through faculty relationships, which are inexpensive, not through staff waiting for cases. A small office extends its reach not by hiring but by borrowing capability at the margins: outside counsel for patent drafting, WIPO's Technology and Innovation Support Centres for assessment, a mentor office for judgement calls. In practice, an office at Universiti Putra Malaysia's reported scale of activity — 278 commercialized intellectual properties generating an estimated RM 82.78 million in gross sales [7]— needs monitoring and portfolio staff that a two-person office does not; the volume, again, sets the size.



How to tell your size is wrong. The signals run in both directions. An office is too small when it is demonstrably losing value — disclosures missed, deadlines slipped, deals stalled for want of attention — despite having offloaded what can be outsourced. It is too big when staff are structured around functions the volume does not yet justify in-house drafting below the break-even filing rate, specialized roles without a full role's workload. The practical discipline, set out stage by stage in Section 1B, is to treat every additional hire as a claim that must be evidenced by a specific, recurring loss — not by aspiration, and not by comparison with larger offices.

The one-line answer, if a leadership meeting demands one: the optimal size of a TTO is the smallest team that is not demonstrably losing value — measured against its own disclosure volume, not against anyone else's org chart.

Understanding Where You Are

Institutions across the region sit at different points along a spectrum of TTO development. The guidance, resources, and peer connections most relevant to a given institution depend on where it sits. The working model below is drawn from practitioner experience across the AUN-UIE network and from the patterns documented in the WIPO-ASEAN assessment. It is descriptive rather than evaluative, offered as a shared vocabulary for the community to test and refine. It is intended to complement WIPO's forthcoming Institutional Capability Framework, which will provide a more rigorous diagnostic when published.

Foundation. No formal TTO exists. One or two individuals operate with no or limited mandate or budget. The institution may generate IP, but there is no process for capturing or acting on it. The common pattern: most energy is spent explaining to colleagues and leadership what a TTO is and why it might matter, leaving little capacity for the work itself. The most productive first steps observed across the network have been adopting an IP policy drawn from WIPO's ASEAN model or peer institutions, and connecting to an external network for training, mentoring, and peer support.

Formation. A small team of two or three is formalising processes. The institution has an IP policy and may be managing its first filings or conversations with industry. The common pattern: too many functions for too few people, with the temptation to attempt comprehensive coverage simultaneously. Practitioners who have navigated this stage describe the importance of sequencing — concentrating on one or two priorities at a time — and of knowing where to refer matters that exceed the office's capacity.

Function. An active portfolio, completed transactions, and working industry relationships. The team may number four to ten, with functional specialisation emerging. The challenges shift from starting to sustaining. Data management, impact measurement, and portfolio stewardship — which patents to maintain, which relationships to invest in, how to communicate value to leadership — become the defining concerns.

Maturity. The TTO is integrated into institutional strategy, contributing to research priorities, industry partnerships, and national innovation reporting. Few ASEAN TTOs operate comprehensively at this level, though elements are visible at several institutions. The common pattern: the most important contribution is no longer internal but external — sharing knowledge, opening training programs, mentoring earlier-stage offices, and contributing to regional data and standards.



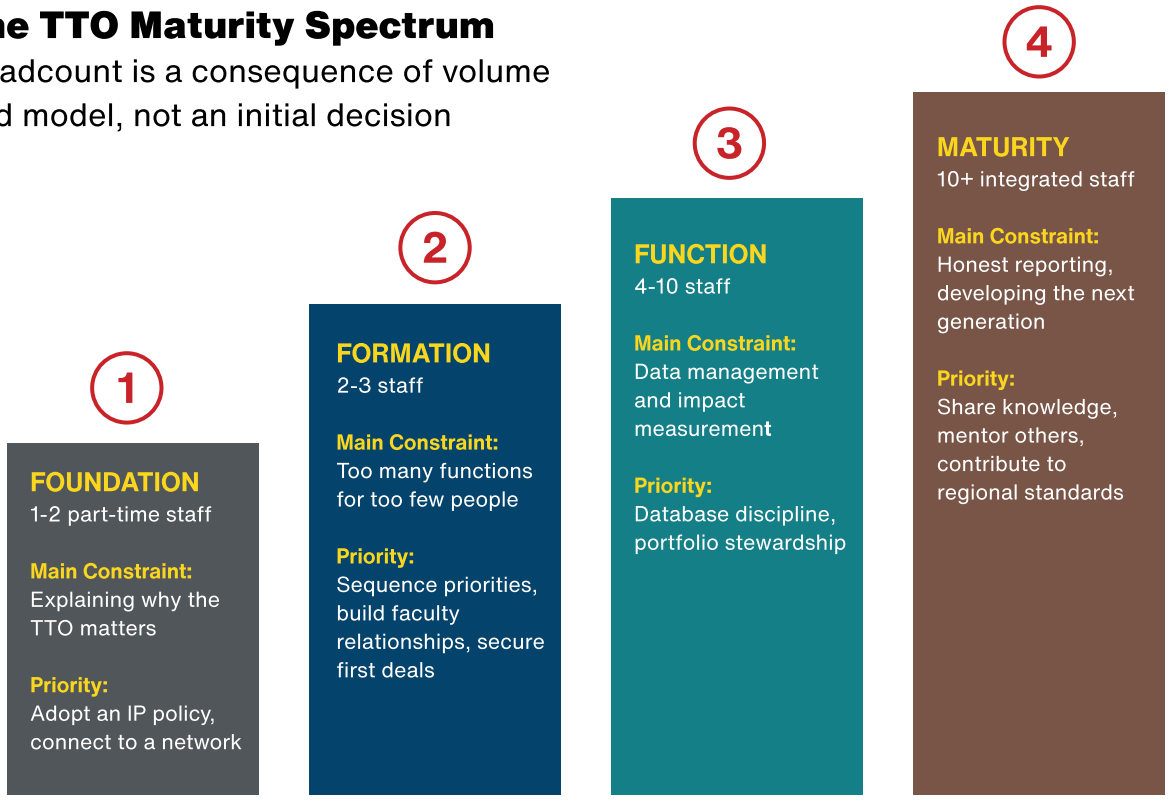
TTO MATURITY SPECTRUM

FOUNDATION	FORMATION	FUNCTION	MATURITY
OFFICE			
No formal TTO. 1–2 individuals, no mandate or budget	2–3 staff formalising processes. First filings and industry conversations	4–10 staff with emerging specialisation. Active portfolio	Integrated into institutional strategy. Professional team
CONSTRAINT			
Most energy spent explaining why TTO matters	Too many functions for too few people	Data management and impact measurement	Honest reporting. Developing next generation
PRIORITY			
Adopt IP policy. Connect to a network	Sequence. Build faculty relationships	Data hygiene. Portfolio stewardship	Share knowledge. Mentor others. Contribute to regional standards

Practitioner-derived working model. Intended to complement WIPO's forthcoming Institutional Capability Framework.

Diagnosing Your Office: The TTO Maturity Spectrum

Headcount is a consequence of volume and model, not an initial decision



What to Prioritize at Each Stage

The maturity framework provides orientation. This section adds operational specificity, informed by the AUTM and ASTP survey datasets, the World Bank diagnostic framework, and the maturity models developed by Scanlan (2018) and Kreiling & Bounfour (2020), adapted for the ASEAN context based on practitioner experience across the AUN-UIE network. The graphic below summarizes the priorities; the notes that follow add context that the graphic alone cannot convey. One person. Concentrate on two activities: faculty relationships (which generate disclosures) and network connections (which provide templates, training, and peer advice). Adapt IP policy from existing models. Defer database systems, formal processes, and patent prosecution.

Two to three people. Sequence rather than attempting comprehensive coverage: IP policy and management first, then systematic faculty engagement, then first filings and industry conversations. Training through WIPO, ATTP, or national associations builds competency that would otherwise take years to develop.

Five to eight people. Functional specialisation is becoming possible. Database systems become a priority as the portfolio outgrows institutional memory. Staff retention becomes an operational concern — accumulated portfolio knowledge, faculty relationships, and industry contacts depart with each lost professional.

Ten or more people. The TTO operates as a professional unit. The ASTP KTT Metrics framework — distinguishing input, output, and impact metrics — provides a structured approach to performance management. At this stage, the most important contribution shifts outward: mentoring smaller offices, contributing to regional benchmarking, and sharing operational knowledge across the network.

WHAT TO PRIORITISE BY TEAM SIZE

1 PERSON	2–3 PEOPLE	5–8 PEOPLE	10+ PEOPLE
Do now ✓ Faculty relationships ✓ Join a network ✓ Adapt IP policy from WIPO model	**Do now** ✓ IP policy and management ✓ Faculty workshops ✓ Staff training (WIPO, ATTP) ✓ First filings and conversations	**Do now** ✓ Functional specialisation ✓ Database systems ✓ Impact reporting ✓ Staff retention strategy	**Do now** ✓ Sector-focused teams ✓ Portfolio analytics ✓ KTT metrics framework ✓ AI-augmented workflows
Defer *— Database systems* *— Patent prosecution* *— Formal processes*	**Defer** *— Full portfolio management* *— Cross-border work* *— AI tools*	**Defer** *— Sector specialisation* *— Regional data contribution*	**Defer** *— None — contribute to regional infrastructure*
Access externally ✓ Templates (WIPO) ✓ Training (L2M) ✓ Peer advice (AUN-UIE)	**Access externally** ✓ Legal counsel ✓ Patent prosecution ✓ Benchmarking data	**Access externally** ✓ Cross-border regulatory ✓ National agency support ✓ Licensing benchmarks	**Contribute externally** ✓ Mentoring ✓ Benchmarking data ✓ Case studies ✓ Standards

Informed by AUTM, ASTP, World Bank, and ASEAN practitioner experience. Adapt to institutional context.

Rules of Thumb from the Panel

One or two people? Pick the basics. Control what you must, reach out to faculty, get the framework and policy in place — defer the rest.

Don't build policy from scratch. Adapt from AUTM menus, a peer university, or WIPO's ASEAN model.

Year one vs year two. Enhance IP management in year one; revisit IP policy, revenue-sharing and filing strategy in year two.

The patent-speed reality. Examination runs three to five years; in fast-moving fields, prioritise market capture over filing (healthcare excepted).

ROI takes time, and differs every project. Pair any financial figure with a value / impact measure.

What Practitioners Learned the Hard Way

Five recurring patterns the webinar panel described in hindsight. Each maps to a readiness gap addressed in the sections that follow.

1. The rotational-post trap. Treating tech transfer as a post that rotates every two to three years — "train, retrain, train, retrain." Institutional knowledge and faculty trust reset each cycle. Capability must be institutionalised, not trained into whoever currently holds the chair. (Team)

2. Building before there is a framework. Asking one person both to do the work and to invent the rules at the same time. Adopt a policy framework (AUTM menus, a peer university's, or WIPO's ASEAN model) first. (Policy)

3. Filing without a route to market. In fast-moving fields a patent that takes three to five years to examine may outlive its relevance, and a filing with no identifiable taker consumes renewal fees for years. Non-pursuit, publication, or speed-to-market can be the more responsible call. (Evaluation)

4. Measuring only what is hardest to move. Accepting financial ROI as the sole yardstick for a long-cycle function. Report "return on value" alongside it — societal impact, relationships, and capability built. (Funding / Impact)

5. Working in isolation. Each under-resourced office trying to build patent search, benchmarks, market intelligence, and training alone, when the network could surface these collectively. (Community)

The TTO Operational Blueprint: Do Now vs Defer

Small teams must ruthlessly prioritise core relationship-building while outsourcing or deferring heavy administrative task

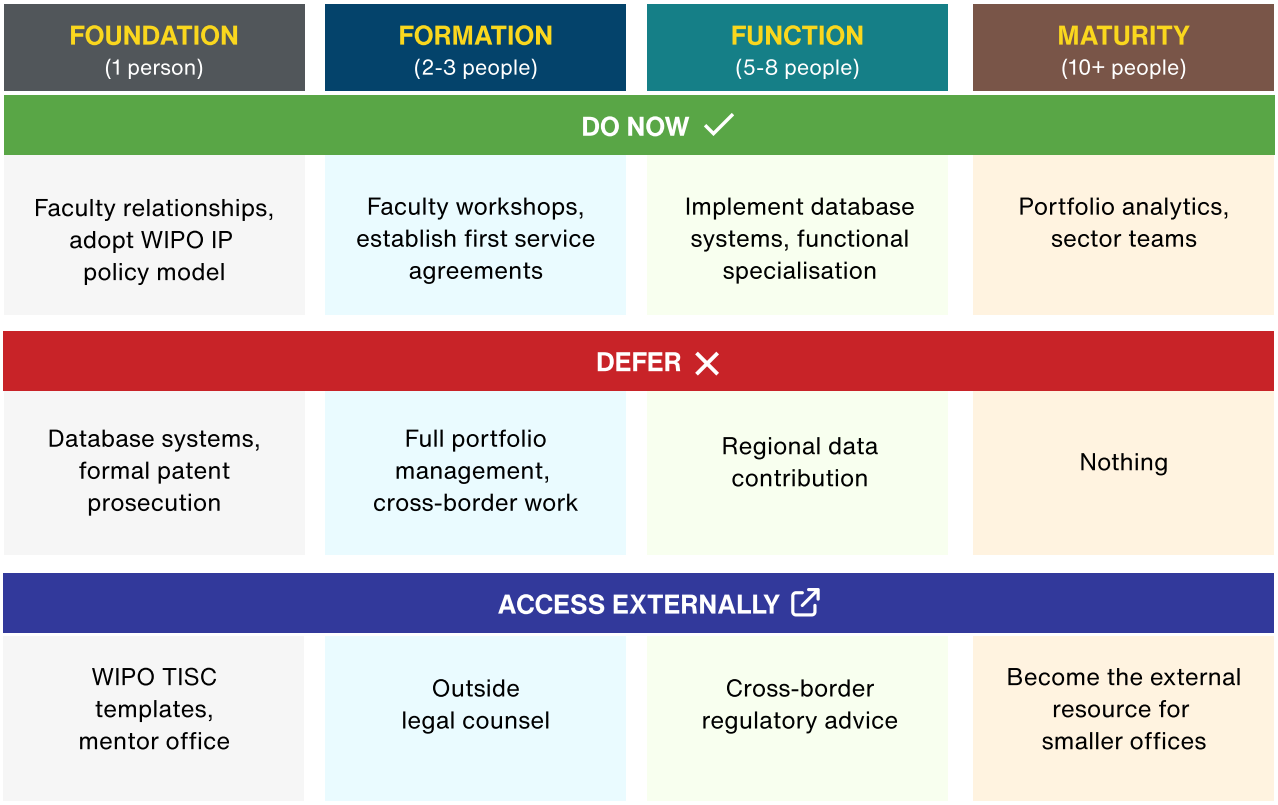


Fig 3. What to prioritise by team size — what to do now, defer, or access externally.

Section 1B — Operating at Each Stage: A Working Guide

The maturity spectrum and priority tables in Section 1 describe where offices across the region sit in carrying out conventional technology transfer tasks — defined across six universal pipeline steps (see p. 30). This section is their operating companion: for each of the four stages — Foundation, Formation, Function, Maturity — it sets out how the office is commonly funded and what is worth spending on; the easiest first win; the problems offices at that size most often report, each written as a situation with a suggested step-by-step response; when it may make sense to add a person; and a signal suggesting the office may have outgrown the stage. Like the rest of this playbook, it describes common patterns rather than fixed rules — check each against your own institution.

If you are a researcher or inventor rather than office staff, the parts most relevant to you sit in the Foundation stage: why the office asks to be told before you publish, why you are asked to sign an invention over, what share of any income you keep, and the standard questions the office will ask about your funding. Reading those few pages tells you what to expect — and why — whatever size the office is.

Foundation — One Person, or Part-Time

You are on your own, or nearly so. The whole job at this stage is to catch inventions and make sure the university clearly owns them.

The goal at this stage. Make sure inventions get reported to you, and make sure the university clearly owns them. Systems, formal processes and discretionary patent spending can usually wait — that comes later.



How the Office Pays For Itself

At this size, most offices cost money rather than make it: the budget typically comes from the university, often with no set-aside pot for patents. Check whether that is true for you, then two moves are usually worth prioritising.

First, ask for a small, protected patent budget with a simple written rule for when to spend it. That way it is much harder to divert to other things, and each spend can be explained.

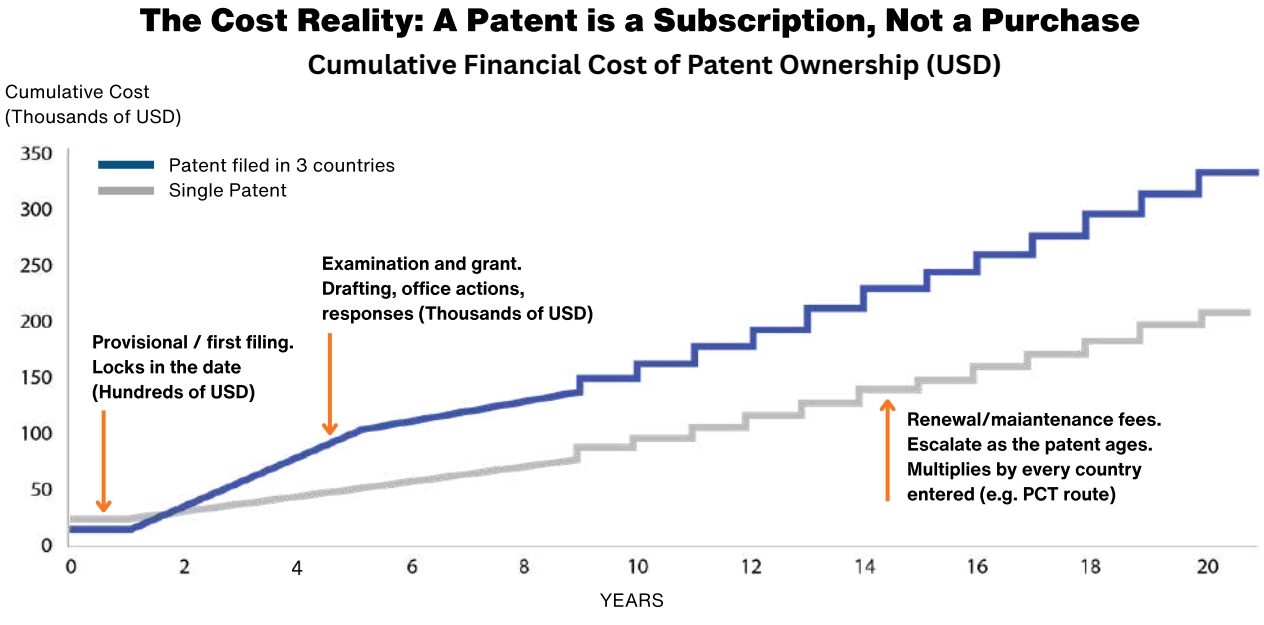
Second, use free or low-cost outside help instead of money you do not have: WIPO's free support centres (TISCs), a national IP agency, or a more experienced office willing to mentor you can do work an office this size cannot yet afford to staff (Section 5 covers what the network can carry collectively).

It is usually too early to set up a system for sharing royalty income — there is typically no income to share yet, and a formula written too early can cause arguments later. The money principle at this stage: spending on a long-shot patent tends to come at the cost of the invention a company actually wants.

Easiest first win. Add one line to your invention form that transfers ownership to the university the moment an invention is reported, and tell researchers "talk to us before you publish anything." Both are free, and they help head off two of the most expensive mistakes below.

A real example from the region. In 2026, Chulalongkorn University and the Thai Red Cross Society launched SALYWA, an artificial saliva product developed at Chulalongkorn's Faculty of Medicine for cancer patients with dry mouth. The invention is protected by a petty patent — a cheaper, faster form of patent available in several ASEAN countries — held jointly by the two institutions, and was licensed to a company partner (Specialty Innovation Co.) to reach patients. Chulalongkorn is a large university, but the two lessons scale down to the smallest office: joint ownership was settled up front, and the protection chosen matched the budget rather than defaulting to the most expensive route. One caveat: petty patents exist in Thailand, Malaysia, Indonesia, Vietnam and the Philippines, but not in Singapore — there, the equivalent budget discipline is choosing which inventions to file at all, and in how many countries.





Takeaway: Without a way to judge which inventions have a viable market, the budget drifts to patents no company wants, while good ones slip away. **Non-pursuit is stewardship, not failure.**

Fig 4. The cost reality of a patent: cumulative fees make it a subscription, not a purchase.

The Pipeline in Practice: The SALYWA Case

Takeway: Chulalongkorn University and the Thai Red Cross Society successfully navigated the pipeline by aligning ownership early and matching protection to budget.

In 2026, Chulalongkorn University and the Thai Red Cross Society launched SALYWA, an artificial saliva product for cancer patients with dry mouth.



Step 1-2: Disclosure & Ownership
Joint ownership between the two institutions was agreed upon before commercialisation began.

Step 3-4: Evaluation & Protection
Addressed a clear clinical need. Key strategy: the institutions chose a petty patent (cheaper, faster protection). Protection was matched to the budget, not prestige.

Step 5-6: Pathway & Monitoring
Licensed to Specialty Innovation Co. for manufacturing and distribution, establishing ongoing monitoring and income sharing.

Fig 5. The pipeline in practice — the SALYWA case, from disclosure to licensing.

The Problems You Are Likely to Face

A researcher is about to publish, and their paper contains something patentable.
In most countries, once you make an invention public you can no longer patent it — and that loss is usually permanent. Some countries give a short "grace period" after publishing, but they are all different and do not work across borders, so do not count on them. Preventing early disclosure is a central concern of the WIPO-ASEAN institutional IP policy model, which asks researchers to consult the IP office before any public disclosure.

1. Set a standing rule: researchers contact you before they publish anything — a journal article, a conference talk, even a thesis. Repeat it through the departments.

2. If publication is imminent, file a quick, cheap early application (a "provisional") to lock in your date first.

3. If they have already published, check whether a grace period saves you before you spend anything on filing.

A company wants to license the invention — and you find you cannot sign.

If the work was done at your university but paid for by someone else, that funder may own it, not you. This tends to come to light only when a licensee appears — often the worst moment to discover it. It is why WIPO's model IP policy makes checking the funding terms part of the standard process for every invention. (Section 3 maps how ownership rules differ across the region.)

1. Check the funding terms before you try to commercialise anything, using the standard questions below.

2. If another institution funded the work, sign an agreement that spells out who owns it and who leads on selling it.

3. Only move ahead once ownership is clear.

A researcher leaves, and the rights are about to walk out with them.

If the inventor never signed the invention over to the university in writing, the university may not actually own it — and the rights can leave with a departing researcher or spin-off. Students are often the biggest risk, because they are frequently not employees and the usual staff rules do not cover them.

1. Put the ownership-transfer line in the invention form (your first win above).

2. Explain to inventors why they are signing it (see the next problem).

3. Have a separate signing step for students and visiting researchers, whom normal staff rules may miss.

An inventor refuses to sign, because they think they own it.

People often assume an invention they created is personally theirs, not realising the funding terms already decided ownership. This is a teaching moment, not a fight.

1. Explain ownership using the funding terms, not "because the university says so."

2. Show them the share of any income they will receive — so signing looks like how they get paid, not like losing something.

3. Keep a short written explanation so you say the same thing every time.

You are about to spend real money patenting something no one may buy. One patent, filed in several countries, can cost tens of thousands of dollars over its life. Without a way to judge which inventions are worth it, the budget tends to go to inventions no company wants, while good ones slip away. (Section 2 discusses evaluation and pathway choice in depth.)

1. Run the standard two-part check: can it be patented (is it genuinely new?), and can it be sold (is there a likely buyer or a real need)?

2. File only if both answers are yes. Deciding not to file is a perfectly good outcome, not a failure.

3. If you cannot judge it yourself, ask a WIPO support centre or a mentor office — do not file on a hunch.



Standard Questions For Every Invention Reported to You

Is the research funded, and on what terms? What do those terms say about who owns the IP? Who actually owns it? What rights do you hold (such as exclusivity), and can you pass them on? Are there any export or security restrictions on the technology? These questions are listed here because ownership problems start at the smallest size — but they apply to every disclosure at every stage of this section.

When to hire another person

When to ask: when you are actually losing inventions — missing reports or blowing deadlines — because one person cannot both stay close to researchers and handle the paperwork.

What you give up: every hour on paperwork is an hour not spent with researchers catching the next invention. The two jobs tend to compete for the same time.

Try first: offload the paperwork half — standard agreements, a WIPO centre, a mentor office — so you can protect the researcher half, which only you can do. When you truly need them: when a specific, repeating loss (not just "I'm busy") suggests one person can no longer hold both jobs.

When you have likely outgrown this stage. You have likely outgrown Foundation if you are regularly losing inventions — missed reports, blown deadlines — even after handing off the admin. That is a signal to start building like a Formation office: a basic policy, standard agreements, and your first deals.

Formation — Two to Three People

You have a small team. Now turn inventions and relationships into your first real transactions.

The goal at this stage. Turn your inventions and relationships into your first real deals, and set up contract habits now that stop ownership fights later.



How The Office Pays For Itself

For most offices, first income shows up at this stage — and it is rarely patent royalties. It is money from doing services: contract research, testing, consulting. Check that this is true for you, then two moves are usually worth making.

First, add a small margin on top of those service jobs so the office starts covering some of its own costs and you have a real number to show leadership.

Second, agree now — while the amounts are small — how you will split any future IP income between the inventor, the department and the office. Setting that split before significant money arrives tends to be straightforward; setting it afterwards is often contentious. Your main budget still comes from the university; the point is simply to start the shift. (This aligns with the panel's "year one vs year two" rule of thumb in Section 1: revisit revenue-sharing in year two.)

Easiest first win. Build a small set of standard agreements, so each deal is not written from scratch. In practice this usually means five documents: a non-disclosure agreement (NDA — lets you talk to a company about an invention without losing the right to patent it); a material transfer agreement (MTA — covers samples or data sent to or from your labs); a contract research agreement (a company pays your researchers to work on its problem); a testing or technical services agreement (a company pays to use your labs or equipment); and a consultancy agreement (a company pays for a researcher's expert time). Each signed agreement also becomes a company relationship you can build a licence on later. As a reference point, the National University of Singapore (NUS) publishes the agreement routes it offers industry — including a Technology Development Agreement for jointly maturing an early technology. NUS is a very large office, but the point scales: a settled menu of standard agreements is worth having at any size.

A real example from the region. Mahidol University in Thailand is a documented example of building in sequence: its commercialisation ran through research collaborations and licensing first, with a technology licensing office, a business incubator, entrepreneurship training and a venture fund added as complementary channels over time — rather than everything at once. Malaysia offers the same lesson from the other direction: a published case study of Universiti Teknologi Malaysia records contract research as one of the three main commercialisation routes alongside licensing and spin-offs — against a national backdrop in which, at the time, only 58 of 313 identified products from Malaysian public universities had been commercialised. Deals are hard to land; service work is a legitimate way in.



***Mahidol University in Thailand** is a documented example of building in sequence: its commercialisation ran through research collaborations and licensing first, with a technology licensing office, a business incubator, entrepreneurship training and a venture fund added as complementary channels over time — rather than everything at once.*

The Problems You Are Likely to Face

Everything seems to need building at once — and a small team rarely can.
Policy, researcher relationships, first patent filings, company outreach — all of it wants attention, and two or three people trying to do everything at once are likely to do everything incompletely. (This is the sequencing pattern named in Section 1's Formation profile.)

1. Build a basic IP policy and invention process first — adapting from WIPO's ASEAN model or a peer institution rather than drafting from scratch.

2. Build steady researcher contact next.

3. Start filings and company outreach after that — one or two priorities at a time, not everything at once.

Your first "deals" are services, not licences — and that is fine.
For most offices the first business you do is contract research, testing or consulting, not patent licences. Do not treat these as second-best. They are the relationships your future licences grow out of.

1. Treat research, testing and consulting jobs as real first deals.

2. Use each one to build a lasting company relationship, not just to earn a fee.

3. Use the standard agreements above so you are not negotiating each from scratch.

A spin-off's funding stalls because no one sorted out the IP.
Company-funded research often needs the company's existing technology (call it "background IP") to make use of the new result ("foreground IP"). If the contract never sorted out who can use what, it can be very difficult to cleanly sell the result — and this usually surfaces at the worst time: when the spin-off is trying to raise money. (Section 3B examines the cross-border version of this problem.)

1. Spell out both the existing and the new IP in every contract before signing.

2. Write down who is allowed to use each, so a future buyer can see the ownership is clean.

3. If someone else's existing technology is essential, get the right to sub-license it up front.

Several patent bills come due at the same time.
Patents you filed two or three years ago tend to hit their renewal fees around the same time. Without a plan, offices tend either to overpay to keep everything or to drop the wrong ones.

1. Review the whole patent portfolio before the fees fall due.

2. Re-check each one for a likely buyer, and drop the ones with no interest — this is normal housekeeping, not failure.

3. Put the money you saved into the patents that do have prospects.



When to Hire Another Person

When to ask: when deals stall because no one has time for them, or when you can no longer give a clear picture of your own portfolio.

What you give up: every new activity you take on pulls attention off closing your first deals. Two or three people spread thin end up with lots of half-built things and few signed deals.

Try first: do the functions in order, and focus your selling on your two or three best inventions instead of all of them.

When you truly need them: when one job on its own — either finding and closing deals, or handling data and operations — is a full person's worth of work.

When you have likely outgrown this stage.
You have likely outgrown Formation if a single job — closing deals, or running data and operations — is a full person's work, and your portfolio has grown past what can reliably be tracked from memory. Consider operating like a Function office: put in a real system and let people specialise.

Function — Five to Eight People

The portfolio is real now. Protect it, give people specialised roles, and start learning from other offices. The goal at this stage. Handle a bigger portfolio without losing any of it, start giving people specialised roles, and start learning from other offices.

How the Office Pays For Itself

By this size, income is usually real but uneven — one big licence can dominate a whole year, so it is risky to rely on it in the budget. Two moves are usually worth making.

First, formalise the income split you agreed earlier, and start putting the office's share back into tools: a proper tracking system, network memberships, staff exchanges.

Second, get access to a small "proof-of-concept" fund — money to develop an invention a little further. At this size the biggest problem is often that inventions are too early for a company to license, not a shortage of inventions, and a small fund like this is often what gets them over the line. It is also worth starting to track a few numbers now — they are likely to be needed to defend your budget.

Easiest first win. Move your patents onto a proper tracking system before you strictly have to, and send a staff member to spend time at a more experienced office. The system helps prevent missed-deadline losses; the exchange often builds skills faster than in-house training.

A real example from the region. NSTDA in Thailand previously ran a Research Gap Fund to carry promising results closer to market — the same "too early to license" problem described above — and its Thailand Tech Show offered SMEs a licence at a flat fee of 30,000 baht (roughly USD 850) plus a 2% royalty on sales. A simple, published licensing offer like that moves a portfolio that bespoke negotiations would leave sitting on the shelf. And on the value of getting royalty terms right at this size: Universiti Putra Malaysia reports 278 intellectual properties commercialised, generating an estimated RM 82.78 million in gross sales through royalty and licensing arrangements of 1–5% — income that only reaches the university if licences are monitored the way this stage describes.

***NSTDA in Thailand** previously ran a Research Gap Fund to carry promising results closer to market — and its Thailand Tech Show offered SMEs a licence at a flat fee of 30,000 baht (roughly USD 850) plus a 2% royalty on sales. A simple, published licensing offer like that moves a portfolio that bespoke negotiations would leave sitting on the shelf.*

The Problems You Are Likely to Face

A deadline someone was tracking in their head gets missed.

Once you have 50 to 100 or more live cases, a renewal or filing deadline kept only in someone's memory is likely, sooner or later, to be missed — and when a patent lapses, the loss is usually permanent. (Section 2's "Data as Infrastructure" discussion applies directly here.)

1. Put the whole portfolio on a proper tracking system before you strictly need to.

2. Give every case an owner and a named backup.

3. Set automatic reminders so no one person being away causes a patent to lapse.

A licensee quietly stops paying and nobody notices.

If you do not check licensees' payment reports against what they actually owe, under-reporting — or payments simply stopping — may go unnoticed.

1. Record each licence's payment terms in the same system as its patents.

2. Check their reports against the terms on a set schedule.

3. Put audit rights into new licences, so you can inspect their books when the numbers look off.

A staff change removes years of relationships and case knowledge.

Where technology transfer jobs are treated as general administration and staff are moved on every few years, each person who leaves takes researcher relationships and case knowledge that are hard to rebuild. This is the "rotational-post trap" the webinar panel described in Section 1, and Section 4 addresses the career-structure side of it.

1. Keep the knowledge in your tracking system, not in people's heads.

2. Show leadership what is at risk, and use it to argue these roles should be exempt from rotation.

3. Insist on proper handovers where someone does have to leave.

A spin-off working across borders hits conflicting ownership rules.
A spin-off built on research done jointly with an overseas partner can run into clashing national ownership rules when investors do their checks — and that delays the funding. Section 3B covers this in depth; the steps below are the short version.

1. Sort out ownership and which country to file in before the spin-off raises money.

2. Use written agreements for jointly-owned IP from the start.

3. Bring in specialist lawyers early for the countries involved.

Join the Professional Networks

This is usually the size at which it makes sense to join the main professional bodies — AUTM and ASTP — for their standards and their benchmarking data (numbers you can measure yourself against). And keep using staff exchanges to more experienced offices — practitioners often say it is one of the best ways to build skills. The most useful benchmarks, though, are regional: a short survey across ASEAN university TTOs — how many staff, what the university asks of them, what their main problems are — gives comparison data that the global bodies' figures cannot, and is quick to run. Section 5 discusses what the AUN-UIE network can build collectively.

When to Hire Another Person

When to ask: when you are clearly losing value in one specific area — stalled deals point to a deal-making hire; a messy portfolio record points to a data or operations hire.
What you give up: keeping a senior person on routine tracking wastes their deal-making time on work a system and a junior can handle; and one generalist covering both deals and operations tends to do neither well.

Try first: put in the tracking system, assign owners, and automate the reminders before adding anyone.

When you truly need them: when there is genuinely enough work in that one area to fill a dedicated person's time.

When you have likely outgrown this stage. You have likely outgrown Function if the office runs on systems rather than on individual effort, you are a member of the professional networks, and leadership is starting to ask what all of this is worth. Consider operating like a Maturity office: prove your value with numbers and shape your own funding.

Maturity — Ten or More People

You are established. The job shifts from proving you should exist to proving what you are worth — and lifting others.

The goal at this stage. Prove the office's value with evidence, choose how you are structured on purpose, and help build up other offices around you.

How the Office Pays For Itself

At this size, funding tends to become a choice you shape rather than a handout you receive. Where you have the evidence, you can credibly argue for three things: keeping and reinvesting a set share of your income; running or reaching a proof-of-concept or seed fund; and making your budget case on proven results rather than stories. The in-house-versus-outside-lawyers question below is also a cost decision at this size. If you have worked through the earlier stages, you are now showing a return, not justifying that you should exist.

Easiest first win. Build a small set of reusable success stories plus a standard set of numbers (measured against how much research money the university spends). Once built, it gives you a ready-made budget defence each year, instead of a scramble each time.

A real example from the region. National University of Singapore (NUS) shows what the established end looks like. Its graduate research incubation programme (GRIP 2.0) has nurtured around 170 start-up teams since 2018, with roughly 100 becoming spin-offs that together raised about SGD 65 million; spin-offs such as Subnero (underwater communications, spun off in 2012) have grown into global specialists; and in recent deals such as the AQSolotl quantum-technology spin-off, the university transferred the IP while taking equity and keeping rights for academic use. Alongside this sits dedicated gap funding for maturing early technologies — the full version of the machinery this section builds toward.



***NUS' graduate research incubation programme (GRIP 2.0)** has nurtured around 170 start-up teams since 2018, with roughly 100 becoming spin-offs that together raised about SGD 65 million; spin-offs such as Subnero (underwater communications, spun off in 2012) have grown into global specialists; and in recent deals such as the AQSolotl quantum-technology spin-off, the university transferred the IP while taking equity and keeping rights for academic use.*

The Problems You Are Likely to Face

Your funding is exposed because you report stories, not numbers.

Where the office describes its work only in words, its budget tends to be easier to cut when money gets tight. Pair the numbers with value and impact measures, as the panel's rules of thumb in Section 1 recommend.

1. Use a standard set of measures on the ASTP KTT metrics model referenced in Section 1: what goes in (inventions reported, money spent), what comes out (patents, licences, spin-offs), and the impact (jobs, products, revenue).

2. Report them against research spending, so comparisons are fair.

3. Keep a few written success stories alongside the numbers.

You know things other offices need, but you are not sharing them.

An established office usually knows things newer offices in the region do not. Where it is not shared, the region as a whole is unlikely to improve — and the office may never grow into the bigger role it could play. (Section 5 sets out what this looks like across the network.)

1. Mentor or train earlier-stage offices.

2. Help build shared regional standards and benchmarks.

3. Treat this as a real part of the job — because in the region, office capacity is often the main thing holding commercialisation back.

You have to decide: draft patents in-house, or pay outside lawyers?

At scale, whether you write patents yourself or hire outside counsel is a genuine cost decision. As Section 1 notes, NSTDA maintains in-house prosecution capability with a team of around thirty; many established offices elsewhere retain outside counsel by design.

1. Look at how many you file and what each one costs.

2. Compare that to the cost of doing it in-house — which generally pays off only above a certain volume.

3. Treat it as a judgement call, not a rule.

How You Are Structured

At this size, your structure is a deliberate choice — for example, a "hub-and-spoke" setup, where one central office provides shared support to smaller units in different faculties or partner institutions. It tends to work best when it matches where the research actually happens across the university.

When to Hire Another Person

When to ask: when a big-picture job — reporting your impact, building up other offices, or drafting patents in-house — is a full role, and not doing it is measurably costing you (budget exposed at review, regional role unfilled, or filing volume high enough to justify in-house drafting).

What you give up: putting senior staff on mentoring other offices or a new in-house patent team pulls them off your own deal flow. The bigger role is valuable, but it is not free.

Try first: resource mentoring and impact-reporting properly instead of squeezing them into people's spare time, and confirm your filing volume before building an in-house patent team.

When you truly need them: when that big-picture job is a steady full-time load and you can show — not just assume — what it costs to leave it undone.

When you have likely outgrown this stage. There is no headcount stage after this one. The work now shifts from growing your own office to lifting the whole region: the offices you mentor become the next generation working through these same stages. From here, your progress is measured beyond your own walls.

Sources For This Section

The stage structure follows the maturity spectrum in Section 1; the operating practice draws on AUTM, ASTP and WIPO (see the Resources Directory). The regional examples: SALYWA — Chulalongkorn University news release, "Chula, Thai Red Cross Society Partner to Bring SALYWA Artificial Saliva to Patients" (March 2026), chula.ac.th. Mahidol University — Virasa, T., "University technology transfer and commercialization: the case of Mahidol University, Thailand" (published academic case study). Universiti Teknologi Malaysia — Harris, H. and Norhashim, M., "University Research, Development & Commercialisation Management: A Malaysian Best Practice Case Study." Universiti Putra Malaysia — Legal 500 briefing, "The Role of Intellectual Property (IP) Policy in the Malaysian Public Sector" (2026). NSTDA — "Technology and Innovation Implementation Programs" and "Industry Support" pages, nstda.or.th. NUS — NUS Enterprise and National Research Foundation joint release on National GRIP (2024); NUS Enterprise start-up story on Subnero; NTU/NUS release on the AQSolotl spin-off (2024). Where this section describes a common pattern rather than a sourced fact, it says so; readers should check each pattern against their own institution.



Section 2

Challenge: Getting Research Out of the Lab

Technology Transfer in ASEAN Today

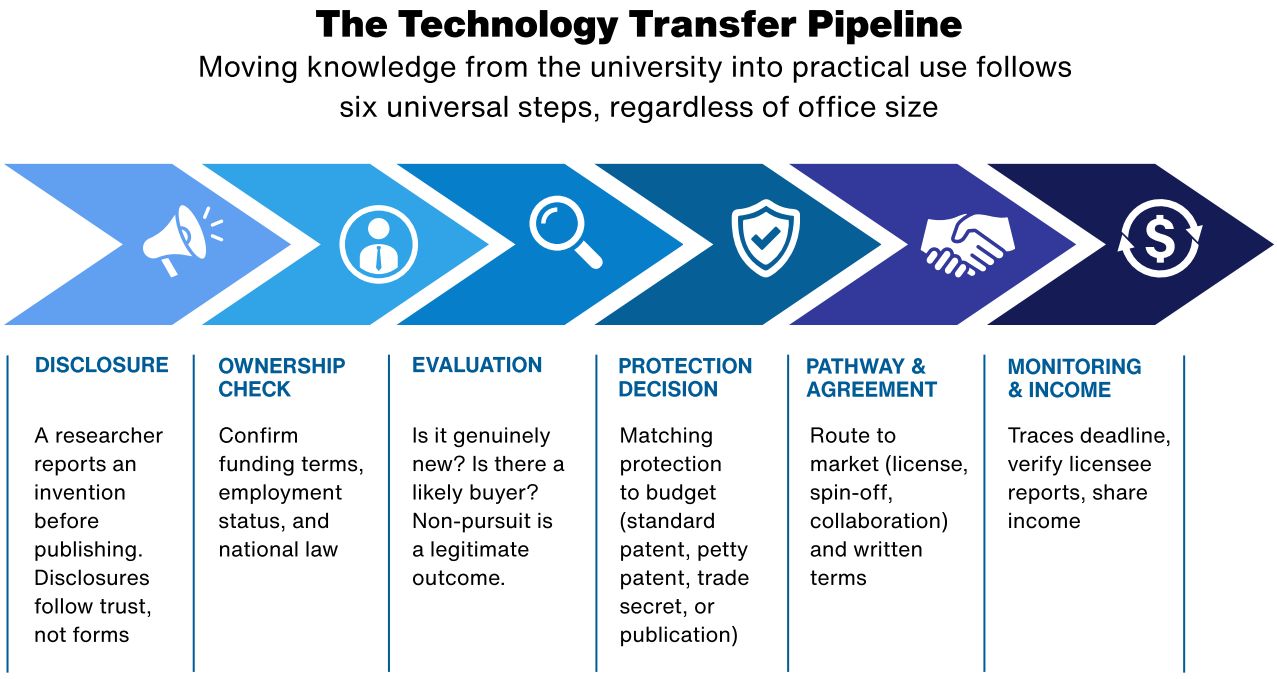


Fig 6. The technology transfer pipeline: six steps from disclosure to monitoring and income.

The Disclosure Gap

The technology transfer pipeline begins when a researcher discloses an invention to the TTO. For many ASEAN institutions, the pipeline stalls at this first step — not because there is no research worth commercializing, but because disclosures arrive infrequently or not at all.

Faculty at most ASEAN universities were recruited mainly to conduct research and teaching. Their career advancement depends on publications nonetheless; institutional practices built around academic freedom and basic research take time to develop as commercialization becomes part of the university's mandate. The WIPO-ASEAN assessment reflected this: of the 137 academic and research institutions surveyed. Practices around disclosure, IP management, and commercialization varied widely, with many institutions still in the process of developing their approaches.

Practitioners across the region have consistently noted that disclosures come through relationships, not systems. A TTO professional who is present in faculty conversations, who understands the research landscape within the institution, and who can connect a researcher's intellectual interests to the possibilities of applied impact, generates deal flow. One illustration of this pattern comes from the SMU. When Dr. Sze Tiam Lin joined SMU in 2023 to lead its Knowledge Transfer and Commercialization function with a two-person team, his priority was meeting

faculty. Within five months, he had structured a licensing deal for an urban logistics technology — originating not from a formal process but from a conversation.

WIPO's global research on incentives aligns with this pattern. The most significant motivators for academic researchers to engage with industry are intellectual rather than financial — the opportunity to work on applied problems, broaden research perspectives, and collaborate with industry partners on projects aligned with their academic interests. Framing commercialisation as an alternative pathway to research impact, rather than as additionaladministrative work, appears to be more effective at generating faculty engagement than financial incentives or institutional mandates.



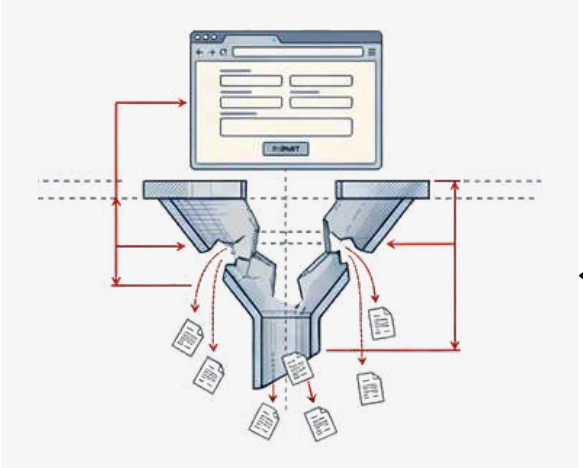
From the Network

During the AUN-UIE webinar, a question from the audience asked whether many ASEAN universities are treating innovation primarily as a branding and ranking exercise rather than building genuine systems for producing scalable impact. The question reflects a tension that practitioners at multiple institutions recognise: the institutional language around innovation and commercialisation has advanced faster than the underlying infrastructure and incentive structures that would make it operational.

The Disclosure Gap

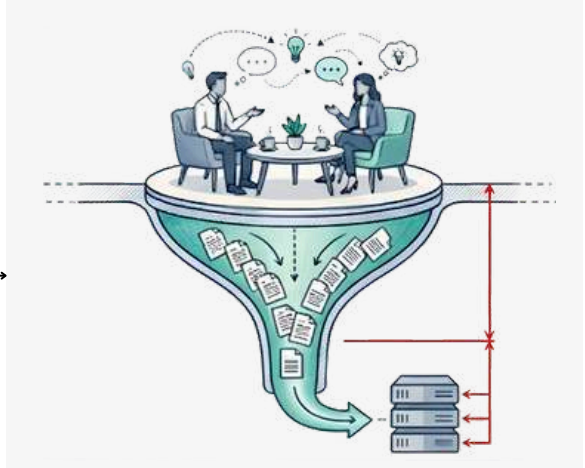
Disclosures follow trust and relationships, not administrative forms

The Form on a Website



Fails because academic culture rewards publication over commercialisation. Treated as administrative friction.

The TTO Officer in the Faculty Lounge



Succeeds because commercialisation is framed as an alternative pathway to research impact. E.g. SMU's two-person team structured a licensing deal within five months through facaulty conversations, not process.

Fig 7. The disclosure gap — disclosures follow trust, not forms.

The Evaluation Gap

When a disclosure arrives, the TTO must assess whether and how to pursue it — a decision with real financial consequences in environments where every patent filing represents a significant share of the annual budget. The evaluation draws on several interacting dimensions: novelty and technical strength, plausibility of commercial demand, the researcher's willingness to engage, and the TTO's capacity to manage the opportunity through to a transaction.

The ASEAN-specific complication is that evaluation frequently occurs with thin market intelligence. Industry networks are less dense than in North America or Europe, and there is no regional equivalent of AUTM's annual licensing survey — a gap addressed in Section 5. This is where AI-assisted tools can provide the most immediate value to under-resourced offices, a subject addressed in Section 6.

Choosing a Pathway

The pathways available after evaluation — licensing, spin-off, research collaboration, and deliberate non-pursuit — are familiar to most TTO professionals. The challenge lies in matching the right pathway to the specific combination of technology, researcher, market, and institutional capacity at hand. Several patterns observed across ASEAN diverge from assumptions in much of the international literature.

Research collaboration with industry as a primary pathway. In the AUTM model, licensing and spin-offs are the headline outcomes. Across much of ASEAN, where university research is frequently early-stage and industry partners may have limited experience licensing from academic institutions,collaborative research agreements often represent the most productive first engagement. They advance the technology, build the relationship, and establishtrust without requiring premature commercial commitment. TTOs that treat collaboration as a legitimate outcome rather than a preliminary step toward a licensing deal report that it frequently produces the most durable partnerships.

"IP alone is just a transaction, not the real impact — the real impact is helping researchers find industry collaborators."

— Dr. Sze Tiam Lin, Senior Licensing Advisor, SMU Institute of Innovation and Entrepreneurship, speaking at the AUN-UIE webinar



The spin-off equity trap. When a faculty member starts a company based on their research, the IP licensing terms negotiated at that stage have consequences extending years into the future. As documented in the AUN-UIE Funding Playbook (Edition 1), investors reviewing university spin-offs consistently flag equity stakes above ten percent, non-dilutable terms, and unresolved IP licenses as factors that reduce or eliminate their interest. Terms that appear favourable to the university at the moment of the spin-off can constrain the company's fundraising prospects for the duration of its growth trajectory.

Non-pursuit as stewardship. Filing a patent that will never be licensed consumes funds, staff time, and renewal fees over years. In resource-constrained environments, the decision not to pursue is often the most responsible allocation of institutional resources. The challenge lies in communicating this in a way that preserves the relationship and encourages future disclosures — from the researcher in question and from their colleagues.

Alternative transfer mechanisms. Not all valuable knowledge transfer requires patent protection. Publication establishes prior art. Open licensing, contribution to standards, and consulting arrangements are all channels through which university knowledge reaches practical use. A question raised during the webinar asked whether ASEAN could benefit more from open innovation models than from patent strategies in fast-moving fields such as AI, where examination timelines of three to five years may exceed the useful life of the technology. The appropriate IP strategy depends on the domain, the competitive dynamics, and the pace of change.



Contract research, consulting, and services as the entry point. A pattern consistently observed across ASEAN is that the first university-industry transaction is rarely a patent licence. It is a material transfer agreement, a consulting engagement, or a contract research project. These generate revenue, build industry relationships, demonstrate value to university leadership, and create the conditions under which IP-based transactions may eventually become possible. The ASTP KTT Metrics Report (2025) explicitly includes research agreements, consulting, and continuing professional development alongside IP commercialisation as distinct knowledge transfer channels. For ASEAN TTOs at earlier stages of development, these service-based engagements represent a legitimate and often primary pathway through which university knowledge reaches practical application. The UK Lambert Toolkit and WIPO's Technology Transfer Agreements resource provide model frameworks for structuring such collaborations.



National Infrastructure

In Malaysia, MRANTI manages sandbox and SRF programs on behalf of the Ministry of Science, providing early-stage validation infrastructure and market access support. In Thailand, NSTDA operates two distinct technology transfer divisions — one focused on commercial licensing and one on transfer for community and societal benefit. In Singapore, translational research infrastructure connects university research to industry through structured co-funding programs. For TTOs without direct access to such infrastructure, awareness of what exists across the region is itself a resource.

The Pipeline Decision Framework

The goal of evolution is to match the researcher's intent with the most viable commercial pathway

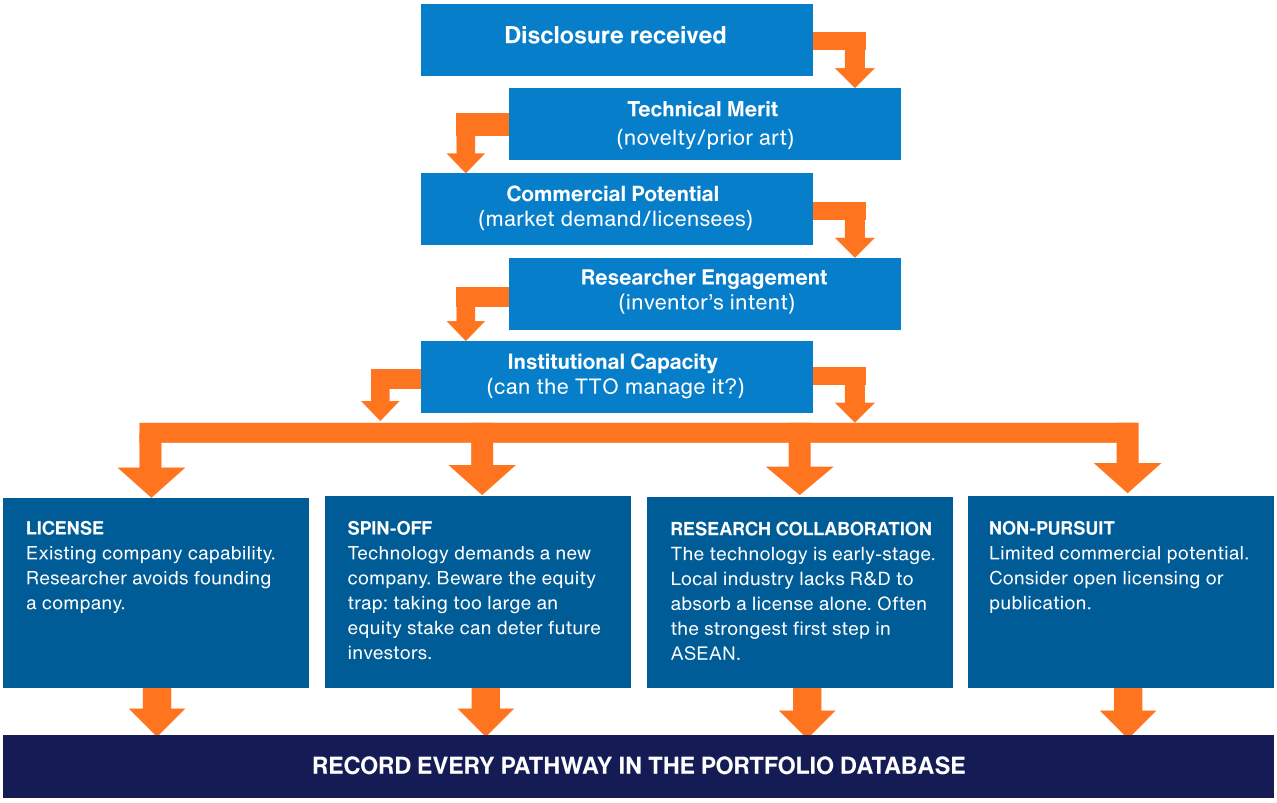


Fig 8. The pipeline decision framework — matching researcher intent to the most viable commercial pathway.

Data as Infrastructure

As a TTO's portfolio grows, the quality of its data infrastructure becomes increasingly consequential. Disclosures, filings, active agreements, revenue, and industry contacts tracked in structured form allow the office to identify patterns and allocate resources accordingly. This same data is required for impact reporting and determines whether the office can later participate in regional data-sharing initiatives or benefit from AI-augmented tools. Practitioners consistently note that establishing disciplined data practices early — before the portfolio seems large enough to warrant it — is considerably more productive than retroactively organising years of accumulated records.

PIPELINE DECISION FRAMEWORK

Disclosure received → Meet the researcher → Understand technology, intent, and context

EVALUATE	
Technical Merit | Novelty, inventive step, prior art position	
Commercial Potential | Market demand, identifiable licensees, competitive landscape	
Researcher Engagement | Inventor's intent and willingness to participate	
Institutional Capacity | Can the TTO manage this through to transaction?	

PATHWAY		
License	Existing company has capability and interest. Researcher does not want to spin off.	*Exclusive / non-exclusive / field-of-use*
Spin-off	Technology best developed as foundation of new company. Researcher wants to create spin-off.	*Equity terms → see Funding Playbook*
Research Collaboration	Technology early-stage. Industry partner interested but not ready to license.	*Often the strongest first step in ASEAN*
Non-Pursuit	Limited commercial potential, or exceeds institutional capacity. Communicate constructively.	*Consider publication or open source*

ll pathways → Record in portfolio database → Feeds future evaluation and reporting



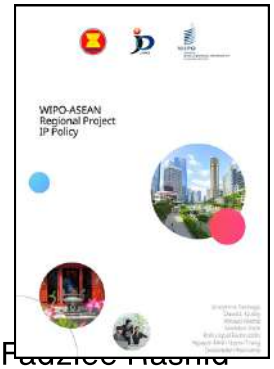
Section 3A

Challenge: The Regulatory Patchwork

Technology Transfer in ASEAN Today

Why Regulation Shapes Practice

The regulatory framework governing each institution — and, for cross-border work, the frameworks governing partner institutions — directly shape how technology transfer transactions are structured. The answer to who owns an invention produced at a university, with public funding, by a researcher under a specific employment contract, varies significantly across ASEAN.



The WIPO-ASEAN Regional Project on Institutional IP Policy, completed in 2023, provides the most comprehensive assessment available. The project team reviewed 58 laws and regulations, surveyed 34 government agencies and 137 academic and research institutions, and analysed over 60 institutional IP policies across all ten member states. The regional experts included Dr. Orakanoke Phanraksa of NSTDA (Thailand and Cambodia), Ma Mun Thoh and Karen Teo of NUS (Singapore and Lao PDR), Rofiq Iqbal of ITB (Indonesia), Ahmad Fadzlee Hashid (Malaysia and Myanmar), Nguyen Minh Huyen Trang of VNU (Vietnam), and lead expert Josephine Santiago, former Director General of the IP Office of the Philippines (Philippines and Brunei).

Three Models Across the Region

Legislated ownership transfer. The Philippines enacted Republic Act 10055 in 2009 — the first Bayh-Dole-style legislation in ASEAN — allowing universities rather than the government to patent publicly funded research. With over fifteen years of implementation, the Philippines offers the region's longest track record and contributed the largest number of institutional IP policies (36) to the WIPO assessment. Thailand followed with the TRIUP Act, which came into force on May 7, 2022, modeled after the Bayh-Dole Act and similar legislation in Japan and Korea. Under both frameworks, the practical significance is the same: clearing the joint-ownership complications that previously slowed licensing negotiations with the private sector.

Institutional autonomy without national legislation. Malaysia and Singapore rely on institutional policies and employment law rather than national Bayh-Dole equivalents. In Malaysia, each university sets its own terms, creating flexibility but also variability across the system. In Singapore, IP generated in the course of employment generally belongs to the institution, though some institutional policies are confidential, limiting external analysis. In Indonesia, public research institutions hold and exercise IP rights, with technology transfer centres established at virtually all major institutions.

Emerging or developing frameworks.

As a general legal baseline across ASEAN, institutional IP relies on national IP and employment laws; however, only the Philippines and Thailand have enacted Bayh-Dole-style legislation to facilitate ownership transfer.

Across other jurisdictions, frameworks remain emerging or developing. In Vietnam, many institutions have issued policies, but these were under revision to comply with IP Law amendments effective January 1, 2023, building on foundations set by the 2017 Law on Technology Transfer. Myanmar enacted a Science, Technology and Innovation Law in 2018, with supporting IP laws passed in 2019 and implementation ongoing. Cambodia, Lao PDR, and Myanmar did not have available or did not submit institutional IP policies for review during the WIPO assessment.

The survey data from the WIPO assessment reflects these collection networks rather than comparative ecosystem maturity: institutional IP policies submitted ranged from 36 (Philippines) to 12 (Malaysia), 8 (Indonesia), and 2 each (Brunei and Singapore), while Thailand's policies were predominantly in Thai and not submitted to WIPO.

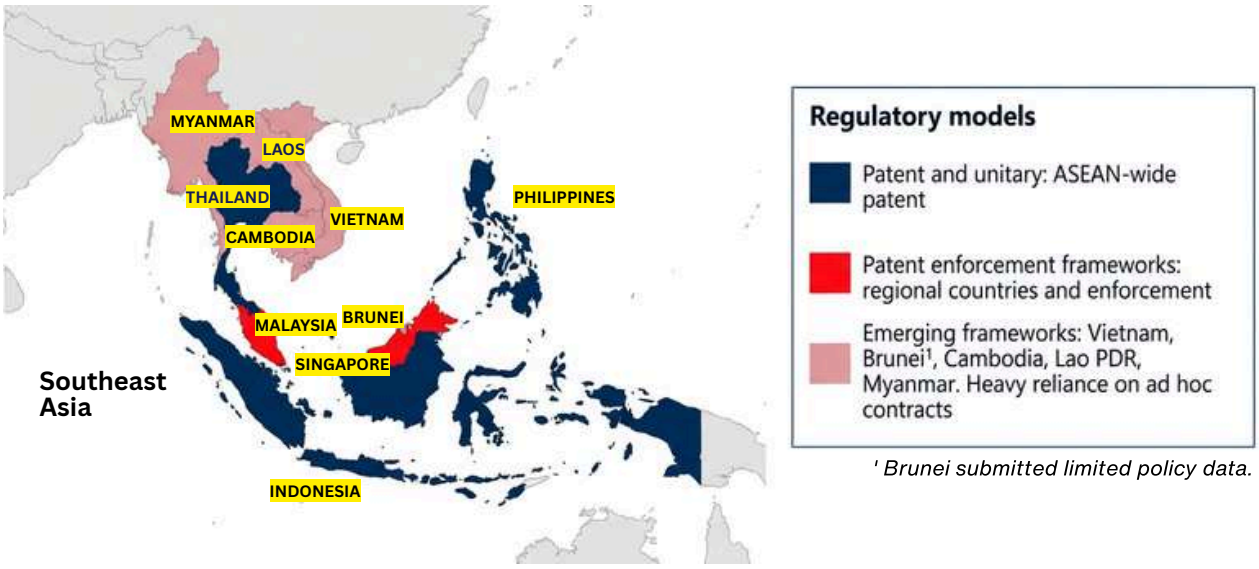
Spotlight: Thailand's TRIUP Act — What It Changes for Your Office

What. The Research and Innovation Utilization Promotion Act, in force 7 May 2022 — Thailand's Bayh-Dole-style law, following the Philippines' RA 10055 (2009).

What it changes. Inventions made with government funding can belong to the institution that received the funding rather than the funder — clearing the joint-ownership tangle that previously slowed private-sector deals. The catch: ownership is not automatic. The grantee must disclose the result and submit a commercialisation or utilisation plan within the prescribed period; miss it, and ownership reverts to the funding agency. Reserved government powers go further than the US model — the oversight committee can order transfer of ownership on fair compensation, and compulsory licensing is possible in a national emergency. If the institution does not claim it, then the right passes to the inventors.

Key insight. Because funding agreements now incorporate the Act, every grantee must work more closely with its TTO. Crucially, the required plan can be a utilisation plan, not a signed commercial deal — giving offices without a licensee a compliant path to claim ownership.

THE REGULATORY PATCHWORK: WHO OWNS PUBLICLY FUNDED RESEARCH?



Core insight: There is no ASEAN-wide patent and no regional enforcement default.

Fig 9. The regulatory patchwork: three models of ownership over publicly funded research.

Cross-Border Implications

As cross-border collaboration increases, regulatory diversity requires careful navigation. A Thai university that owns its government-funded IP under the TRIUP Act is in a different negotiating position from a Malaysian university operating under institutional policy, or a Vietnamese institution whose framework is being updated. Language adds complexity — AI-assisted translation can support initial drafts, but human verification remains essential for patent filings. The development of regional licensing benchmarks, discussed further in Section 5, would help address these coordination challenges.

Recent Developments

The regulatory landscape continues to evolve. ASEAN adopted the IP Rights Action Plan 2026–2030 in December 2025, launched the ASPEC+ programme in April 2026, and published an ASEAN IP Experts Directory in January 2026. WIPO continues to provide mentorship-based support for institutional IP policy development, focusing on the less experienced member states. Forthcoming resources include a general guide to IP valuation, sector-specific booklets, and the Institutional Capability Framework. The WIPO-ASEAN IP Policy Report, the ASEAN IP Portal (aseanip.org), and the ASEAN IP Experts Directory are recommended starting points for country-specific information. This section provides an overview, not legal advice.



Section 3B

When IP Crosses Borders: Why Spin-offs Face Added Complexity in Regional Scaling

Technology Transfer in ASEAN Today



A technology developed at an ASEAN university and spun into a company encounters a consideration that its counterparts in the United States or within a single European market do not. To scale across Southeast Asia, it operates across jurisdictions that differ in two distinct respects: in who owns publicly funded research, and in how reliably a right can be protected once held. The same invention may carry a different owner, a different set of reserved government rights, and a different enforcement profile depending on the jurisdiction in which it sits. For a founder raising capital or a TTO structuring a licence, these are not peripheral legal matters; they bear directly on whether an arrangement can be concluded and on the value at which it is priced.

This dynamic has an established parallel in the regional literature. Research on intellectual property exhaustion and the free movement of goods in ASEAN has examined how regulatory divergence among member states shapes cross-border commercial activity, a question recognised within the broader work on regional economic integration. The ownership and enforcement of publicly funded research present a comparable pattern, though it has received less structured treatment. This section sets out the principal differences across two dimensions — ownership and enforcement — considers why they add complexity to regional scaling, and offers approaches practitioners may use to work within them.

Part 1: Who Owns the Research

A spectrum of approaches. Most ASEAN countries have moved, to varying degrees, toward the principle established by the United States' Bayh-Dole Act of 1980: that the institution performing publicly funded research, rather than the funding agency, may own and commercialise the resulting intellectual property. Prior to that change, IP from US federally funded research defaulted to the government, and fewer than five percent of approximately 28,000 government-held patents were commercially licensed. The Bayh-Dole framework altered this default and has since informed legislation across high-income and, more recently, middle-income economies. ASEAN member states sit at different points along this curve, reflecting their differing institutional histories and policy priorities.

Two questions locate each jurisdiction. The first is whether ownership rests with the institution or with the government. The second is whether the rule is established in statute — providing a predictable default when documentation is silent — or through policy and contract, which offers flexibility but depends on the quality of the drafting in each case.

Thailand and the Philippines: institutional ownership in statute. Both countries have set the institutional-ownership principle in binding law. The Philippines enacted Republic Act 10055, the Technology Transfer Act, in 2009. Thailand's TRIUP Act came into force on 7 May 2022, modelled on the Bayh-Dole Act and on comparable legislation in Japan and Korea. Under the TRIUP Act, inventions made with government funding belong to the institution that received the funding, provided the recipient discloses the result and submits a commercialisation plan within the prescribed period; absent that disclosure, ownership returns to the funding agency. Because ownership is determined by statute, it holds even where documentation is silent, providing clarity as to who is entitled to grant rights.

Singapore: a comparable outcome through policy. Singapore arrives at a similar position without dedicated legislation. Intellectual property generally remains with the research performer through the National IP Protocol, in force since April 2018, together with funding-agency terms and institutional contracts. This affords flexibility and case-by-case tailoring. It also places greater weight on the drafting of each agreement, since there is no statutory default to govern a question the contract leaves unaddressed.



Indonesia: a different allocation. Indonesia's framework reflects a different policy choice. Under its 2019 Law on the National System of Science and Technology, intellectual property and primary data from state-funded research are directed toward the central government, with institutions managing rather than holding the resulting IP. This allocation, a considered approach to the stewardship of publicly funded research, means that the institution performing the work may not be the party entitled to license it, and arrangements should be structured with that understanding from the outset.

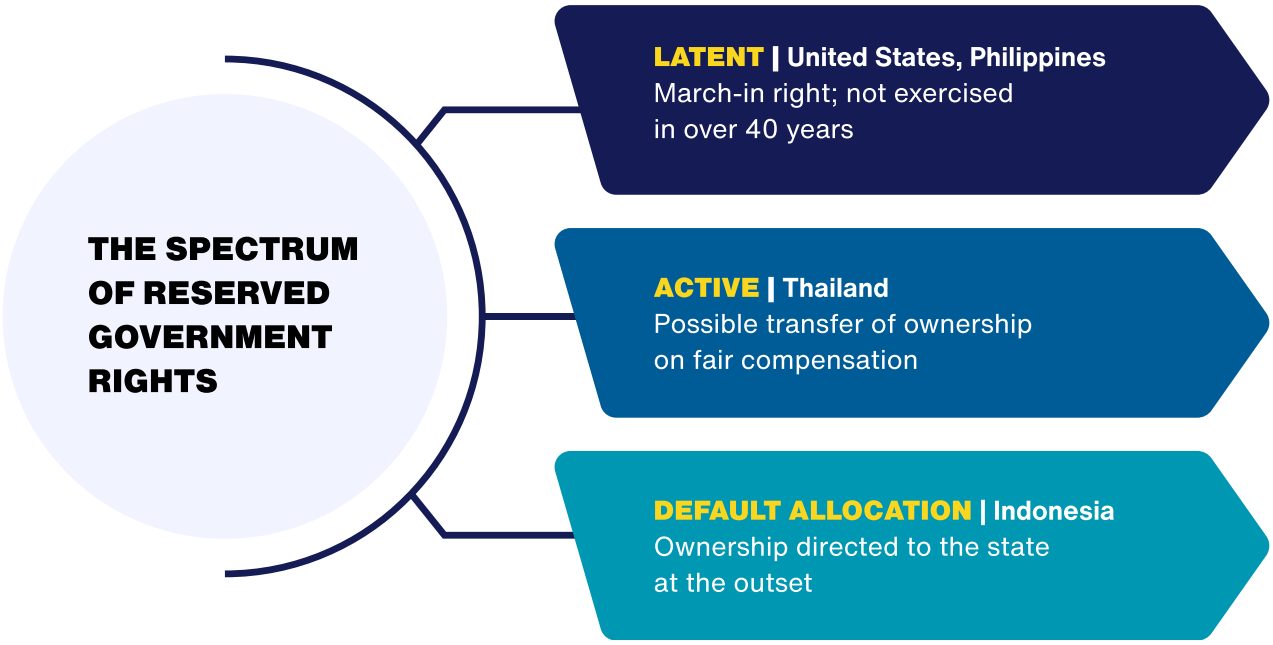
The remaining ASEAN member states are at earlier stages of framework development, as described in Section 3.

OWNERSHIP OF PUBLICLY FUNDED RESEARCH ACROSS FIVE JURISDICTIONS

	United States (template)	Philippines	Thailand	Singapore	Indonesia
Governing instrument	Statute — Bayh-Dole Act (1980)	Statute — RA 10055 (2009)	Statute — TRIUP Act (in force 2022)	Policy — National IP Protocol (2018)	Statute — Law 11/2019
Default ownership	Performer may elect title; vests first in inventor	Generally vests in the performing institution	Belongs to institutions and inventors	Generally remains with the performer	Directed to central government; institutions manage
Disclosure trigger	Disclose to agency; file within one year of election	Notify funding agency; periodic reporting	Disclose with commercialisation plan or reverts	Per funding agreement and Protocol	Mandatory transfer; data submitted to the state
Government reserved / step-in rights	Non-exclusive licence; march-in (never exercised)	Government use; compulsory licensing; emergency assumption	Delayed march-in; possible transfer-back on compensation	Royalty-free non-exclusive use right reserved	State retention built into the default allocation
Inventor share	Mandatory share to inventors (non-profits)	Per institutional policy and statute	Set by the STI Council Regulation 2022 and implemented by institutional policy	Set by institutional IP policy	Profit-sharing required, esp. foreign-funded

Comparison prepared for this playbook from national legislation and practitioner commentary. For general guidance only; not legal advice.

The spectrum of reserved government rights. Every Bayh-Dole-style framework reserves certain rights for the government, but these rights differ in legal force — ranging from a power that is rarely exercised to one that can transfer ownership. In the United States and the Philippines, the government's "march-in" right permits it to require the grant of a licence under defined conditions; in more than forty years, no US federal agency has exercised this right, and it remains a latent provision rather than an active constraint. Thailand's framework extends further: the Science, Research and Innovation Promotion Committee may order the transfer of ownership to a government agency, upon payment of fair compensation, where it determines this would better serve the public benefit, and the Prime Minister may order compulsory licensing in a national emergency. In Indonesia, government retention operates as part of the default allocation. These provisions differ in kind, not merely in degree, and for a founder or investor assessing a technology, the difference between a latent provision and an active one is a material consideration in pricing.



The mechanics that give rise to disputes. Most cross-border disputes arise not from the headline ownership rule but from two distinctions that a comparison of ownership defaults does not capture. The first is the difference between background and foreground intellectual property — what each party brings to a project versus what is created during the funded work. Statutory defaults typically govern only foreground IP, and difficulties arise when foreground results cannot be used without a licence to background IP that the agreement did not address. The second concerns student-created IP: students are frequently not employees, and the assignment provisions that capture staff inventions may not extend to them, so a student-founded spin-out may find that its chain of title passes through individuals from whom the institution did not obtain an assignment.

Both patterns are well documented. In Stanford v. Roche (2011), the United States Supreme Court held that title to an invention vest first in the inventor, and that a researcher's earlier assignment to a company took precedence over the university's institutional rights. Stanford lost control of patents it had assumed it owned — not because the institutional-ownership principle failed, but because an earlier and more carefully drafted assignment displaced it. The same consideration applies to cross-border collaborations in ASEAN, where one party's statutory default may govern a matter that another party's contract leaves open.



Fig 10. The spectrum of reserved government rights: latent, active, and default allocation.

Part 2: How the Right Is Protected

Ownership establishes who holds a right. A separate set of differences governs how reliably that right can be protected once held — and for a spin-off entering new markets, this second dimension is as consequential as the first.

Territoriality is the structural root. Intellectual property rights are territorial: a patent or trademark is enforceable only in the country where it has been registered. There is no ASEAN-wide patent and no regional enforcement court. As observers of regional integration have noted, the development of consolidated cross-border dispute-resolution mechanisms sits in tension with the principles of non-interference and national sovereignty that shape regional cooperation, and so disputes over infringement proceed in the courts of each member state where the IP is protected. A spin-off scaling across the region must therefore secure and defend its rights country by country. This is the structural reason regional scaling carries a degree of complexity that scaling within a single jurisdiction does not.

Enforcement environments differ in strength. Independent indices provide an indicative picture of the variation. The International IP Index published by the US Chamber of Commerce, which scores economies across categories including patents, enforcement, and treaty participation, places Singapore among the strongest frameworks globally, with other ASEAN members positioned across a considerable range below it. Such indices reflect particular methodologiesand the perspective of the bodies that compile them and are best read as one input among several rather than a definitive ranking. What they consistently indicate is that the enforcement environment a spin-off encounters can differ appreciably from one ASEAN market to the next — a difference that bears on how readily an asset can be defended once the company expands into a given jurisdiction.

Procedural divergence. The differences extend beyond whether a right exists to how it is enforced in practice. The time required to obtain a first-instance court decision is one illustration. Indonesian law prescribes a statutory limit of 180 days for first-instance patent proceedings, with the result that decisions are generally reached within approximately six months; in certain other jurisdictions, comparable proceedings may extend beyond two years. Further differences arise in evidentiary requirements, the basis on which damages are calculated, and the circumstances in which injunctive relief is available. A single instance of infringement may accordingly be resolved within months in one jurisdiction and over a substantially longer period in another, with corresponding implications for the cost and predictability of enforcement.

Patentability and disclosure rules differ as well. What may be patented, and the conditions under which protection is preserved, are not uniform across the region. Indonesia's Law No. 65 of 2024, effective October 2024, expanded the scope of patentable subject matter to include computer-implemented inventions and extended the patent disclosure grace period from six to twelve months. A spin-off relying on a public disclosure — a conference presentation or a publication — that preserves patentability in one jurisdiction may find that the same disclosure has affected it in another. For a technology intended to scale regionally, the sequence and timing of disclosure and filing is a matter to be planned deliberately rather than addressed after the fact.

The landscape is developing. These differences describe a moving picture rather than a fixed one. Recent years have seen considerable legislative activity across the region, including Indonesia's 2024 patent law, Thailand's 2024 amendments to its Copyright Act in support of treaty accession, and Vietnam's 2023 amendments to its IP Law. Regional IP filings have grown markedly over the past decade, and several ASEAN economies are recognised as performing above expectation for their level of development. The harmonisation initiatives described elsewhere in this playbook — the ASEAN IP Rights Action Plan, the ASEAN Patent Examination Co-operation programme, the ASEAN IP Portal, and the IP Experts Directory — are directed precisely at reducing the friction this section describes.

***For a technology intended to scale regionally**, the sequence and timing of disclosure and filing is a matter to be planned deliberately rather than addressed after the fact.*



Part 3: The Effect on Valuation, and Working Within the Differences



Valuation. Certainty of ownership and reliability of enforcement are not solely legal matters; together they form an input to price. The same invention may carry different risk-adjusted values across jurisdictions. The statutory clarity of Thailand and the Philippines provides a licensee with confidence as to who may grant rights, though a transfer-back or compulsory-licence provision is a factor an investor will weigh. Singapore's policy-led approach can support value through tailored terms, while requiring that each agreement be verified rather than assessed against a known statute. An allocation that directs ownership to the state affects private valuation where the performing institution may not hold the rights to license. Layered onto these ownership considerations, the strength and speed of enforcement in each target market shape how readily the asset can be defended once deployed there. For a spin-off seeking to expand across the region, a single technology may therefore be valued differently in different jurisdictions, and an investor will account for each reserved right, each enforcement uncertainty, and each unresolved question accordingly.[8]

A regional response to this fragmentation is now emerging on the valuation side specifically: under the second phase of the Singapore IP Strategy 2030, IPOS is convening an international panel to issue IA/IP valuation guidelines (expected mid-2026) intended for wide cross-border adoption, alongside its Intangibles Disclosure Framework and the FIND benchmarking initiative with regional partners including the Stock Exchange of Thailand. If these standards gain traction, they could narrow the jurisdiction-by-jurisdiction valuation gap this section describes, though, as policy instruments rather than law; their effect will depend on adoption.[9]



Working within the differences. The consistent lesson is that no shared regional default exists for either ownership or enforcement and proceeding as though one does is a common source of difficulty. Practitioners structuring cross-border arrangements may reduce risk by observing several practices:

- Establishing ownership explicitly in writing for each jurisdiction, rather than relying on an assumed common position.
- Identifying background and foreground IP, together with any student contributors, at the outset of a collaboration.
- Confirming the reserved and transfer-back powers applicable in each country and reflecting them in the valuation.
- Honouring mandatory inventor revenue shares in every onward licence, as these obligations travel with the IP.
- Planning the sequence of public disclosure and patent filing deliberately, recognising that grace periods and patentability criteria differ, and making target-market filing decisions before disclosure where possible.
- Using regional work-sharing mechanisms such as the ASEAN Patent Examination Co-operation programme to make multi-country filing more efficient.
- Maintaining thorough documentation, recognising that where a statutory jurisdiction and a contract-led one meet, the more carefully documented position tends to prevail where defaults differ.

For spin-offs in particular, resolving the chain of title and securing a considered, multi-jurisdiction filing strategy before raising capital — rather than during due diligence — allows the company to present a single, defensible IP position to investors, even where the underlying technology touches several jurisdictions and several enforcement environments.





Section 4

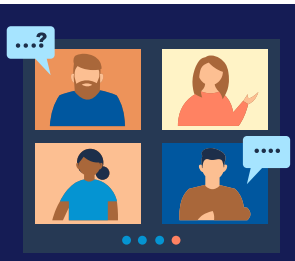
Challenge: Building and Keeping the Team

Technology Transfer in ASEAN Today

A Function Without a Career Structure

Navigating the regulatory landscape described in the preceding section requires professional competency that takes years to develop. Yet in most ASEAN countries, the technology transfer function has no formal professional recognition. There is no civil service classification for technology transfer managers, no standardised job description, and no defined career progression within the function.

The consequences are operational. When TTO positions are classified as general administrative roles, they are subject to rotation policies. In Malaysia, the pattern is well documented: managers rotate every two or three years, institutional knowledge departs, and the replacement begins without accumulated context. Faculty who had developed working relationships with the previous manager must rebuild trust with someone new. The WIPO-ASEAN assessment documented limited professional development infrastructure for TTO staff across the region, and a regional expert from Thailand under the WIPO's Institutional IP Policy observed from her work with WIPO that new TTOs are frequently staffed by academics with adjacent experience — patent filing, research collaboration — rather than professionals trained in the full scope of technology transfer practice.



From the Network

During the webinar, a question from the audience asked whether TTO officers are typically academics with part-time tech transfer responsibilities or full-time dedicated professionals. The responses from practitioners across Singapore, Thailand, and Malaysia converged: the function requires full-time dedication and long-term tenure to develop the relationships and judgment that effective technology transfer depends on.

Available Training



The training landscape has improved in recent years. WIPO's Lab-to-Market Program provides ATTP-accredited training and nine months of mentoring for ASEAN practitioners. The TISC Staff Certification Program supports professional standardisation across the global network. The Fulbright IP and Technology Transfer Program, implemented by Fulbright University Vietnam, trains researchers and innovators from thirteen Indo-Pacific countries in establishing or optimising TTOs. National associations — ITMA in Malaysia, Thailand's recently established Association of IP and Technology Transfer Professionals (AITP), Singapore NRF is studying the formation of a national TTO network — provide peer learning that complements formal training. ATTP's Registered Technology Transfer Professional (RTTP) designation offers an internationally recognised credential based on demonstrated experience. These programs build individual competency. They do not, however, create the institutional conditions — career tracks, performance criteria, salary structures, governance positioning — that allow competency to be retained and compounded over time.

Extending Capacity

Two approaches have gained traction without requiring additional permanent staff. Faculty rotation into the TTO for six to twelve months provides additional capacity during the rotation and builds a network of faculty who understand and can advocate for the function when they return to their departments. The student population — particularly graduate students with analytical and research skills — represents a resource that multiple practitioners identified as under-utilised. Structured internships embedded in TTO operations extend capacity while creating a pipeline of individuals who may choose to pursue the profession.

The Structural Question

The practitioner perspectives in this playbook point to a consistent observation: training and creative staffing approaches extend capacity but do not address the conditions that constrain TTO development at its foundation. Job classifications are distinct from general administration, career progression within the function, performance criteria calibrated to the nature of the work, and governance structures that position the TTO as a strategic function — these require decisions by university leadership, boards, civil service commissions, and national ministries. The role of the practitioner community, through networks such as ITMA, Malaysia, AToP, the Philippines, AITP, Thailand, and their counterparts across the region, to build the evidence base — documenting outcomes, costs of turnover, and the operational record of what works — that supports these decisions.

Making the Case to Leadership

Practitioners across the region face a common challenge: the decisions that would most improve their operating conditions — permanent staffing, dedicated budgets, governance recognition — are made by people who may not fully understand what the TTO does or why it requires specialised investment. Making that case effectively requires framing it in terms that resonate with institutional priorities. Several approaches have been observed across different contexts.

The benchmark argument. Across the AUTM and ASTP datasets, academic institutions spend on average 0.6% of their research budgets on technology transfer operations. A university with $50 million in annual research expenditure would, by this benchmark, allocate approximately $300,000 to its TTO. Most ASEAN institutions spend substantially less. Presenting this ratio to leadership — alongside the institution's own research expenditure figure — provides a concrete, externally validated reference point for discussing resource allocation.

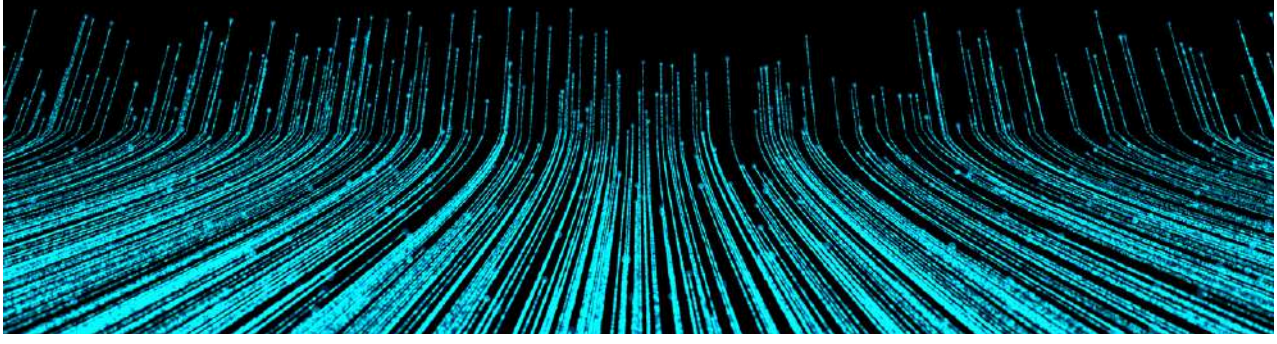
The risk argument. Without an IP policy and a functioning TTO, the university is exposed to risks that are often invisible until a problem arises: faculty commercialising without institutional knowledge, IP ownership disputes with industry partners or funding agencies, and potential loss of government-funded IP through non-compliance with disclosure requirements under legislation such as Thailand's TRIUP Act or the Philippines' RA 10055. For compliance-minded leadership, the TTO is a risk-management function as much as a revenue-generation one.

The revenue argument — positioned carefully. Licensing revenue is real but takes years to materialise. Promising near-term returns from a newly established TTO sets expectations that cannot be met and risks undermining credibility. A more defensible version: contract research and consulting revenue can be tracked and attributed to the TTO within one to two years, providing early evidence base while IP licensing outcomes develop over a longer horizon.

The ranking argument. QS, Times Higher Education, and other ranking systems increasingly incorporate patent metrics and industry income. For institutions where ranking matters to leadership, the TTO contributes directly to metrics they already monitor.

The peer argument. Benchmarking against comparable institutions is often more persuasive than global data. Identifying three to five peer universities in the region that have dedicated TTOs, and summarising what those offices have achieved, provides leadership with a concrete reference point and a competitive rationale.

Without an IP policy and a functioning TTO*, *the university is exposed to risks that are often invisible until a problem arises: faculty commercialising without institutional knowledge, IP ownership disputes with industry partners or funding agencies, and potential loss of government-funded IP through non-compliance with disclosure requirements under legislation such as Thailand's TRIUP Act or the Philippines' RA 10055. For compliance-minded leadership, the TTO is a risk-management function as much as a revenue-generation one.*



**TTO - TECHNOLOGY TRANSFER OFFICE*

SECURING THE MANDATE: MAKING THE CASE TO LEADERSHIP

Takeaway: Translate TTO operations into the specific priorities and metrics that university leadership actually cares about.

THE ARGUMENT	THE LEADERSHIP PRIORITY	THE STRATEGIC TRANSLATION
The Argument	Map to institutional research experience	Global average: institutions spend about 0.6% of research expenditure on TTO operations. Where does yours sit?
The Risk Argument	Map to compliance and liability	The TTO acts as a compliance shield against the loss of government-funded IP due to missed disclosure deadlines.
The Revenue Argument	Map to financial sustainability	Set realistic timelines: contract research yields near-term revenue; patent licensing takes years.
The Ranking Argument	Map to prestige	Supports institutional commercialisation KPIs through patent output and industry income.
The Peer Argument	Map to regional competitiveness	Compare against 3-5 regional benchmark institutions rather than Western outliers.

Fig 11. Making the case to leadership — five arguments for the TTO.





Section 5

Challenge: Scaling Through Community

Technology Transfer in ASEAN Today

The Resource Arithmetic

The challenges described in the preceding sections share a structural feature: the resources required to address them exceed what most individual ASEAN TTOs possess. A two-person office cannot build its own patent prosecution capability, industry intelligence network, licensing benchmarks, and training program. The technology transfer profession in other regions developed through shared infrastructure — AUTM was founded in 1974, when most US university TTOs were small and uncertain of their mandate, and provided the training, data, and peer relationships that allowed offices to develop faster collectively than any could have alone. Its annual licensing survey, published since 1991, gave every participant a baseline. The ASEAN region has no equivalent.

How Networks Create Operational Value

Regulatory navigation. A Malaysian TTO considering a licence to a Thai company needs to understand how the TRIUP Act affects the transaction. The most efficient path is a conversation with a Thai counterpart who has structured similar deals. The WIPO-ASEAN assessment created the analytical foundation; networks such as AUN-UIE and the national associations provide the relationship layer that allows a practitioner to ask a specific question of a peer in another country.

Deal structuring. A TTO negotiating its first licensing agreement benefits from seeing how similar deals have been structured elsewhere. Royalty rates, milestone structures, exclusivity terms, and termination clauses require judgment informed by experience. In North America, AUTM's survey provides statistical benchmarks. In ASEAN, the most relevant knowledge is held by practitioners who have done deals in comparable contexts — and accessing it requires a network relationship.

Market intelligence. Evaluating a disclosure requires understanding of the commercial landscape for the technology. Established TTOs maintain industry contacts built over years. A new TTO does not. A network that enables technology-market queries across institutions — even informally — extends each participant's reach. Dr. Sze Tiam Lin noted that if individual TTOs maintained clean databases of industry contacts and technology portfolios, the collective network could surface matches that currently depend entirely on personal relationships.

Professional sustainability. An isolated TTO professional with no peer community is more likely to burn out and leave the field. A professional connected to others facing similar challenges has both practical resources and professional identity that make the work sustainable.

Shared Infrastructure Worth Building

Three specific pieces of shared infrastructure, based on practitioner input and the patterns observed in more mature ecosystems, would materially strengthen the ASEAN TTO community. Each represents an opportunity for the network to build something that individual institutions could not create alone.



A Regional Licensing Survey



Prof. Dr Rofina Yasmin Binti Othman
Chairman, MRANTI. Former Director, TTO, University of Malaya.

Prof. Rofina Yasmin Othman identified this as the single most practically useful resource the network could produce: a standardised annual collection of data on disclosures, filings, transactions, revenue, and startups across participating institutions, providing benchmarks calibrated to the ASEAN context rather than North American data reflecting a different operating environment.

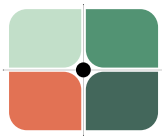


A Regional Case Library



Dr. Orakanoke Phanraksa
Senior IP Consultant, NSTDA Technology Licensing Office, Thailand.

Dr. Orakanoke Phanraksa suggested adapting the AUTM Better World Project for ASEAN — a curated collection of documented cases describing how specific deals were structured, what challenges arose, and what the outcomes were. The cases most useful to earlier-stage practitioners would be the detailed accounts of how problems were navigated, not only the headline successes.



A Shared Impact Measurement Framework

Financial ROI is the metric most frequently demanded of TTOs and the least suited to capturing the value of a function whose outcomes are long-cycle, uncertain, and frequently non-monetary. Prof. Rofina Yasmin argued for a broader framework — encompassing social impact, industry relationships, research collaborations, and institutional capability — that she described as “return on value.” NSTDA’s decision to maintain both commercial and community-oriented technology transfer divisions reflects a similar recognition.

NETWORK AND RESOURCES ECOSYSTEM

TRAINING & PROFESSIONAL DEVELOPMENT	• **WIPO L2M |** ATTP-accredited training + 9-month mentoring • **ATTP / RTTP |** International professional credential • **Fulbright IPTT |** Training for 13 Indo-Pacific countries • **WIPO TISC Certification |** Staff standardisation program • **AUTM |** Practice manuals, conferences, licensing survey
PEER NETWORKS	• **AUN-UIE |** 30 universities, 10 ASEAN countries • **ITMA (Malaysia) |** 60+ members, institutional membership • **Thailand IP & TT Association |** National TTO coordination • **Singapore NRF Network |** Shared training, benchmarking, joint marketing • **WIPO-AUTM Summits |** Annual global leadership forum
POLICY & REGULATORY	• **WIPO ASEAN IP Policy Model |** Template + checklist for all 10 member states • **ASEAN IP Portal |** IP Experts Directory, ASPEC+, publications • **ASEAN IPR Action Plan 2026–2030 |** Regional strategic roadmap • **National IP Offices |** Country-specific filing and prosecution
TOOLS & PLATFORMS	• **WIPO IP Valuation Toolkit |** Seminars in ID, MY, PH (450 professionals) • **ASEAN Technology Mgmt Hub |** Cross-border matching (in development) • **WIPO TISCs |** Patent databases and IP information • **WIPO Incentives Guide |** Researcher and TTO staff incentive design

No single resource covers everything. The combination is substantial.

THE ECOSYSTEM MULTIPLIER

Takeaway: Success in ASEAN requires weaving together local, institutional, and regional infrastructure to overcome individual constraints.

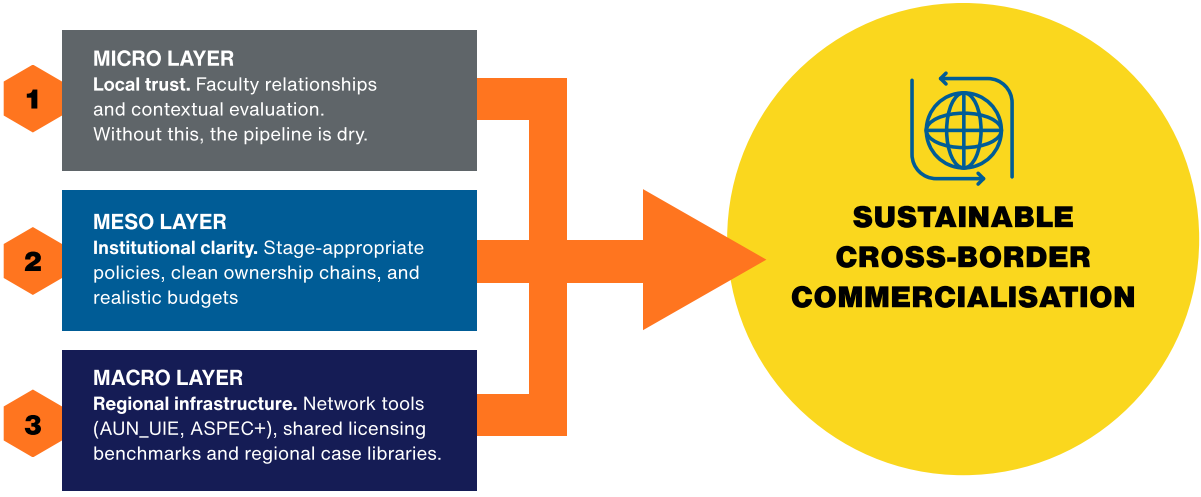


Fig 12. The ecosystem multiplier: local trust, institutional clarity, and regional infrastructure.



Section 6

Challenge: Working Smarter With Less

Technology Transfer in ASEAN Today

The preceding section described how networks extend the capacity of individual TTOs through shared knowledge and infrastructure. AI-assisted tools offer a complementary form of augmentation — extending what a small team can accomplish within its own workflows. The first global survey of AI adoption in TTOs, conducted by CESAER across European universities of science and technology in 2025, found that adoption is still at an early stage across the profession. Just under half of surveyed TTOs reported using AI tools, mainly general-purpose language models for document drafting and patent analytics platforms. The most commonly cited considerations were building staff expertise, navigating data protection requirements, managing implementation costs, and finding tools suited to TTO workflows. These findings — from TTOs that are, on average, well-resourced by global standards — confirm that the considerations described in this section are shared across the profession.

AUGMENTATION, NOT REPLACEMENT: WORKING SMARTER WITH LESS

Takeaway: Artificial intelligence extends what a small team can accomplish, but it cannot replace the human trust required for faculty disclosure.

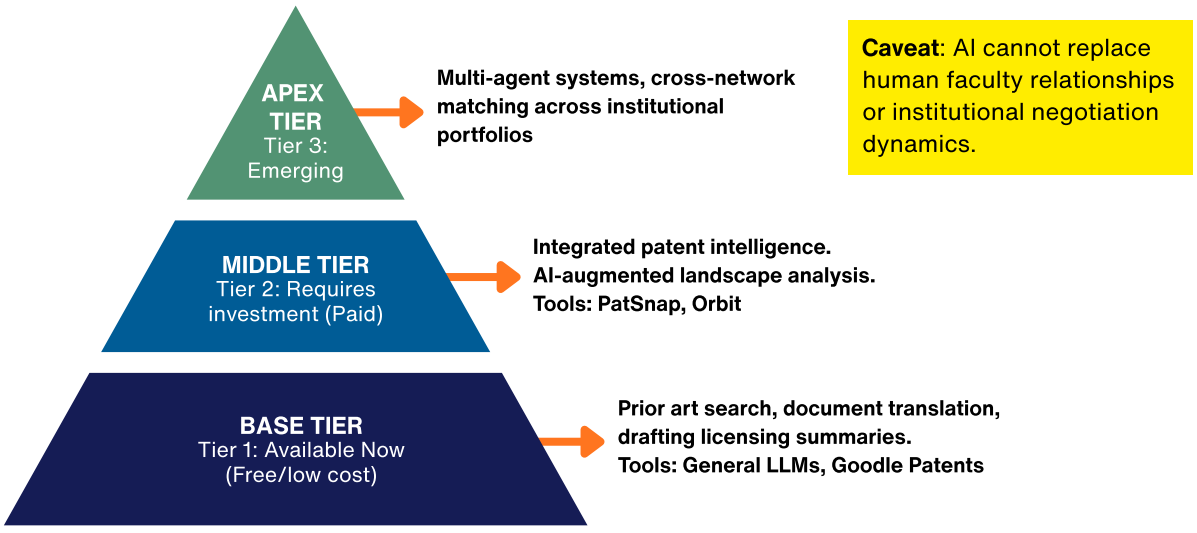


Fig.13 Augmentation, not replacement - a tiered view of AI tools for lean TTOs

Available Now

Patent landscape and prior art. At NSTDA, AI-assisted search supplements professional judgment — surfacing prior art, identifying whitespace, mapping competitive landscapes. At institutions with fewer specialised staff, general-purpose language models produce preliminary assessments at no cost beyond the time to formulate the query. Mahidol University uses paid AI platforms for patent search and English-language PCT drafting — a pattern at institutions where disclosure volume exceeds professional staff capacity.

Drafting and communication. Language models generate first drafts of technology descriptions, licensing summaries, and marketing materials — addressing a persistent bottleneck at offices without communications staff. Cross-language drafting supports patent applications and agreements that must exist in multiple languages, though human verification of translated patent documents remains essential before filing.

Technology-market matching. Prof. Rofina Yasmin Othman identified this as MRANTI's highest-value near-term AI application: given a technology's characteristics, identifying which companies, industries, or market segments are most likely to have use for it. Dr. Sze Tiam Lin described a related experiment using AI-assisted due diligence for 1,500 startup applications at the 12th Lee Kuan Yew Global Business Plan Competition — where AI screening identified projects that human reviewers had overlooked, not through superior judgment but through capacity to process volume with consistent attention.



12th Lee Kuan Yew Global Business Plan Competition

Requires Investment

Integrated patent intelligence. Commercial platforms such as PatSnap and Orbit Intelligence provide AI-augmented search, landscape analysis, and technology-market matching drawing on structured patent databases. Dr. Sze noted that Claude can connect to PatSnap through API integration, allowing freedom-to-operate queries from within a conversational AI interface. Institutional subscriptions are within the range of many university research budgets.

Database synchronisation. In places, where separate divisions maintain their own systems, the priority is synchronising into an integrated platform for portfolio-level analysis and reporting. AI tools assist with data cleaning and relationship identification across datasets. The investment is less in software than in the upstream work of data structuring.



The National Science and Technology Development Agency (NSTDA), Thailand

Emerging

Multi-agent systems. Dr. Sze described a vision of separate AI agents handling prior art, technology evaluation and offers, market matching, and deal drafting — coordinated through an integrated architecture. The underlying technology exists and is developing rapidly, but operational deployment in a TTO context has not yet been documented.

Cross-network matching. If individual TTOs maintained portfolios and contacts in structured, standardised form, AI tools could enable queries across the network. Both Dr. Sze and Prof. Rofina Yasmin identified this as transformative in potential, with the key prerequisite being individual data quality — an area where most institutions across the region are still building their foundations.

***If individual TTOs** maintained portfolios and contacts in structured, standardised form, AI tools could enable queries across the network.*



AI CAPABILITY TIERS FOR TTOs

TASK	WHAT IT DOES	TOOLS
AVAILABLE NOW — FREE OR LOW COST		
Prior art search	Preliminary assessments, patent family summaries, landscape mapping	*Claude, ChatGPT, Google Patents, Lens.org*
Drafting	Technology descriptions, licensing summaries, marketing materials	*General-purpose language models*
Translation	Cross-language patent drafts and agreements. Human verification required.	*Language models + human review*
Disclosure screening	Processing volume to surface promising candidates for human review	*Language models with structured prompts*
REQUIRES INVESTMENT		
Integrated patent intelligence	AI-augmented search, landscape analysis, technology-market matching	*PatSnap, Orbit, Lens.org Pro*
Database synchronisation	Data cleaning, deduplication, cross-dataset relationship identification	*AI tools + upstream data structuring*
Deal intelligence	Analysis of comparable transactions to inform negotiation	*Limited by ASEAN data scarcity*
EMERGING		
Multi-agent systems	Coordinated AI agents for prior art, offers, matching, drafting	*Not yet in documented TTO use*
Cross-network matching	Queries across institutional portfolios and industry contacts	*Requires individual data quality first*

What AI Does Not Change

- Faculty relationships
- Trust required for disclosure
- Judgment in ambiguous evaluation decisions
- Negotiation dynamics involving institutional interests
- The human presence that makes a researcher feel heard



Start at Tier 1. Most ASEAN TTOs can act on these capabilities today.

Legal and Ownership Considerations

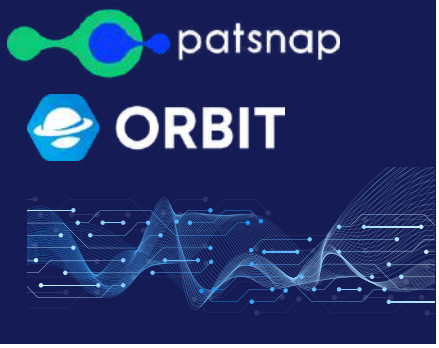
In most jurisdictions — Thailand, Singapore, the United States — only human beings can be named as inventors. No precedent case in any ASEAN jurisdiction has allowed AI as inventor. The practical question for TTOs is how to document human intellectual contribution to inventions developed with significant AI assistance. Separately, platform terms of service may grant providers with rights over outputs — a consideration for any TTO using AI tools to draft patent claims or licensing materials. And in fast-moving fields where patent examination takes three to five years, alternative strategies — trade secrets, defensive publication, open licensing — may deliver more practical value than patent filing.

A practical consideration that the CESAER survey highlighted — and that applies in ASEAN as well — is institutional policy on AI usage. Many universities are still developing policies governing the use of AI tools for work involving confidential research information, patent-sensitive material, or institutional data. Before adopting any AI tool for technology transfer work, practitioners should verify their institution's current policy. Enterprise platforms with institutional data handling agreements and contractual protections against training on customer data — such as PatSnap or Orbit — may be more readily aligned with institutional compliance requirements than general-purpose consumer AI services. The CESAER report recommends that universities develop specific guidance for AI use in service departments such as TTOs, recognising that this is an area where policy frameworks are still evolving alongside the technology.

A Practical Starting Point

For practitioners at earlier-stage institutions, the most accessible entry point is a general-purpose language model applied to the tasks that consume the most time relative to value: summarising patent landscapes, drafting technology descriptions, translating documents, and screening large volumes of information. These capabilities are available today at little or no cost, require no technical infrastructure, and — while they do not replace professional judgment — make a meaningful difference for offices where the baseline capacity is so constrained that even modest augmentation changes what is possible within the hours available.

Before adopting any AI tool for technology transfer work, *practitioners should verify their institution's current policy. Enterprise platforms with institutional data handling agreements and contractual protections against training on customer data — such as PatSnap or Orbit — may be more readily aligned with institutional compliance requirements than general-purpose consumer AI services.*



Closing

Where This Leaves Us

This playbook documents a technology transfer profession in ASEAN that is growing rapidly and building its capacity in real time. The practitioners who contributed have built offices with limited resources, negotiated deals in the absence of regional benchmarks, invested in training staff, and made the case for their function to institutional leadership. They have accumulated operational knowledge directly relevant to others at similar stages — knowledge that, until now, has been shared informally if at all.

This document is one contribution to making that knowledge visible and transferable. The maturity framework is a practitioner-derived working model that invites refinement. The AI section describes a rapidly evolving landscape. Regional licensing data and impact measurement frameworks are among the shared resources the community is working toward.

What this playbook can do — and what distinguishes it from the global references it complements and speaks from within the ASEAN context rather than to it. The constraints described here are the specific conditions under which TTO professionals across Southeast Asia do their work: the one-person office, the rotating staff, the faculty member unfamiliar with the disclosure process, the cross-border deal where neither party is certain whose rules apply, the government funder measuring return on investment from a recently established function. These are the operating environment, and the playbook is written for practitioners working within it.

BUILDING THE NEXT GENERATION OF ASEAN TECHNOLOGY TRANSFER

Takeaway: Capacity in this region is built as a shared endeavour; small teams must rely on open knowledge and collaborative networks

> *The constraints we face - small teams, regulatory patchwork, limited data - are the operating realities of this region. But capacity here is built as a shared endeavour.*

Connect with the community:
aunuie.org | iie@smu.edu.sg



Fig 14. Building the next generation of ASEAN technology transfer.

An Invitation to Contribute 

This playbook is designed as a living document. Its value increases with each perspective, case, and data point contributed.

Submit a case study. Documented accounts of how specific technology transfer challenges were navigated — deals, difficult conversations, regulatory situations, AI experiments, negotiations that succeeded or failed. Cases from countries and institutions not represented in this edition are particularly valuable. A submission template is available from the Secretariat.

Share your institutional IP policy. Institutions willing to share their policies or summaries of key provisions contribute to the regional knowledge base and help peers developing their own frameworks.
Participate in regional data collection. If AUN-UIE proceeds with a regional licensing data initiative, participation from as many institutions as possible will determine its usefulness.

Nominate a contributor for future editions. Practitioners from a wider range of countries, institution types, and career stages would strengthen subsequent editions.

Provide feedback. Observations about what is useful, what is missing, and what does not reflect the reader's context are the most important input to future revision.

All contributions: **iie@smu.edu.sg**

Resources Directory

ASEAN-Specific Resources

RESOURCES	DESCRIPTION	ACCESS
WIPO ASEAN IP Policy Model (2023)	Template, checklist, and guidelines for institutional IP policies based on all 10 member states	aseanip.org
WIPO Lab-to-Market Program	ATTP-accredited training and 9-month mentoring for ASEAN practitioners	wipo.int/web/technology-transfer
WIPO ASEAN IP Valuation Toolkit	IP valuation framework; seminars in Indonesia, Malaysia, Philippines	wipo.int/web/technology-transfer
WIPO Incentives Guide	Framework for researcher and TTO staff incentive programs	wipo.int/publications (ID 4714)
ASEAN IP Portal	IP Experts Directory, ASPEC+, regional publications	aseanip.org
EU-ASEAN Technology Management Hub	Cross-border technology-industry matching (in development)	Via ASEAN Secretariat
Fulbright IPTT Program	Training for 13 Indo-Pacific countries	fulbright.edu.vn
AUN-UIE Funding Playbook	Edition 1: University startup funding, IP licensing, equity	aunuie.org

Global Resources

RESOURCES	DESCRIPTION	ACCESS
AUTM	Practice manuals, Better World Project, licensing survey	autm.net
ASTP KTT Metrics Report (2025)	Input/output/impact framework for KT measurement across 28 countries	astp4kt.eu
CESAER AI Pathways Report (2025)	First global survey of AI adoption in TTOs; use cases, barriers, recommendations	cesaer.org
ATTP	RTTP credential, professional standards	attp.info
Lambert Toolkit (UK IPO)	7 model research collaboration agreements + 4 consortium agreements	gov.uk/lambert-toolkit
WIPO TT Agreements	Model frameworks for collaborative research, contract research, consulting	wipo.int/web/technology-transfer/agreements
WIPO IP Policy Toolkit	Global template for institutional IP policies	wipo.int/web/technology-transfer/ip-policies
WIPO TISCs	Patent databases, IP management, professional development	etisc.wipo.int

Networks

RESOURCES	DESCRIPTION	ACCESS
AUN-UIE	ASEAN (30 universities, 10 countries)	aunuie.org
ITMA	Malaysia (60+ members)	Institutional membership
AITP	Thailand — recently established	https://www.aitp.or.th/
Singapore NRF TTO Network	Singapore — forming	attp.info

IP Ownership Across ASEAN: A Regulatory Comparison

This table provides a high-level overview of the regulatory environment for university technology transfer across ASEAN member states. Based on the WIPO-ASEAN Regional Project on Institutional IP Policy (2023) and supplementary sources. Not legal advice.

Legislated and Institutional Autonomy Models

	PHILIPPINES	THAILAND	SINGAPORE	MALAYSIA	INDONESIA
Legislation	RA 10055 (2009)	TRIUP Act (2022)	No national equivalent; Patents Act	No national act; institutional autonomy	Government regulation on IP in public institutions
Ownership	Institutions can own govt-funded IP	Grantees can claim ownership	Employer ownership	Varies by university policy	Public institutions hold IP rights
Disclosure	Required under RA 10055	Required under TRIUP	Institutional policy	Institutional policy	Institutional policy
IP Policies (WIPO)	36 submitted	In Thai only	2 (some confidential)	12 submitted	8 submitted
TTO Infrastructure	Established at major universities	NSTDA (~30 staff); Established at leading research universities and public research organization	NUS, NTU, SMU units	Research universities; MRANTI national	TT centres at major institutions

Emerging and Developing Frameworks

	VIETNAM	BRUNEI	CAMBODIA	LAO PDR	MYANMAR
Legislation	TT Law (2017); IP Law amendments (2023)	No dedicated TT legislation	No dedicated TT legislation	TT Law (Lao only)	S&T Law (2018); Patent law enacted 2019, not in force
Ownership	Evolving; policies under revision	Developing	In development	In development	Framework in law; implementation underway
Disclosure	Where institutional policy exists	Where institutional policy exists	Developing	Developing	Developing
IP Policies (WIPO)	None (under revision)	2 submitted	None	None	None
TTO Infrastructure	Developing; Fulbright IPTT active	UBD building ecosystem; WIPO support	Emerging; WIPO mentorship (2024)	Emerging; WIPO mentorship (2024)	Emerging; S&T Law provides framework

Sources: WIPO-ASEAN IP Policy Report (2023); WIPO TISCs Report 2024; Tilleke & Gibbins (2022); SciDev.Net (2010); ASEAN IP Portal; Lexology (2019); WIPO Lex.

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About AUN-UIE

The ASEAN University Network — University Innovation and Enterprise (AUN-UIE) is a thematic network within the ASEAN University Network, established in 2018 and co-led by Chulalongkorn University and Singapore Management University. It comprises 30 member universities spanning all ten ASEAN member states, with a mission to strengthen the capacity of ASEAN universities to build vibrant innovation and entrepreneurship ecosystems.
2026 Playbook Series: Q1 — Funding (published March 2026) · Q2 — IP and Technology Transfer (this playbook) · Q3 — Incubation (forthcoming)

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