

The Founder's Guide to University Licensing

ENTREPRENEURIAL SCIENTIST PLAYBOOK

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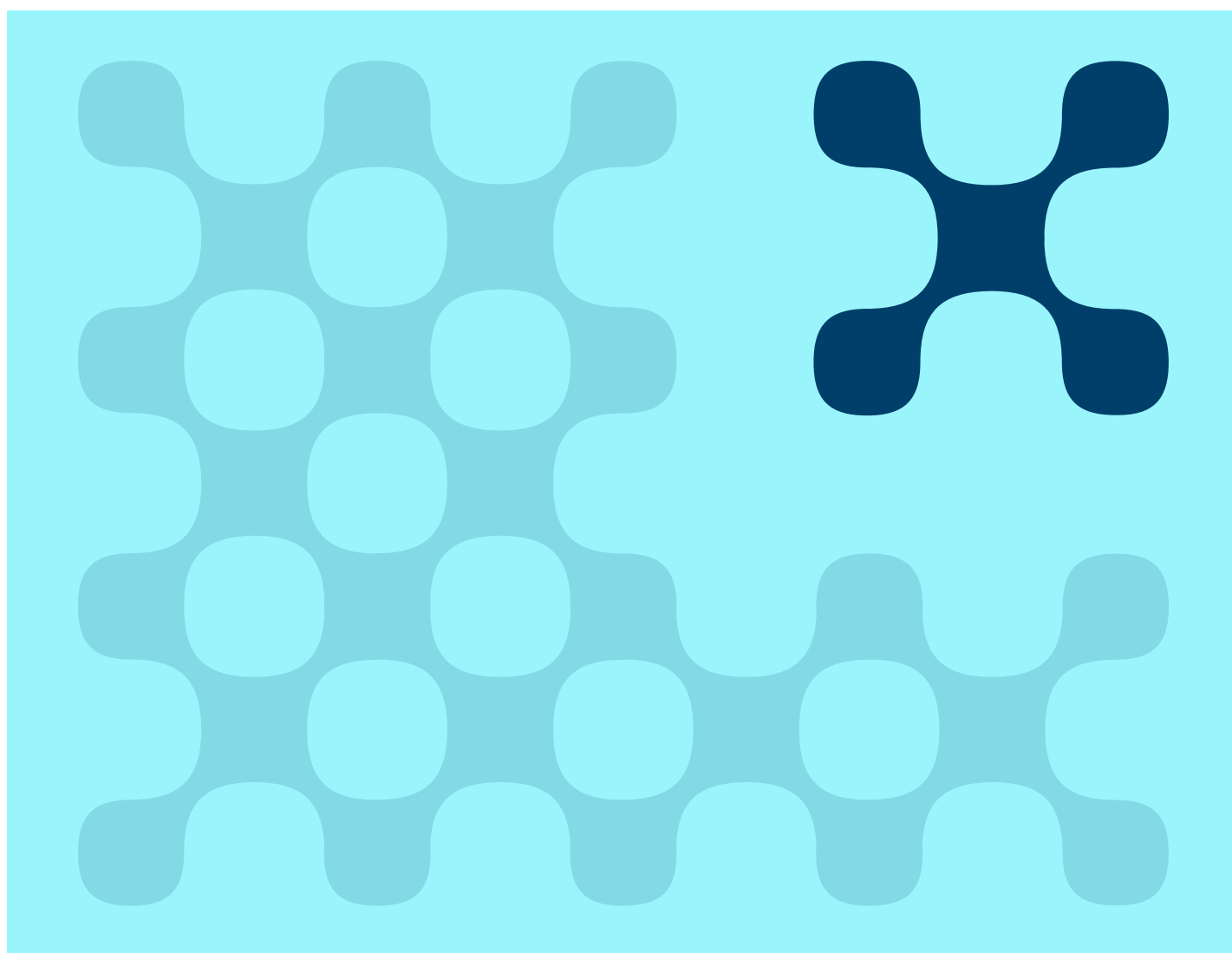




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Foreword

Welcome to The Founder's Guide to University Licensing, the third playbook produced by Nucleate's Research Initiative and supported by Morrison Foerster and Schmidt Futures. This playbook explores the process of licensing intellectual property from universities and translating academic discoveries into startup companies.

Nucleate is a nonprofit organization committed to educating today's academic trainees and empowering tomorrow's biotech leaders. Together with the Partnering with Pharma and Operationalizing Your Therapeutics Spinout playbooks, this resource aims to address key knowledge gaps that academic founders encounter when transitioning research discoveries out of the university ecosystem. We are excited to provide open-access resources to the community through the Nucleate Research Initiative, a global effort that provides context and understanding to the complex landscape of biotech education.

Universities are among the world's most important engines of scientific discovery, and many transformative biotech companies originate from academic laboratories. However, the process of licensing university intellectual property can be opaque for first-time founders. Through this playbook, we aim to demystify the university licensing process and provide practical guidance for founders navigating these negotiations for the first time. While every institution and startup journey is different, the themes explored here reflect common patterns and lessons shared by founders, investors, technology transfer professionals, and legal experts across the biotech ecosystem.

We hope this playbook becomes a practical resource for scientists considering a spinout and a useful reference for founders navigating licensing negotiations with universities. Like the other playbooks in this series, it is meant to be a starting point, offering insights and perspectives that can help founders ask better questions and approach the process with greater confidence. Licensing agreements are rarely one-size-fits-all, and we encourage readers to seek guidance from mentors and legal counsel as they move through their own negotiations. Ultimately, the goal of this playbook is simple: to help more academic discoveries and founders successfully make the journey from the laboratory to real-world impact.

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Motivation and Methodology

University licensing plays a central role in the biotechnology innovation ecosystem. Many breakthrough technologies originate within academic laboratories before being developed into commercial products through startup companies. Despite its importance, the process of licensing intellectual property from universities can be difficult for first-time founders to navigate. Academic researchers often have limited exposure to the mechanics of technology transfer and the perspectives of different stakeholders involved in the process.

Our goal is to demystify the university licensing process so that academic founders can better understand how these negotiations work in practice. With this playbook in hand, founders will understand:

1. How intellectual property generated in universities is managed and licensed
2. The objectives and incentives of the key stakeholders involved in licensing negotiations
3. The typical structure and components of university license agreements
4. Common points of friction that arise during negotiations
5. Strategies founders can use to structure more effective licensing agreements

Within this report, we seek to provide a clear overview of the licensing process by consolidating perspectives from across the biotech ecosystem. The information contained in this playbook was informed by more than fifteen structured interviews conducted throughout late 2025 and early 2026 with technology transfer professionals, startup founders, venture capital investors, and attorneys involved in university licensing transactions.

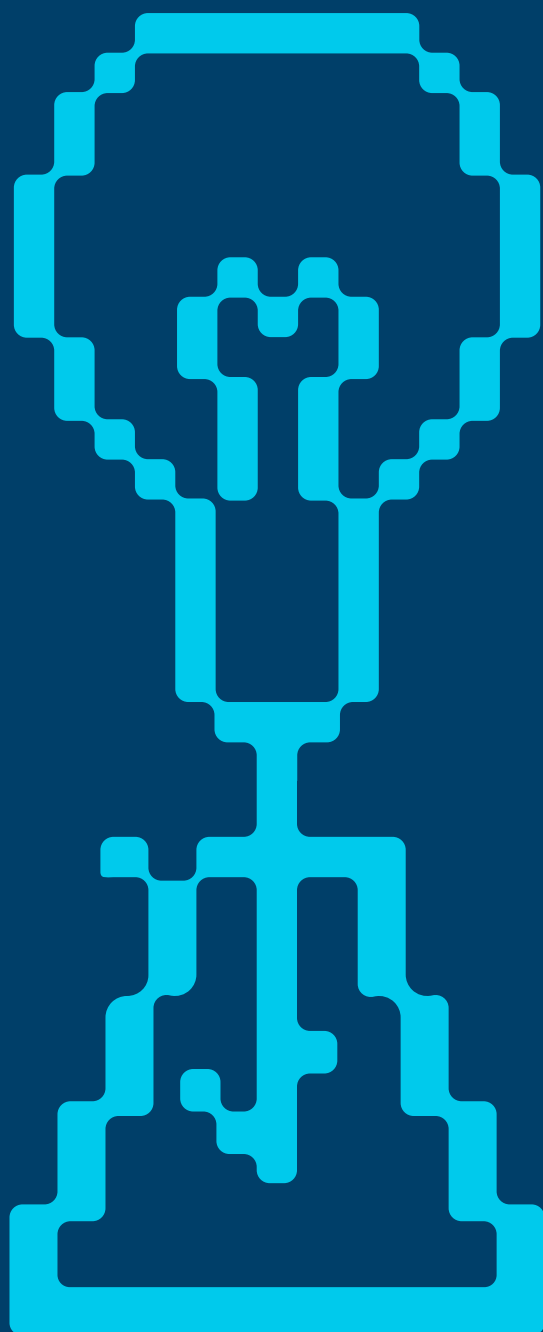
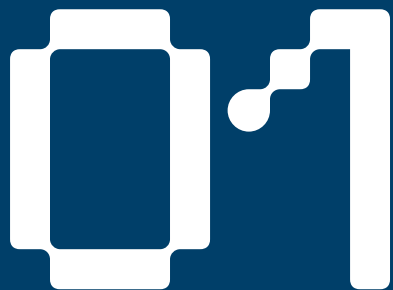
Many of our interviewees requested anonymity in order to speak candidly about the licensing process, so certain quotes and insights throughout the playbook may be anonymized. From these interviews, we sought to understand the licensing process as empirically as possible from both sides of the negotiation.

In addition to interviews, we reviewed publicly available technology transfer resources, licensing guides, and example agreements to better understand common licensing structures and negotiation dynamics across institutions. We are incredibly thankful for the generosity of the individuals who shared their time and expertise with us.

This playbook would not have been possible without the support of our sponsors, **Morrison Foerster**, whose partnership enabled us to share this resource with the broader scientific community, as well as **Schmidt Futures**, whose early support helped launch, fund, and inspire the playbooks initiative.



Chapter



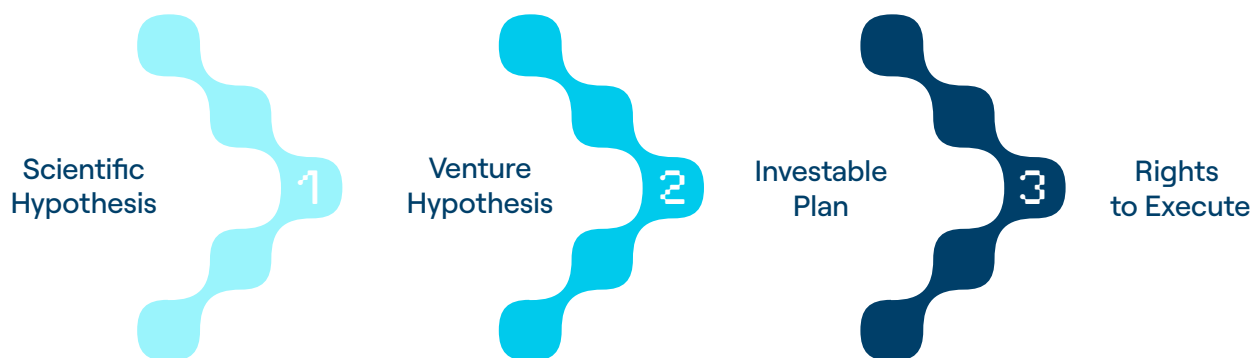
Why Licensing Is Essential

Some of the most important medicines in the world started as a discovery in an academic lab, but turning that science into something patients can actually use requires a very different kind of work¹. University spinouts sit at the intersection of discovery and commercialization, where early-stage research is transformed into a regulated product that can change the lives of

patients². In biotech, that journey can be long, capital-intensive, and high risk³. It begins with a breakthrough in the lab, but it becomes a company when the underlying intellectual property (IP) is secured. Licensing that IP from the university is the critical step that turns scientific insight into something a company can build on, invest in, and ultimately bring to market.

Figure 1: The process of spinning out a company from a university

Licensing is the critical step that enables the transition from an investable plan to a company with the rights needed to execute.



Spinning out a company from a lab can be thought of as three transitions (Figure 1):

- 1. Scientific hypothesis → venture hypothesis**
 - a. Lab results are developed into initial product claims: a therapeutic mechanism of action, a diagnostic workflow, a platform output, a manufacturing method, etc.
- 2. Venture hypothesis → investable plan**
 - a. The venture hypothesis must then be translated into an investable plan that can withstand diligence: plans to mitigate scientific, clinical and regulatory risk, manufacturing considerations, differentiated IP position, and a strategy for what is built in-house vs partnered
- 3. Investable plan → rights to execute**
 - a. Licensing from the university is essential to bridge the gap between an investable plan and the ability to execute. A startup cannot responsibly raise money to develop technology it does not legally control. Obtaining an option or licensing agreement gives a startup the rights to the IP that form the foundation of its venture hypothesis: without this, it cannot build investor conviction or confidently continue developing and commercializing its product.

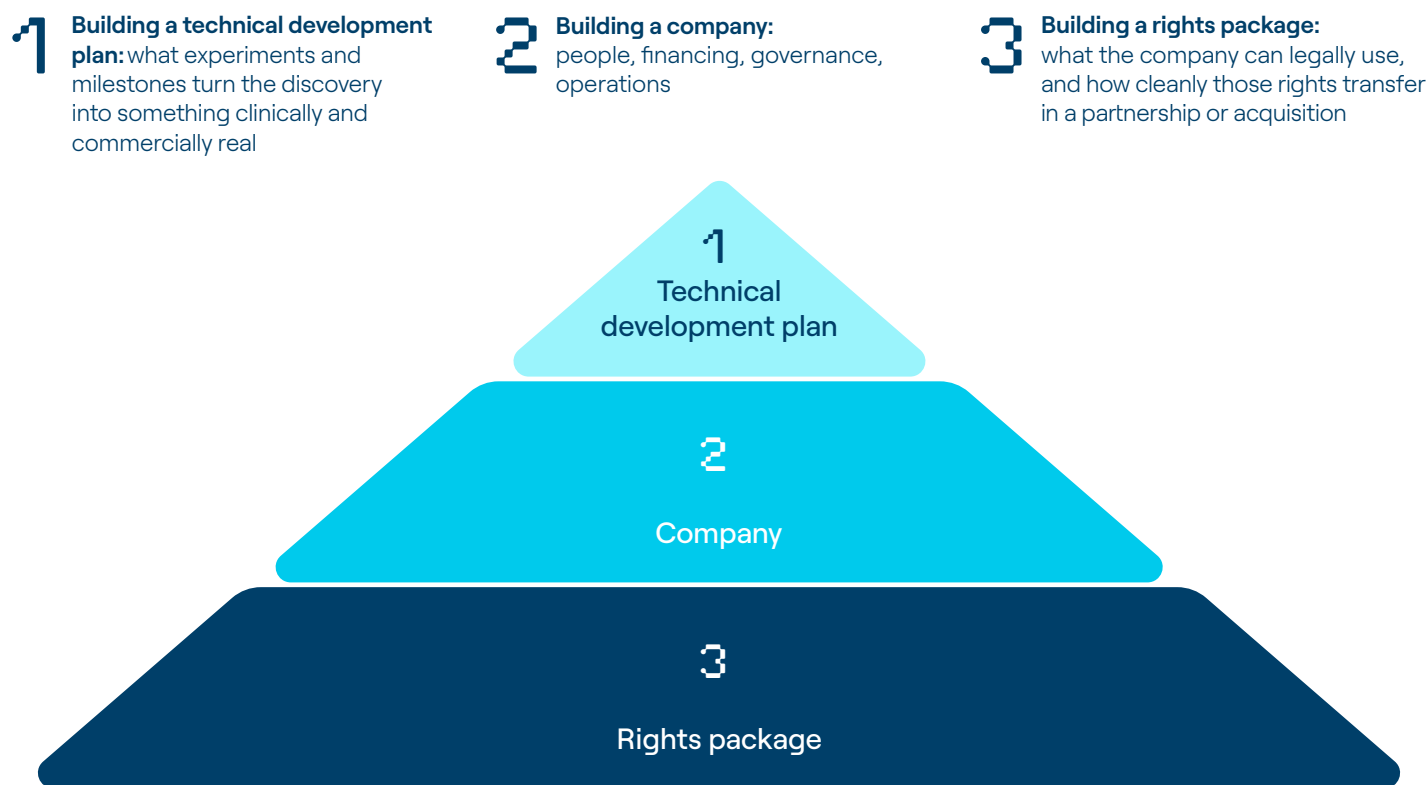
¹ Association of University Technology Managers (AUTM). *The Economic Contribution of University/Nonprofit Inventions in the United States: 1996–2015*. Nature Biotechnology. Available at: <https://www.nature.com/articles/nbt.3687.pdf>

² Woolston, C. *How to Launch a University Spinout*. Nature Careers, 2020. Available at: <https://www.nature.com/articles/d43747-020-00217-x>

³ U.S. Food and Drug Administration. *Drug Development Process*. Available at: <https://www.fda.gov/patients/learn-about-drug-and-device-approvals/drug-development-process>

Figure 2: The three building blocks of a spinout

A helpful university founder mental model is to think about three builds happening in parallel:



What is licensing?

At its core, **a license is a contract that grants one party the right to use IP owned or controlled by another party:** rights that would otherwise be restricted or enforceable (Figure 3).

In practical terms, it is the legal permission to develop, use, and commercialize a technology that you do not own. In exchange, the IP owner (typically a university) receives reimbursement, usually in the form of upfront fees, diligence obligations, and downstream economics such as royalties or equity. These terms are designed not just to compensate the institution, but to ensure the technology is actively developed and not left unused. This process is managed within universities by Technology Transfer Offices (TTOs), whose mission is to transfer inventions from academic labs to the market for societal benefit while generating returns to support research⁴⁻⁵.

Licensing is not limited to patents. In university settings, the value being licensed in a single agreement can go beyond patent rights, including biological materials, datasets, software, trade secrets, and know-how (see Chapter 2). When executed well, licensing aligns the incentives of all stakeholders. It provides startups with the legal foundation to build a business, enables universities and inventors to participate in the value created, and establishes a structured pathway for commercialization (see Chapter 3). *In this sense, licensing is the critical bridge between academia and industry.* It ensures legal access to technology, defines how value is shared, and creates accountability through diligence and development obligations. This evaluation of the tech and accountability is reflected in a variety of terms that broadly define financial obligations (upfront payments, milestone

⁴ Columbia Technology Ventures. *Technology Transfer at Columbia*.

Available at: <https://techventures.columbia.edu/about-ctv/technology-transfer-columbia>

⁵ Stanford Office of Technology Licensing. *About the Office of Technology Licensing*. Available at: <https://otl.stanford.edu/about/about-otl>

payments, royalties, etc.) and ownership (equity) that are initially drafted and negotiated via a term sheet (see Chapter 4). Many interviewees emphasized that “headline economics are usually not the real battle.” Terms that shape long-term flexibility, such as field of use, sublicensing, diligence, prosecution control, and ownership boundaries drive outcomes⁶.

Effective licensing negotiation with the university requires more than agreeing on financial or ownership terms, it depends on early alignment among stakeholders, clear communication

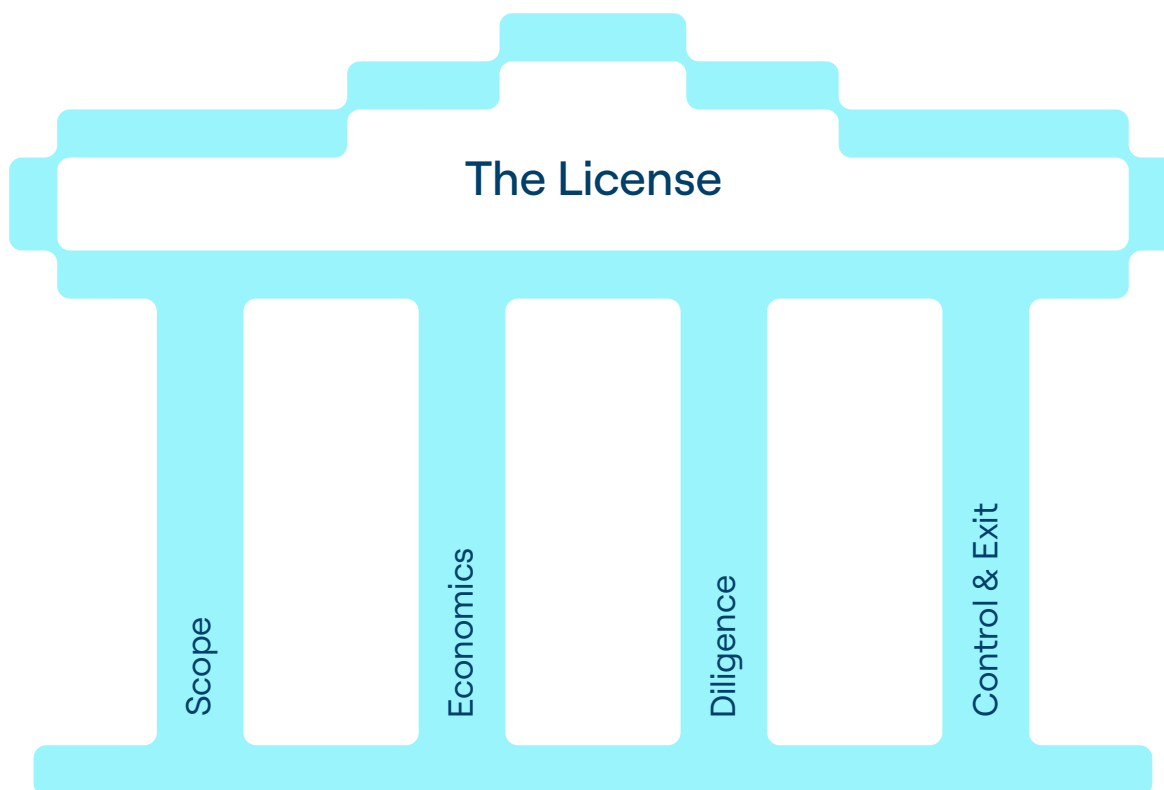
of expectations, and thoughtful relationship building. In practice, this unfolds through a staged process: confidentiality agreements, business planning, term sheet negotiation, and ultimately a full license (see Chapter 5).

Like any complex, multi-party negotiation, timelines are often longer and more unpredictable than anticipated. Interviewees highlighted key areas of friction such as misaligned expectations, poor communication, and misunderstandings (see Chapter 6) that often elongate timelines.

University Licensing is Unique

Figure 3: The Four Pillars of a University License

A clean license grants a startup the legal right to use otherwise restricted intellectual property, enabling it to rationally invest a decade or more of effort with confidence that those rights are secure.



Almost every university license will have four core pillars⁷:

- | | | | |
|------------------------------|-----------------------|-------------------------------|---------------------------|
| Scope | Economics | Diligence | Control & Exit |
| → what you are allowed to do | → what you pay for it | → what you are required to do | → what happens over time |

Everything in the agreement maps back to one of these four pillars.

⁶Practical Law. *University Technology Licensing: Key Terms and Negotiation Considerations*. January 2023.

⁷Technology Transfer Professionals. *Anatomy of a License Agreement*. TTP_V4_AnatomyLicense-ex.pdf.

There is no single “standard” university license: policies, norms, and deal structures vary significantly across institutions. However, most university licenses in the United States reflect specific differences not seen in licenses outside of academia:

- University inventions are frequently developed with federal funding, which triggers the **Bayh–Dole framework*** and associated conditions^{8–9}.
- Universities have mission-driven constraints (research and education) that show up as retained rights, publication norms, and reputational risk management.
- University licensing is administered through a complex institutional ecosystem (TTOs, legal, compliance/COI committees, sponsored research offices, joint owners) rather than a single profit-maximizing deal team.

Licensing ensures three outcomes for universities and founders. This playbook will dive into these outcomes from different perspectives:

1. Legal access

Licensing gives a company the right to build, fund, and commercialize a technology, which is foundational in a regulated industry where development cannot happen informally¹⁰.

2. Economic alignment

Licensing creates economic return pathways for inventors and institutions, which is part of why university tech transfer is widely positioned as supporting research and public benefit.

3. Accountability

Licensing establishes structure through diligence milestones, reporting, and obligations to ensure the technology is actively developed, not shelved.

A well-structured license aligns incentives: it incentivizes companies to build products, enables universities to reinvest in research, and ensures innovators share in the upside. A poorly structured license, however, can fail on all three fronts. This playbook serves as a guide through every aspect of the process toward a well-structured license. Several recommendations and best practices discussed throughout this chapter are informed by interviews with technology transfer professionals, founders, investors, and legal experts conducted as part of the development of this playbook.

*When university inventions are developed with federal funding and qualify as subject inventions, the Bayh–Dole Act governs certain rights and obligations, including government license rights and, in some circumstances, U.S. manufacturing requirements⁹ (more information in Chapter 2).

⁸ Congressional Research Service. *The Bayh–Dole Act: Selected Issues in Patent Policy and Innovation (IF12582)*.

Available at: <https://www.congress.gov/crs-product/IF12582>

⁹ United States Code. 35 U.S.C. § 204 – *Preference for United States Industry*. Available at: <https://www.law.cornell.edu/uscode/text/35/204>

¹⁰ Stanford University Research Policy Handbook. *Inventions, Patents, and Licensing*.

Available at: <https://doresearch.stanford.edu/policies/research-policy-handbook/intellectual-property/inventions-patents-and-licensing>



Chapter

02



Intellectual Property

In university spinouts, the intellectual property behind the technology is often a core company asset and one of the first things investors scrutinize. In biotech, that matters because development timelines are often long, costs can be high, and scientific discoveries can be easier to replicate once disclosed. Without some way to protect the company's position, it can be difficult to justify the investment required to turn academic research into a product.

In a university spinout, the company's rights depend in part on what the university actually owns and can license (Figure 4). But the relevant asset is not always just a patent. Depending on the company and the technology, the company's position may also depend on data, know-how, software, materials, and clear ownership. Founders also sometimes treat protection, ownership, and freedom to operate as the same issue, even though each raises a different diligence question.

Patents and the Limits of Protection

Patents are the most visible component of university intellectual property and the focus of most licensing discussions. A patent gives its owner the right to exclude others from making, using, or selling what is claimed. It does not grant an affirmative right to practice the invention¹.

A company can license a university patent and still infringe third-party patents that cover related technologies, methods,

or components². In biotech, products can sit under multiple overlapping patents, so owning or licensing one patent in isolation does not guarantee that the company can bring the product to market without infringing third-party rights. The commercial value of a patent depends on the scope and durability of its claims. Different types of claims support different business models and exit paths, and early decisions around claim strategy shape what competitors can do, how partners evaluate risk, and how investors assess defensibility.

Patentability is also constrained by requirements such as novelty, non-obviousness, written description, and enablement³. These requirements often limit how broadly early-stage biotech inventions can be claimed, especially when supporting data is still developing. University patenting typically begins with an invention disclosure, followed by a provisional application. Provisional filings establish a priority date but do not mature into patents on their own⁴. These early applications are often narrower than a company's long-term commercial vision, which makes follow-on filings, future applications, and continuation strategy important as companies grow.

Public disclosure before filing can permanently eliminate patent rights in many jurisdictions outside the United States and can complicate prosecution even within it⁵. Conference talks, posters, preprints, theses, and online materials can all count as disclosures. Coordinating filings with publications and presentations is one of the most important and most preventable sources of early IP risk.

IMPORTANT NOTE: Disclosure, Inventorship, and Records Hygiene

Inventorship is tied to the claimed invention, not to paper authorship⁶. In practice, that makes recordkeeping more important than many founders expect. Early records should be treated as diligence documents. Contemporaneous records, including lab notebooks, drafts, and even negative data, can become important when inventorship, priority, or non-obviousness are later scrutinized.

¹ <https://www.uspto.gov/patents/basics/manage>

² <https://www.wipo.int/en/web/wipo-magazine/articles/ip-and-business-launching-a-new-product-freedom-to-operate-34956>

³ <https://www.uspto.gov/web/offices/pac/mpep/s2161.html>

⁴ <https://www.uspto.gov/patents/basics/apply/provisional-application>

⁵ <https://www.wipo.int/en/web/patents/protection>

⁶ <https://www.uspto.gov/web/offices/pac/mpep/s2109.html>

Patents also come with ongoing costs. Universities usually retain control over patent prosecution, while startups reimburse past and future expenses under the license⁷. Those costs can become material as portfolios expand internationally. If a university declines to pursue patent protection, founders may be able to ask whether the company can take over prosecution or receive an assignment (a formal transfer of ownership of the patent rights from the university to the company), but that possibility depends on university policy, funding obligations, and how early the issue was raised.

The Broader IP Stack

In a university spinout, the company's usable asset base is often broader than the patent alone⁸. Most companies rely on a wider set of assets and permissions that determine what they can build, reproduce, and commercialize.

Trade secrets and know-how often determine whether results can be replicated outside the originating lab. These assets may be partially documented, but much of their value is tacit.

Universities may try to bundle know-how into licenses through training or consulting arrangements, though maintaining long-term secrecy can be challenging in academic settings.

Data and software can be equally important, especially for platform technologies. Ownership may depend on institutional policy, funding source, and contributor status. Open-source or third-party licenses can introduce downstream obligations that surface during diligence if they are not identified early⁹.

Tangible research materials, such as cell lines, plasmids, assays, or animal models, are distinct from intellectual property. Access is often governed by material transfer agreements (MTAs) which can restrict commercial use, sublicensing, or distribution even when the underlying IP is licensed¹⁰.

Not all elements of this broader IP stack appear explicitly in a license agreement. Some are bundled directly, while others operate in the background but still constrain commercialization.

The broader IP stack also raises three separate legal questions that founders should not collapse into one issue:

Three Distinct IP Questions Every Founder Must Separate

Question	What it asks	What determines the answer
Can this invention be patented?	Whether the invention can support patent claims	Novelty, non-obviousness, written description, enablement, and claim support
Who owns or controls the rights?	Whether the university has rights it can license to the company	University policy, funding source, inventorship, contributor status, and assignment history
Can the company commercialize without infringing others?	Whether third-party rights could block the company's product or development path	Third-party patents, background IP, platform rights, tools, methods, and materials

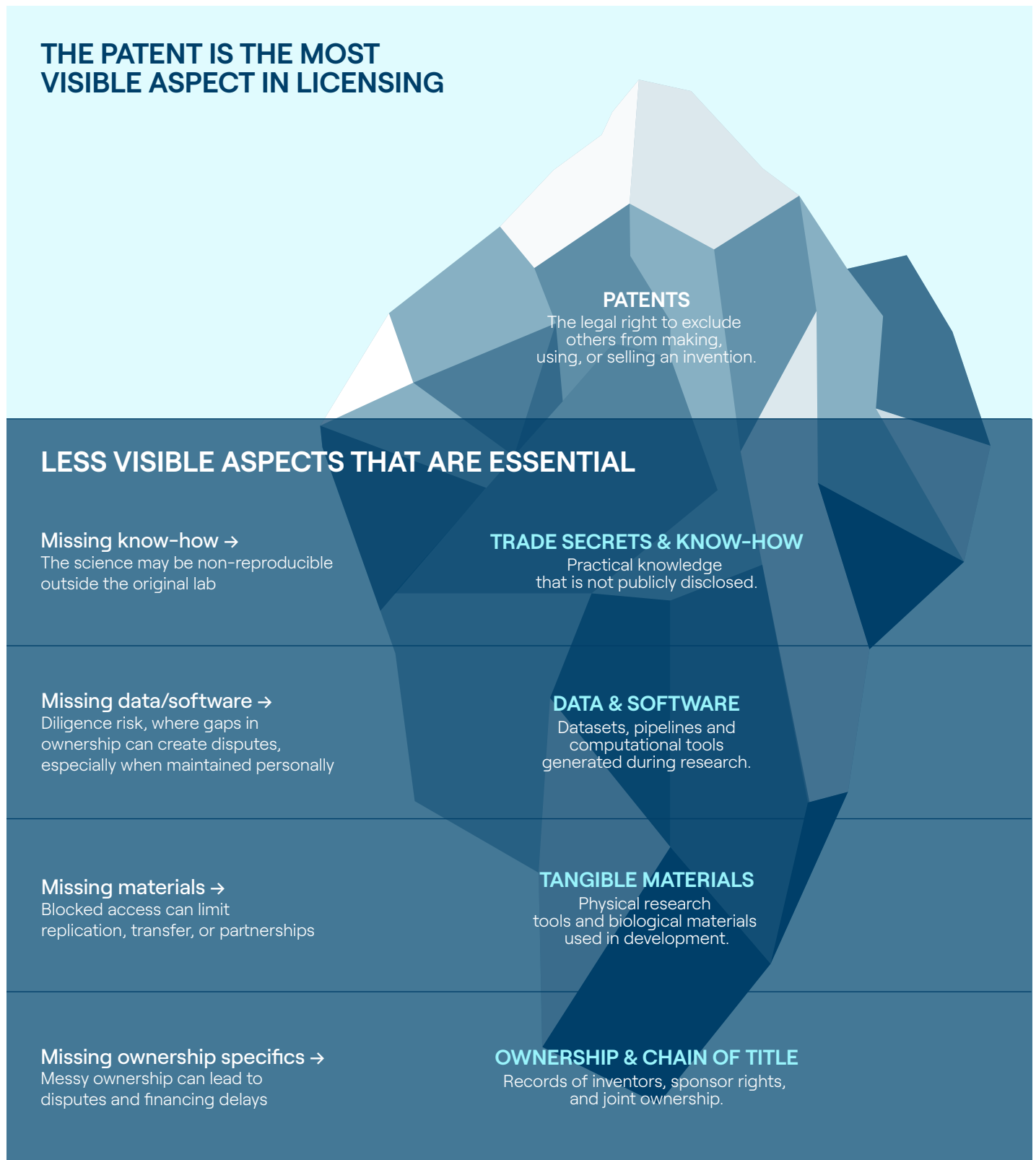
⁷ https://inqbationlab.northwestern.edu/docs/autm_ttp_v4_anatomy-of-a-license.pdf

⁸ <https://autm.net/about-tech-transfer/principles-and-guidelines/nine-points-to-consider-when-licensing-university>

⁹ <https://opensource.org/licenses>

¹⁰ <https://autm.net/surveys-and-tools/agreements/material-transfer-agreements>

Figure 4: The Real Asset is the Full IP Package



A clean patent license may still fail if the company lacks the rest of the operating package.

EXAMPLE: Incomplete Operating Package

A university spinout licenses composition-of-matter claims covering a therapeutic antibody. The patent license may be clean (meaning it is free of encumbrances, ownership disputes, or third-party restrictions), but the development plan depends on a lipid nanoparticle delivery system developed in a collaborating lab under separate funding and owned by a different institution. That delivery system may be covered by a separate patent family, a separate license, or material transfer restrictions.

A clean patent license does not necessarily give the company everything it needs to develop the product. Founders should identify the additional data, materials, know-how, and permissions required for the actual development path. The same pattern appears in diagnostics and software-enabled biotech, where the limiting factor is often permitted use of data and code rather than the patent claims themselves.

Freedom to Operate

Even if a company has the patent, data, materials, and know-how it needs, third-party rights can still limit what it can bring to market. Freedom to operate (FTO) refers to whether a company can commercialize its product without infringing third-party intellectual property². It is distinct from owning or licensing patents and becomes more important as a company advances toward the clinic and market.

Freedom to operate is rarely assessed once and resolved permanently. Instead, it is usually approached in stages that align with technical and regulatory milestones. Investors and partners do not expect every answer on day one, but they do expect the company to know where the major IP risks are and how it plans to work through them. Understanding the difference between patent ownership and freedom to operate helps founders set realistic expectations during licensing negotiations and avoid overestimating the protection provided by a single license.

What Freedom to Operate Looks Like at Each Stage

Stage	What Investors Expect	What to Prepare
Pre-Seed / Seed	Awareness that FTO is a consideration	Preliminary landscape search; plan for staging FTO
Series A	Discussion of the FTO landscape with counsel; awareness of likely blocking areas.	Landscape analysis by counsel; design-around strategies
Preclinical / IND-enabling	Formal FTO opinion on lead product	Written opinion on product, methods, formulations
Late Clinical	Updated clearance opinions and a documented risk-management approach.	Updated opinion on final product; resolution strategy

² <https://www.wipo.int/en/web/wipo-magazine/articles/ip-and-business-launching-a-new-product-freedom-to-operate-34956>

Chain of Title and University Constraints

Chain of title refers to the clear ownership history of intellectual property. Breaks or ambiguities in chain of title are common diligence red flags and a frequent source of licensing delays.

In the university context, complications often arise from multiple inventors across institutions, joint appointments, visiting researchers, sponsor agreements, government funding obligations, and different categories of academic contributors. A consistent founder pain point is that faculty, staff, postdocs, graduate students, undergraduates, visitors, and collaborators may each be subject to different IP obligations.

Ownership and disclosure obligations vary widely by institution. Most universities tie IP rights to some combination of appointment or employment status, use of university resources, participation in sponsored research, and signed IP or participation agreements. As a result, different contributors to the same invention can be subject to different ownership rules depending on who they are, how the work was conducted, what resources were used, and what agreements were in place.

Faculty and research staff are generally required to report inventions to the university and sign over ownership if the work was done as part of their role or used university resources. Postdocs are generally treated like employees and are often covered by the same assignment and disclosure requirements. Graduate students are a common source of confusion: they may be subject to assignment requirements if they are participating in research, funded work, employment-like activities, or have signed institutional IP agreements. Undergraduates and other non-employee students can be more variable. They may retain ownership of ordinary educational work, but universities often claim rights where institutional resources, sponsored funding, employment, or specific agreements are involved.

Before negotiating the license, founders should confirm:

- Who are the inventors?
- What are their roles: faculty, staff, postdoc, graduate student, undergraduate, visitor, collaborator?
- What university, hospital, institute, or company was each person affiliated with at the time?
- What agreements did each contributor sign, including IP assignment, employment, consulting, visitor, sponsored research, or participation agreements?
- What resources, funding, materials, data, or facilities were used?

Employment, consulting, and assignment agreements may not fully vest rights if they are poorly drafted or inconsistently executed¹¹. Improvement inventions created after company formation can further complicate ownership, particularly when work continues in academic labs alongside company development. These issues are not limited to patents. Rights in data, software, materials, and know-how may also depend on sponsor terms, contributor status, institutional policy, or separate agreements.

Research supported by government funding can add another layer of constraint. In some cases, that means the invention is subject to the Bayh-Dole framework, the U.S. law that governs how universities manage and license inventions developed with federal funding¹². Identifying these issues early reduces renegotiation risk and shortens licensing timelines.

IMPORTANT NOTE: Bayh-Dole in Practice

When university IP is developed with federal funding, Bayh-Dole can affect how it is licensed and managed. Founders should keep four practical consequences in mind: First, the university must disclose the subject invention to the funding agency within applicable timelines and may elect to retain title. Second, the government retains a nonexclusive, royalty-free license to practice or have practiced the invention for or on behalf of the United States throughout the world. Third, products embodying the invention sold in the U.S. under an exclusive license must be substantially manufactured in the U.S., though waivers exist. Fourth, the government retains "march-in rights," which means that in limited circumstances it can require additional licensing of a federally funded invention¹³. Founders should confirm early whether Bayh-Dole applies and make sure responsibility for compliance is clearly assigned.

¹¹ <https://supreme.justia.com/cases/federal/us/563/776>

¹² <https://www.law.cornell.edu/uscode/text/35/part-II/chapter-18>

¹³ <https://www.ecfr.gov/current/title-37/chapter-IV/part-401>

Putting It Into Practice

Before entering license negotiations, founders should have a clear view of which intellectual property assets are essential to support fundraising, development, and future partnerships. Not every risk must be resolved immediately, but founders should know which ones matter most and when they need to be addressed. Publishing before filing, assuming patents can be fixed later, overlooking data or materials constraints, or treating IP as a formality rather than a core business asset can all create

downstream friction. The earlier founders understand what they actually control and what they are aiming to license, the easier the negotiation becomes.

Next, [Chapter 3](#) turns to the people around the deal: who can shape it, slow it, or block it, and what each group needs from the process.

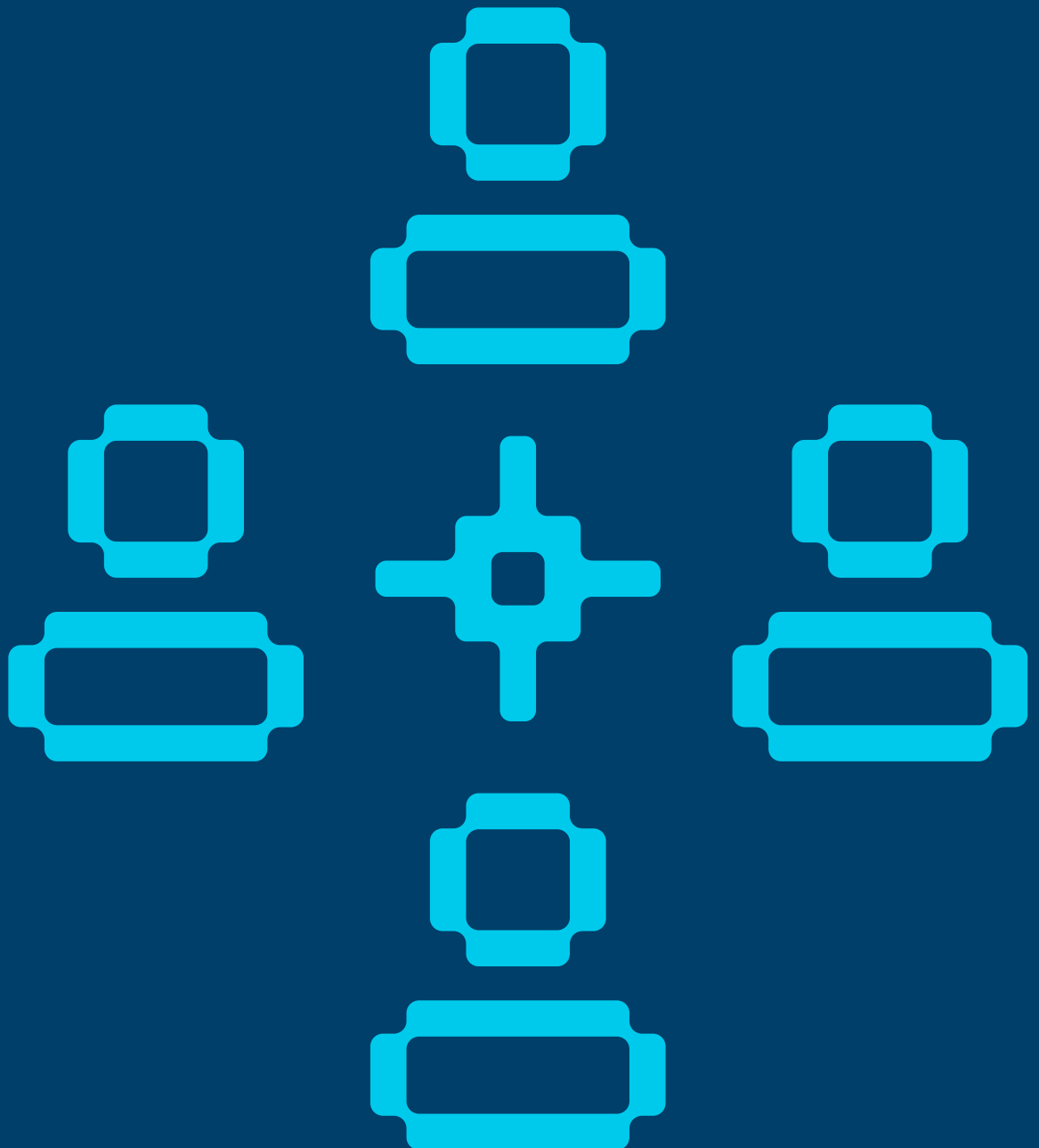
Top Diligence Red Flags Before Licensing

Red Flag	Why It Matters
Missing or disputed inventors	Can stall licensing, erode trust, and create chain-of-title breaks
Multi-institution inventorship	Requires inter-institutional agreements, additional approvals, and delay
MTA or sponsor restrictions	Can block commercial use even with a clean patent license
Missing assignment agreements	If assignment documents are missing or unclear, ownership questions can resurface during diligence
Improvement IP gap	If the PI continues lab work, new inventions may not be captured by the license
License does not cover full package	The patent is licensed, but essential data, know-how, or materials are not
Unclear contributor status	Faculty, staff, postdocs, graduate students, undergraduates, visitors, and collaborators may be subject to different ownership and assignment rules

IP Diligence Checklist

- ☐ Review the university's IP policy. Understand who owns what and what triggers institutional ownership.
- ☐ Audit disclosures and filings. Know which invention disclosures, or IDFs, have been submitted, which patent applications are pending, and the status of each filing.
- ☐ Inventory the full IP stack. Identify essential data, software, materials, and know-how. Determine who owns or controls each asset and what agreements govern access.
- ☐ Map third-party constraints. Review sponsor agreements, federal funding obligations, MTAs, and any background IP entanglements.
- ☐ Identify multi-institution issues. Confirm whether any inventors, materials, or supporting IP sit at a second university, hospital, or research institute.
- ☐ Confirm patent scope and FTO plan. Discuss claim strategy with counsel. Have a staged plan for managing third-party IP risk.
- ☐ Confirm contributor status and assignment documents. Map founders, faculty, staff, postdocs, students, visitors, consultants, contractors, and collaborators against the relevant university policies and signed agreements to confirm that necessary rights were assigned or can be licensed.

Chapter



Stakeholders in University Licensing

Why Stakeholders Matter in University Licensing

University licensing is shaped by a variety of interests including institutional priorities, academic relationships, outside rights, and future financing or partnering expectations¹. Founders who understand those pressures early are better positioned to avoid surprises once the license process begins.

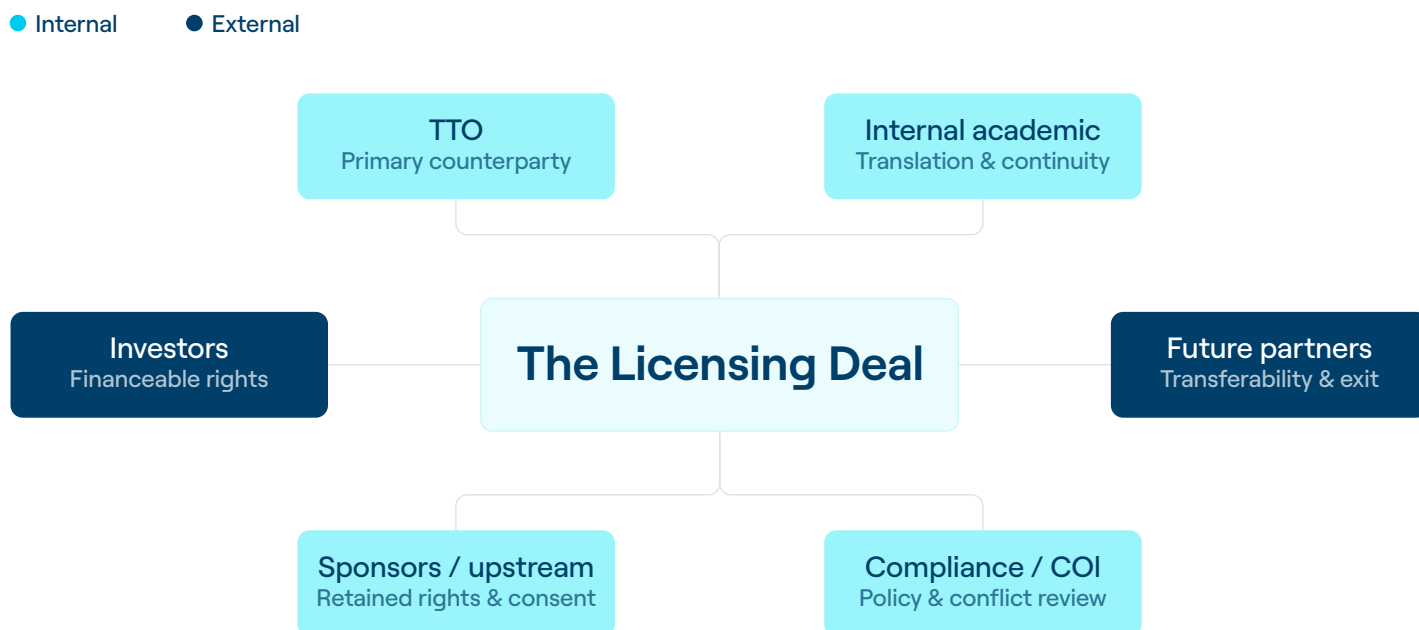
At a minimum, university licensing involves the technology transfer office and the inventors. In practice, other parties often influence or control outcomes, even if they are not present in early conversations². On the university side, this may include central administration, internal legal counsel, compliance or

conflict-of-interest committees, and school or institute leadership. Externally, sponsors, government funders, joint owners, or upstream licensors may hold rights that constrain licensing terms. On the company side, investors and future partners shape what terms are viable, even if they are not yet formally involved.

Across interviews, one theme came up repeatedly: licensing slows down when founders focus only on the term sheet and miss the people, approvals, rights, and diligence expectations around it (Figure 5). This chapter explains who those people are, what they care about, and how their concerns can shape the license.

Who Shapes the Deal?

Figure 5: The Stakeholders Who Shape The Licensing Deal



¹ <https://www.wipo.int/web-publications/a-primer-on-technology-transfer-in-the-field-of-biotechnology/en/7-technology-transfer-in-biotechnology-continuum-of-agreements.html>

² <https://tlo.mit.edu/understand-ip/understanding-licensing-process>

Stakeholder	Main concern	Why it matters in licensing
Technology transfer office	Getting the technology used while protecting the university	Usually the primary negotiating counterparty
Internal academic stakeholders	Preserving academic roles, lab boundaries, and scientific continuity	Misalignment here can slow licensing negotiation surrounding assets
Investors	Rights that can support financing and growth	Licensing terms will be scrutinized closely in fundraising diligence
Compliance, legal, and COI reviewers	Policy compliance, conflict management, and institutional risk	These groups can delay or block the process
Sponsors, government funders, joint owners, and upstream licensors	Protecting pre-existing rights and approval rights	Hidden constraints often appear late and narrow practical flexibility
Future pharma partners and acquirers	Ability to partner, sublicense, transfer, or acquire without unnecessary friction	Terms that seem manageable now can impair partnering or exit later

Core Stakeholders

Technology Transfer Office (TTO)

TTO officers emphasized that they are not just pricing a license. They are deciding whether the company is likely to move the technology forward responsibly.

The TTO is usually the company's main point of contact in licensing negotiations³. From the founder's side, some of the terms that feel minor may be the ones the university cares about most. Publication rights, retained research rights, indemnity, use of the university's name, diligence obligations, and patent cost reimbursement can matter more to the institution than a modest change in royalties or equity⁴.

That is because the TTO is not focused only on price. Its job is to help move university inventions into the market while also protecting institutional interests. That includes complying with sponsor and university obligations, recovering patent costs where possible, and avoiding deals that create legal, reputational, or operational problems for the university.

TTOs also work within internal policies and approval processes. A licensing officer may not be expressing a personal preference so much as the limits of what the institution can support. If a startup asks for terms outside the office's usual range, the TTO may need input from leadership, internal counsel, or other university decision-makers before it can move forward⁵.

For founders, the practical takeaway is that the TTO is the main negotiating counterparty, but it is not acting alone. Understanding the institutional constraints that influence how the TTO comes to the negotiation table early on can make the process smoother and prevent avoidable friction.

Internal Academic Stakeholders

Interviewees repeatedly noted that inventor support is not the same thing as inventor availability. Founders should clarify roles, access, and follow-on work before the license becomes the place where ambiguity surfaces.

³ <https://otl.stanford.edu/researchers/researchers/researchers/intellectual-property-basics/stanford-policies-intellectual>

⁴ <https://autm.net/AUTM/media/Surveys-Tools/TTO-and-VC-Early-Stage-Life-Science-Term-Sheet-%2811-19-22-launch%29.pdf>

⁵ <https://otd.harvard.edu/industry-investors/sample-agreements/licensing/>

Founders and inventors are often treated as if they want the same thing, but that is not always true. Universities often look to inventors for input during licensing, and investors will also pay attention to whether founder and inventor interests are aligned.

Inventors may care deeply about seeing their work translated, but they are often balancing other priorities at the same time: publication, lab management, trainee oversight, grant obligations, and institutional politics. A principal investigator may support forming a company while still wanting to preserve influence over the science, the lab, or future work. A trainee founder may be focused on speed and flexibility, while a senior

inventor may care more about academic continuity and long-term control.

Other academic stakeholders can matter too. Department chairs, institute directors, and affiliated hospital or center leadership may not negotiate the license directly, but they can shape whether the proposed structure feels workable inside the institution. Their concerns are usually practical: faculty time, trainee involvement, use of shared facilities, overlap between lab and company work, reputational risk, and whether the spinout will create friction within the department or clinic. They may not be formal approvers, but their support can affect how smoothly the process moves.

IMPORTANT NOTE: Founder and Inventor Misalignment

Disagreements over company role, scientific direction, data access, or follow-on IP ownership often surface during licensing. These issues are much easier to resolve before term-sheet negotiations begin. If the inventor will keep an academic role, consult for the company, or continue related work in the lab, those arrangements should be discussed early and described consistently across all audiences⁶.

Before the negotiation becomes term-sheet driven, founders should align internally on who will remain involved scientifically, what role the inventor will keep, and what work will stay in the academic lab versus move into the company. If those issues are left unresolved, the licensing process often becomes the point where the ambiguity surfaces, causing lengthy stalls in negotiations.

Internal Compliance and COI Review

University stakeholders described these reviewers as policy gatekeepers. Their job is to prevent conflicts and institutional risk, not to accelerate commercial negotiations.

University legal, compliance, and conflict-of-interest committees can shape or stop a deal if the proposed structure raises policy concerns⁷. In biotech spinouts, that often means scrutiny of faculty roles, trainee involvement, lab resource use, consulting arrangements, publication rights, use of the university's name, and consistency across audiences.

These groups are usually applying policy, not negotiating commercial terms⁸. Terms involving indemnity, representations, warranties, and compliance are often less negotiable than founders expect, so founders should raise those issues early.

⁶ <https://otl.stanford.edu/researchers/startups/best-practices-startups-stanford>

⁷ <https://doresearch.stanford.edu/resources/tools-documents/best-practices-faculty-start-ups>

⁸ <https://www.ecfr.gov/current/title-42/chapter-I/subchapter-D/part-50/subpart-F>

External Stakeholders and Constraints

Investors and Future Partners

Counsel and TTO interviewees emphasized that the license does not need to be perfect. It needs to be financeable now and flexible enough to survive diligence, partnering, sublicensing, and exit later.

Outside audiences may not shape the first draft of the license, but they often determine whether the final agreement holds up in financing, partnering, and diligence.

A university license is one of the first documents investors use to assess whether a biotech company has a real, usable asset base. Investors care less about any single headline number than about whether the company controls a workable asset package⁴. They focus on exclusivity, field definition, patent coverage, sublicensing rights, assignment and change-of-control mechanics, diligence obligations, termination risk, and patent prosecution control.

Even when investors are not directly involved, their priorities often shape the negotiation. Terms may appear settled, then shift after investor or outside counsel review, which can add friction to the process.

Future pharma partners and acquirers usually care about the university license when it creates practical constraints¹⁰. The key question is whether the agreement will make a future partnership, financing, or acquisition harder than it needs to be. In a transaction, they will look closely at assignment rights, sublicensing flexibility, consent requirements, field limits, and upstream restrictions.

This is where university licenses can create downstream problems. A structure that works for an early-stage company may be less attractive to a larger partner that expects easy transferability and fewer approval hurdles. Founders can avoid some of this friction by engaging with mentors and experts that have successfully navigated the licensing process and startup exit, as they can flag potentially undesirable terms early on.

Sponsors, Joint Owners, and Upstream Constraints

Interviewees cautioned that hidden rights often surface late. Sponsors, joint owners, government funders, and upstream licensors can shape the deal even when they are not directly involved in negotiations.

Outside rights can be easy to overlook because they are not always obvious in the university-company negotiation, but they are a common source of late-stage friction.

Sponsored research agreements and government funding may limit what the university can grant¹¹. Option rights, review rights, reporting obligations, retained rights, and other contractual or statutory requirements can all shape the deal.

Joint owners and upstream licensors create another layer of constraint⁹. If more than one institution owns the IP, or if the university's rights depend on an earlier inbound license, the company may inherit limits on field of use, assignment, sublicensing, patent prosecution, enforcement, or required consents.

These issues become especially important when the company is built around a platform rather than a single asset¹². A founder may assume the company has broad flexibility, only to discover later that one institution controls prosecution, another must approve certain sublicenses, and an outside sponsor has rights that narrow the company's options.

Before You Negotiate

Before negotiations begin, founders should know who can approve the deal, who can delay it, what non-patent assets are essential, and what outside constraints may affect financing or development. Each group is looking at the deal from a different angle. The goal is to understand where the real pressure points may be before each party red lines a term sheet. Founders who identify the relevant stakeholders and what they want early can prioritize the issues that determine whether a deal is workable at signing and still usable as the company grows.

⁴ <https://autm.net/AUTM/media/Surveys-Tools/TTO-and-VC-Early-Stage-Life-Science-Term-Sheet-%2811-19-22-launch%29.pdf>

⁹ <https://autm.net/surveys-and-tools/agreements/model-ii-a-project>

¹⁰ <https://www.ropesgray.com/en/insights/alerts/2025/02/considerations-when-contracting-with-academic-spinouts>

¹¹ <https://osatt.mit.edu/engagements/industry-sponsored-research-agreements-isras>

¹² <https://www.ohsu.edu/innovates/intellectual-property-agreements>

When Stakeholders Enter and What to Watch For

Stakeholder	When they usually enter	What founders should watch for
TTO	Early; usually first point of contact	Internal approvals, patent cost expectations, diligence milestones, and terms that may be outside the licensing officer's authority
Internal academic stakeholders	Before or around company formation	Misalignment on company role, data access, lab boundaries, trainee involvement, or follow-on work
Investors	Often before term sheet; always during diligence	Counsel-driven redlines, requests to revisit settled terms, and pressure around patent prosecution, sublicensing, field scope, or assignment
Compliance / COI	Mid-process; often triggered by faculty involvement	Required disclosures, management plans, limits on faculty roles, use of university resources, or trainee involvement
Sponsors / government funders	Should be mapped early; often surface during drafting or diligence	Option rights, consent requirements, reporting obligations, Bayh-Dole obligations, or limits on exclusivity ¹³
Joint owners / upstream licensors	Should be identified early; often discovered during the IP audit	Inter-institutional agreements, prosecution control, sublicensing consent, field limits, or enforcement rights
Future partners / acquirers	Not at the table, but their expectations should shape the draft	Consent friction, field limits, assignment restrictions, sublicensing limits, and transferability issues

¹³ <https://uscode.house.gov/view.xhtml?edition=prelim&path=%2Fprelim%40title35%2Fpart2%2Fchapter18>

FOUNDER CHECKLIST: Pre-Negotiation

-
- ☐ Who can approve the deal?
 -
 - ☐ Who can delay the deal?
 -
 - ☐ Who can block the deal, formally or practically?
 -
 - ☐ What non-patent assets are essential to make the rights usable?
 -
 - ☐ Which terms are most likely to matter in financing, partnering, or acquisition diligence?
 -
 - ☐ What approvals or side agreements may be needed beyond the patent license?
 -



Chapter

04



Anatomy of a University License Agreement

A university license agreement can easily run 30 pages or more. For first-time founders, it often feels dense, legalistic, and difficult to prioritize. Most university licenses follow a similar structure, but the specific terms vary widely across institutions, technologies, and negotiating leverage¹. The most important aspect is that no clause exists in isolation; scope, economics, diligence, and exit rights are tightly coupled. Small changes in one section often cascade into others.

A recurring theme across university and company-side guidance is that a licensee should not treat a license as “paperwork you sign to form the company”². It is the contract that defines (i) what the company is actually allowed to do, (ii) how flexible the company will be to partner or pivot, (iii) what the company owes financially and when, and (iv) what happens if timelines slip. Multiple interviewees described the best license as ‘invisible’; it sits quietly, provides the rights needed from the university, fits within a workable freedom-to-operate strategy, and does not block financing or require renegotiation.

This chapter is not legal advice; it is a navigation tool designed to help readers recognize each section of a license, understand its purpose, and identify what matters most for their company.

In order to execute a first-time license, it is not necessary to memorize legal language. What is necessary is to understand what drives outcomes, what is flexible, and what can be questioned.

Where to find a complete example of a university license

There are several resources that outline standard licensing structures in greater detail, including the US-BOLT term sheet, Boston University EZ License, and guidance from organizations such as World Intellectual Property Organization³⁻⁵. See [Chapter 7](#) for detailed information and where to find them.

¹Technology Transfer Professionals. *Anatomy of a License Agreement*.

Available at: https://autm.net/AUTM/media/TTP/ThirdEditionPDFs/V4/TTP_V4_AnatomyLicense.pdf?ext=.pdf

²Ropes & Gray. *University Technology Licensing: Practical Law Guide*. January 2023.

Available at: https://www.ropesgray.com/-/media/files/articles/2023/01/20230112_practical_law/20230112_practical_law.pdf

³Boston University. *EZ Startup License Agreement*. Available at: <https://www.bu.edu/researchsupport/forms-policies/ez-startup-license-agreement/>

⁴World Intellectual Property Organization. *Exchanging Value: Negotiating Technology Licensing Agreements*.

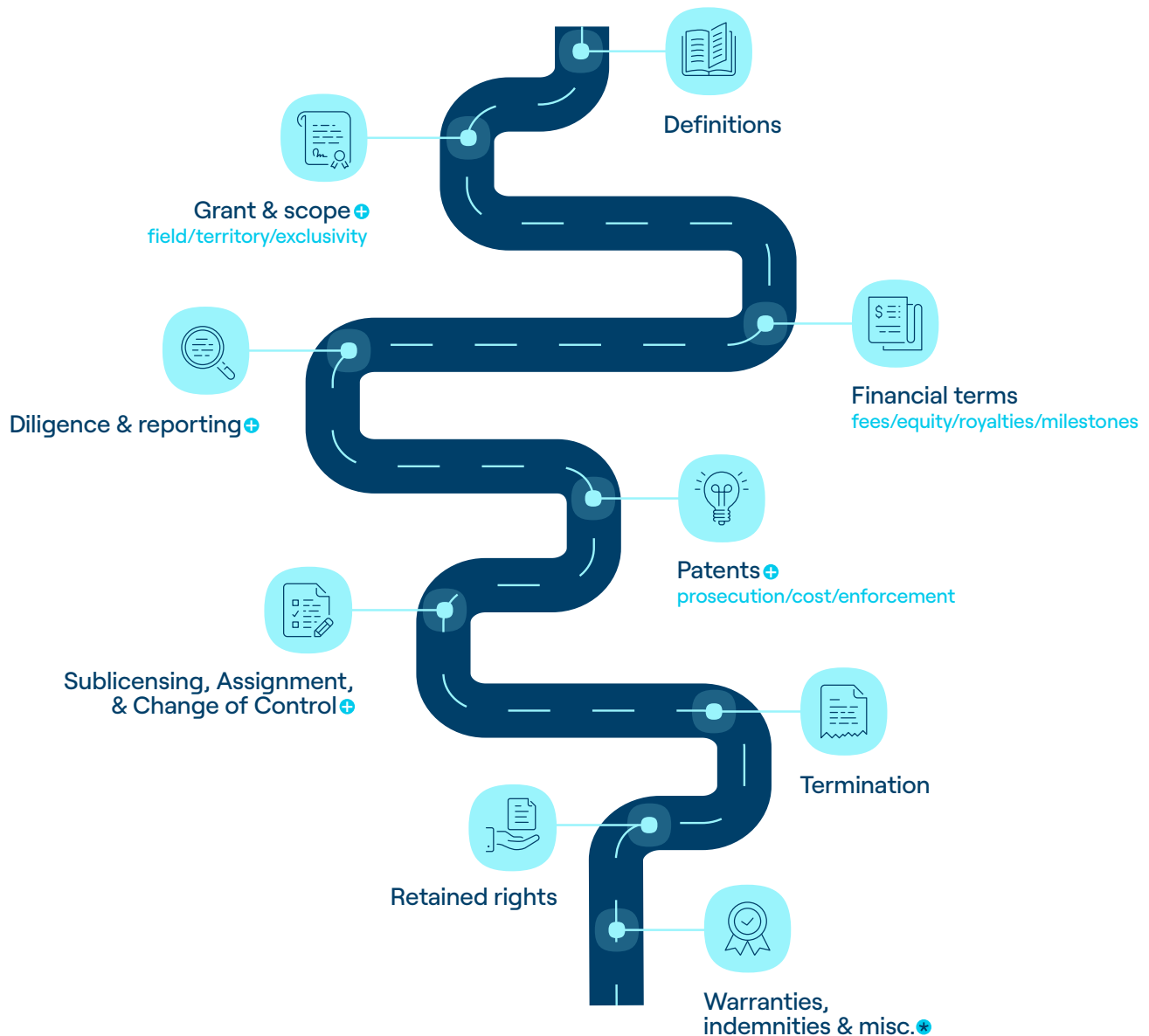
Available at: https://www.wipo.int/edocs/pubdocs/en/licensing/903/wipo_pub_903.pdf

⁵AUTM. *US-BOLT Early Stage Life Science Term Sheet*.

Available at: <https://autm.net/AUTM/media/Surveys-Tools/TTO-and-VC-Early-Stage-Life-Science-Term-Sheet-%2811-19-22-launch%29.pdf>

The License Roadmap

Every license will have a similar set of components, laid out in this typical sequence



* Terms that are not covered in this chapter

Representations, warranties, and liability allocation are rarely decision-shaping for founders at the university-licensing stage, and this shorter overview is for founders to understand clauses that *meaningfully change strategy, fundraising, or outcomes*.

+ What terms matter most in practice?

Across stakeholders, the most important terms are often structural: field of use, sublicensing, diligence milestones, prosecution control, and ownership boundaries. Royalties and equity matter, but they're frequently overemphasized early by first-time founders.

A Smarter Reading Order

A license doesn't have to be read in the order it's written. Start with the definitions, then move to the grant of rights. Together, these sections determine what products are covered, which payments are triggered, and what actions may constitute breach. Next, review sublicensing and assignment, followed by diligence obligations and IP prosecution/enforcement. Conclude with termination and post-termination provisions, which govern how rights and obligations unwind.

Licensing Agreement Components

Definitions

What this section governs	Important Concepts	Why this matters	Common Issues
What IP is actually included in the license.	Licensed IP (patents, know-how, data, materials), licensed products, net sales, improvements.	Definitions are the operating system of the contract. If they're wrong, everything downstream breaks.	Licensed Products that exclude the lead, narrow know-how, missing rights to improvements or collaborators.

Definitions often appear in the beginning of a license agreement and clearly outline important terms, concepts and assets that will be referred to later on in the term sheet. Definitions are used to remove ambiguity to avoid openings for later disagreement and litigation. If the license grant defines how the IP can be used, this section defines what that IP actually is. In university licenses, that often includes more than patents: applications, materials, data, software, and know-how, where much of the real value may sit. Clarity here is critical. Founders should understand what's included, whether improvements are covered, and how broadly the rights extend. If founders harbor misunderstandings surrounding the assets encompassed by the license agreement, they also fundamentally misunderstand what serves as the foundation for their company.

Definition red flags founders should notice:

- A "Licensed Products" definition that accidentally excludes the lead product, lead formulation, or lead use case.
- A "Net Sales" definition that disallows standard deductions (returns, freight, rebates), depending on norms in the company's sub-sector.
- A "Licensed Know-How" definition that is too narrow to include protocols, datasets, or materials needed for scale-up.

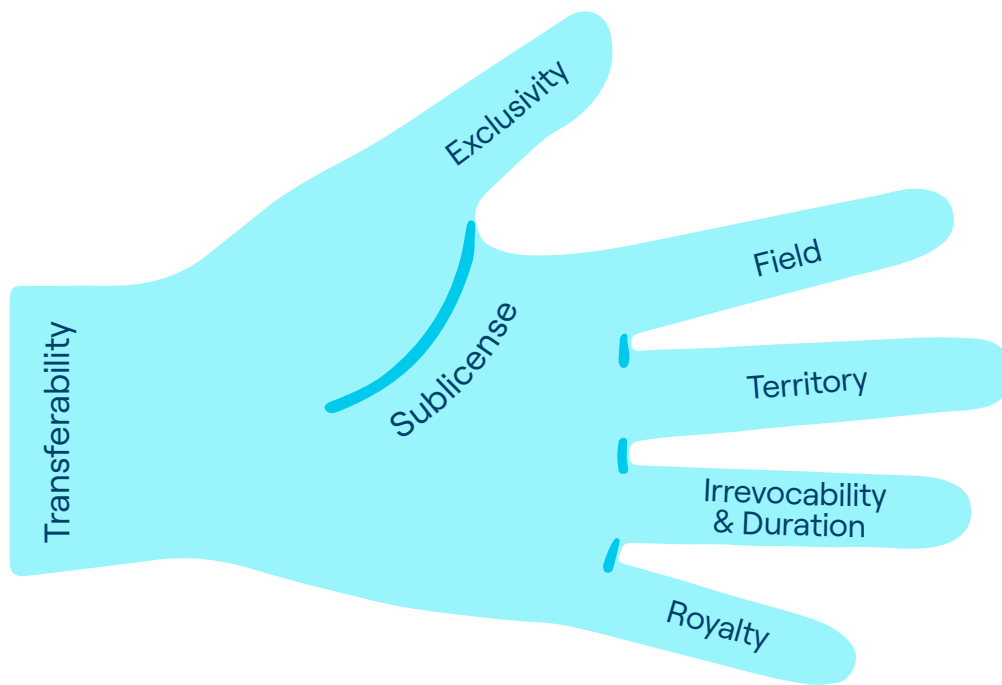
The License Grant

What this section governs	Important Concepts	Why this matters	Common Issues
What IP is licensed and what the company is allowed to do with it.	Licensed vs. excluded IP; field of use; territory; exclusivity.	Defines the company's commercial ceiling. Too narrow limits future pivots and too broad increases cost and obligations.	Field too narrow for future indications and misinterpreting exclusivity (often conditional).

The license grant is the most foundational section of the agreement, defining the permissions, rights and limitations the university is granting to the spinout. A typical license grant answers: What IP is covered? What rights are granted? Is it exclusive? In what field? In what territory? (Figure 6)¹. At a high level, the license grant determines how founders are actually able to utilize, develop and commercialize the IP portfolio.

Figure 6: The Key Dimensions of a License Grant are in Your Hand¹

Each part of the hand maps to a core term: **thumb** (exclusivity), **forefinger** (field), **middle** (territory), **ring** (duration/irrevocability), **pinky** (royalties), **palm** (sublicensing), and the **hand** itself (transferability). Together, these define the company's operating space and flexibility.



¹Technology Transfer Professionals. *Anatomy of a License Agreement*. Available at: https://autm.net/AUTM/media/TTP/ThirdEditionPDFs/V4/TTP_V4_AnatomyLicense.pdf?ext=.pdf

A useful way to understand the license grant is as a set of dimensions that define a company's operating space. These include exclusivity (whether others can access the same IP), field of use (which applications are permitted), territory (where the company can operate), duration (how long the rights last), sublicensing rights (whether rights can be extended to partners), and assignability (whether the license transfers in an acquisition). Among these, field of use and sublicensing rights are often the most consequential, as they directly shape what kind of company can be built and how it can scale.

What Is Being Licensed (The IP "Bundle")

The licensed IP is typically a bundle, not a single asset. Academic licenses commonly include issued patents and pending applications, related know-how, and sometimes tangible materials¹. Universities often define licensed patents narrowly (by schedule), so it is important to ensure that the definition captures the full patent family to avoid gaps in coverage.

A common early mistake is allowing downstream definitions (such as "Licensed Products") to be written too broadly. For example, defining products as anything that "uses" know-how can unintentionally expand royalty obligations beyond the core patent-protected assets, particularly as know-how becomes public over time.

Field of Use and Exclusivity (Where the Real Constraints Are)

Field of use was consistently identified across interviews as one of the highest-leverage terms. It defines the markets that can be pursued and whether the university can license the same underlying IP to others in adjacent or parallel areas². In practice, this clause sets the boundaries of the company's commercial opportunity.

Poorly defined fields can create problems in both directions. From the university's perspective, an overly broad field may grant more rights than intended. From the company's perspective, an overly narrow field can constrain future indications, platform expansion, or partnering opportunities, ultimately limiting long-term value. As a result, the field of use should be stress-tested not just against the current program, but against how the company might evolve.

Exclusivity, while important, is often misunderstood in the university context. Even "exclusive" licenses typically include built-in caveats: universities retain rights for internal research and teaching, and government rights may apply for federally funded inventions⁶⁻⁷. In addition, exclusivity may apply differently across components of the IP. A common structure is exclusive rights to patents paired with non-exclusive access to know-how, reflecting the university's obligation to preserve academic openness.

Because of these nuances, the more useful framing is not simply "exclusive or not," but "exclusive where, for what, and under what conditions." In practice, exclusivity is tightly linked to the field of use, diligence requirements, and termination provisions, and should be evaluated in that broader context.

Early-stage life sciences frameworks, such as the US-BOLT term sheet, often favor broad field definitions and worldwide territory, particularly for therapeutics, to avoid scenarios where overlapping rights create regulatory or partnering complications⁸. While not universally applicable, this reflects a broader principle: constraints in scope are often far more consequential than differences in financial terms.

Grant of Rights (Operational Reality)

The "grant" clause usually authorizes the licensee to make, have made, use, import/export, offer for sale, sell, and have sold licensed products in the licensed territory. Including "have made" is operationally important because early biotechs routinely rely on CROs, CDMOs, and other third parties rather than manufacturing internally. Missing this distinction can limit companies to only produce products in-house rather than leverage external parties.

Improvements and future IP

Terms focused on ownership over improvements and future IP outline if startups retain ownership to new IP that builds upon their original patents. Startups frequently seek rights to improvements developed in the originating lab, but universities are cautious about granting open-ended claims on future IP². A common compromise is time-limited access to improvements (e.g., those developed within a specific lab over a defined period), with additional rights handled through later amendments. This reflects both practical and institutional constraints, including conflict-of-interest and policy considerations.

¹Technology Transfer Professionals. *Anatomy of a License Agreement*.

Available at: https://autm.net/AUTM/media/TTP/ThirdEditionPDFs/V4/TTP_V4_AnatomyLicense.pdf?ext=.pdf

²Ropes & Gray. *University Technology Licensing: Practical Law Guide*. January 2023.

Available at: https://www.ropesgray.com/-/media/files/articles/2023/01/20230112_practical_law/20230112_practical_law.pdf

⁶ Code of Federal Regulations. *37 CFR §401.14 – Standard Patent Rights Clauses*. Available at: <https://www.law.cornell.edu/cfr/text/37/401.14>

⁷United States Code. *35 U.S.C. §204 – Preference for United States Industry*. Available at: <https://www.law.cornell.edu/uscode/text/35/204>

⁸ AUTM. *US-BOLT Early Stage Life Science Term Sheet*.

Available at: <https://autm.net/AUTM/media/Surveys-Tools/TTO-and-VC-Early-Stage-Life-Science-Term-Sheet-%2811-19-22-launch%29.pdf>

Founder Checklist for the Scope of the License Grant:

From a founder perspective, the goal is to ensure the scope of the license supports how the company may evolve.

- ☐ Confirm that the patent definition captures the full family, including continuations, divisionals, and appropriately scoped continuation-in-part claims, without unintentionally excluding or overextending coverage.
- ☐ Stress-test the field of use against the company's current lead program as well as plausible future directions, including new indications, platform expansion, and downstream partnering.
- ☐ Ensure the grant includes the operational rights required to execute the company strategy, such as the ability to "have made," import/export, and distribute, and aligns with how the company will actually operate (e.g., reliance on CROs/CDMOs versus internal development).

Founders often underestimate how constraining these terms can be. A license that looks reasonable on the surface can still meaningfully limit growth if the scope is too narrow or definitions are imprecise.

Financial Terms

What this section governs	Important Concepts	Why this matters	Common Issues
How the university gets paid from the license.	Upfront fees; equity; milestones; running royalties; minimums; sublicense revenue share.	Drives capital efficiency, partnering economics, and exit value.	Over-focusing on royalty rate, ignoring milestone timing, and underestimating sublicense revenue share impact.

In university spinouts, financial terms are rarely a single number. Instead, they are typically structured as a portfolio of considerations designed to balance cost recovery, participation in upside, and incentives for commercialization.

Most licenses include some combination of upfront payments, equity, milestones, running royalties, and sublicense revenue sharing¹. The exact mix varies by institution but in general, universities seek to share in both near-term and long-term value creation and recoup fees associated with patent filing.

Upfront fees and annual maintenance payments are common, though often reduced or deferred for early-stage startups. These provide immediate value to the institution and help cover patent and administrative costs. Many universities may take equity either in lieu of, or in addition to, cash payments. Equity is often issued on a fully diluted basis and may include investor-style provisions such as anti-dilution protection or preemptive rights, although these vary widely across institutions². These protections can materially impact future financing, as they designate the university as the first external stakeholder on a cap table and are worth understanding early.

¹ Technology Transfer Professionals. *Anatomy of a License Agreement*.

Available at: https://autm.net/AUTM/media/TTP/ThirdEditionPDFs/V4/TTP_V4_AnatomyLicense.pdf?ext=.pdf

² Ropes & Gray. *University Technology Licensing: Practical Law Guide*. January 2023.

Available at: https://www.ropesgray.com/-/media/files/articles/2023/01/20230112_practical_law/20230112_practical_law.pdf

Exploring Anti-Dilution (How University Equity Holds Up Over Time)

University equity is usually issued pre-financing. Anti-dilution provisions can protect the university's equity position in future financing rounds. University anti-dilution provisions may allow the university to maintain a specified ownership percentage or otherwise protect its equity position through future financings.

What investors see

- Broad or uncapped anti-dilution
→ greater financing friction
- Capped or time-limited protection
→ potentially more manageable
- No anti-dilution → simpler cap table

Why this matters

University equity is often granted very early, before the company has raised capital. During future funding rounds, anti-dilution reallocates value. In practice, it often shifts dilution onto new investors, effectively taxing future capital. Poorly structured terms can complicate financings and distort cap table dynamics.

What happens in real deals

Most venture-backed structures limit, cap, or eliminate anti-dilution to preserve financing flexibility.

Common issues

- Broad or uncapped protection
- Indefinite duration
- Stacking with other investor-like rights
(e.g., preemptive rights)

Founder takeaway

Optimize for the next round. Push for simplicity and investor compatibility. If anti-dilution is included, ensure it is capped, time-limited, and predictable.

Tool: Explore dilution scenarios using Hannah Payette Peterson's equity calculator:

<https://hpayettepeterson.github.io/equity-calculator/>

Milestone payments can be tied to development, regulatory, or commercial events (e.g., IND filing, clinical progress, approval, or first commercial sale) or fundraising events². Because these payments are contingent on progress, they are often easier to negotiate than higher upfront royalties, as they align payment with meaningful de-risking. It is often more company-friendly to tie milestone payments to fundraising events rather than development or technical milestones because they will coincide with an influx of capital.

Running royalties are usually structured as a percentage of Net Sales that is paid to the university, although per-unit royalties or tiered structures are also used. The definition of Net Sales is one of the most heavily negotiated components of the agreement, as permitted deductions (such as rebates, returns, distribution fees, and taxes) directly determine the royalty base. In life sciences, additional complexity arises from payer dynamics, non-commercial programs, and combination products, all of which require careful treatment to avoid unintended economic outcomes.

Royalty stacking refers to the additive burden of multiple royalties from different licensed or sublicensed assets. Because biotech products often rely on multiple layers of IP, companies may need to pay royalties to third parties in addition to university royalties. Many agreements include stacking provisions that allow reductions in university royalties (within a cap) to account for these obligations, though this is sometimes negotiated in exchange for a lower headline royalty rate². Royalty stacking is a critical term to consider closely as aggressive stacking terms can make a product commercially unviable.

Sublicensing revenue sharing is frequently one of the most sensitive and heavily negotiated terms², referring to the university receiving a percentage of consideration received from sublicensees. Universities often require a share of upfront payments, milestones, and other considerations received from partners. While this structure allows the university to participate in downstream value, it can materially affect the attractiveness of a deal to pharmaceutical partners. Some agreements include tiered sharing that decreases as the asset matures, or mechanisms to allocate value between licensed IP and company-developed assets.

²Ropes & Gray. *University Technology Licensing: Practical Law Guide*. January 2023.

Available at: https://www.ropesgray.com/-/media/files/articles/2023/01/20230112_practical_law/20230112_practical_law.pdf

Founder Checklist for Structuring Economics:

- ☐ Negotiate structure before numbers.
 - ☐ The key question is how the university participates: through equity, royalties, milestone payments, sublicense revenue share, or some combination. Each mechanism impacts different moments in the company lifecycle, from early fundraising to downstream partnering.
- ☐ Treat Net Sales as a core economic term, not boilerplate.
 - ☐ The definition should align with how the company expects to commercialize as well as account for common edge cases such as combination products or non-traditional access programs.
- ☐ Model the full economic package under a realistic partnering scenario.
 - ☐ Universities may participate through multiple layers (royalties, sublicense revenue share, and potential third-party stacking), and while each component may appear reasonable in isolation, the combined burden can meaningfully distort downstream deal economics.

Key takeaways:

Financial terms should be evaluated as an integrated system, not as isolated line items. Individual terms may appear reasonable on their own, but their combined effect can meaningfully shape fundraising and exit outcomes.

Across interviews, a typical equity stake for university licenses clustered around ~5%. However, financial terms tend to converge: lower equity is often offset by higher royalties or milestone payments, and vice versa.

As a result, the specific mix of economics matters less than the overall structure. In university licensing, while equity and royalties are important, structural terms (such as scope, sublicensing rights, and diligence) tend to have a greater impact on company outcomes over time.

Development Milestones & Diligence

What this section governs	Important Concepts	Why this matters	Common Issues
The company's obligation to develop the technology	Commercially reasonable efforts; development/financing milestones; reporting; consequences for failure.	Ensures IP is actively developed. Primary enforcement mechanism and often the fastest path to termination.	Unrealistic timelines, treating reporting as a formality instead of relationship management, and misalignment with actual development plan.

Universities license with the expectation of practical application: credible progress toward commercialization and public benefit⁶. To encourage this, most licenses impose diligence obligations that prevent technologies from being shelved. A typical structure is a general diligence standard plus a milestone schedule with dates. Milestones should be tied to the licensee's development plan.

These obligations are typically structured as a combination of a general diligence standard and a set of specific milestones tied to development progress. Milestones commonly include financing events, candidate nomination, IND filing, clinical progression, and commercialization steps, and are usually aligned with the company's development plan.

Because biotech development timelines are inherently uncertain, the most effective diligence frameworks are systems that allow for structured flexibility. Many agreements include mechanisms for extension, such as advance notice of delays, good-faith renegotiation of timelines, and in some cases extension fees. In practice, **maintaining a constructive relationship with the university can be just as important as the formal terms themselves when navigating delays.**

Licenses also include ongoing reporting obligations. Early in development, this typically involves periodic progress reports; once commercialization begins, it shifts to royalty reporting tied to sales activity. Universities often retain audit rights as an enforcement mechanism, allowing them to review company records (typically on a limited frequency basis), with cost-shifting provisions if discrepancies exceed a defined threshold.

In some cases, there is an additional federal overlay. For inventions developed with federal funding, agencies may retain rights to request utilization reports, with appropriate

confidentiality protections⁶. While these requirements are less visible in day-to-day operations, they reinforce the underlying expectation that licensed technologies are actively developed and brought to market.

Key Takeaway: Treat diligence milestones like product strategy

Academic licensors often use milestone-driven diligence to prevent shelving and ensure progress toward public benefit objectives, so founders should negotiate milestones that match the real development plan and financing reality, rather than treating them as an afterthought.

⁶ Code of Federal Regulations. 37 CFR §401.14 – Standard Patent Rights Clauses. Available at: <https://www.law.cornell.edu/cfr/text/37/401.14>

Patent Prosecution & Control

What this section governs	Important Concepts	Why this matters	Common Issues
Who controls, pays for, and enforces patent strategy.	University control; cost reimbursement; licensee input; enforcement rights.	Shapes IP strength, cost structure, and competitive defense. Investors care about clarity of control.	Assuming exclusivity = control and underestimating patent costs (especially international).

University licenses must resolve four core operational questions: who controls prosecution, who pays for it, how decisions are made, and who is responsible for enforcement¹. These provisions directly shape cost structure, strategic control, and the strength of the company's IP position. In most agreements, the university retains formal control over patent prosecution and maintenance as the IP owner. However, the licensee typically receives visibility and the opportunity to provide input, reflecting the fact that the company bears the commercial risk. In practice, this often results in a hybrid model: the university controls the process, and the company can meaningfully influence strategy through review and comment rights. There are also important regulatory overlays to consider. For federally funded inventions, Bayh-Dole provisions can introduce additional constraints around abandonment, including potential government rights if patent protection is not maintained⁶.

Cost allocation is commonly asymmetric. The company is usually responsible for reimbursing both past and ongoing patent expenses, even though it does not fully control prosecution decisions. Many agreements include mechanisms that allow the company to manage this burden, such as the ability to discontinue support for specific countries. In these cases, the university may choose to continue prosecution at its own expense, but the associated rights are typically removed from the licensee's scope.

Enforcement provisions determine who has the right to act against infringers, who bears the cost, and how any recoveries are allocated. Many agreements grant the licensee the first right to enforce in exclusive licenses, with step-in rights for the university if the company declines to act. These clauses also define control over litigation strategy, settlement decisions, and the distribution of proceeds, making them highly relevant in competitive scenarios.

Patent challenges represent a separate and often heavily negotiated dimension. Universities frequently include disincentives to prevent licensees or sublicensees from challenging the validity of the licensed patents. These may include termination rights or financial penalties during the course of a challenge, although the enforceability of such provisions may depend on applicable law and the structure of the provision.

Patent prosecution extends beyond routine IP maintenance and directly shapes budget, strategy, and risk. Companies are often responsible for funding patents they do not fully control, which makes visibility into filings, input on claim scope, and alignment with the commercial roadmap essential. Costs should be actively managed, particularly for international filings, and opt-out rights should be used thoughtfully to balance savings against potential reductions in competitive scope. Enforcement terms should be clearly understood, including who initiates action, who bears the cost, and who controls decisions, as these can materially impact partnerships and competitive positioning. Where the company is funding the IP, it should retain meaningful influence over how that IP is developed and defended.

¹ Technology Transfer Professionals. *Anatomy of a License Agreement*.

Available at: https://autm.net/AUTM/media/TTP/ThirdEditionPDFs/V4/TTP_V4_AnatomyLicense.pdf?ext=.pdf

⁶ Code of Federal Regulations. *37 CFR §401.14 – Standard Patent Rights Clauses*. Available at: <https://www.law.cornell.edu/cfr/text/37/401.14>

Sublicensing, Assignment, & Change of Control

What this section governs	Important Concepts	Why this matters	Common Issues
Whether and how the company can partner or out-license.	Right to sublicense; approval/notice requirements; revenue sharing on sublicense income.	Critical for biotech business models and directly affects partner deal economics.	Discovering obligations late in partnering deals and failing to model downstream economics.

Sublicensing is central to life sciences business models, where advancing clinical development and commercialization often requires partnerships with pharmaceutical companies². For biotech startups, sublicensing enables these partnerships, provides access to capital, and supports the path to market, making it one of the most consequential sections of the license.

At a high level, sublicensing terms determine whether a company can partner freely and how much of the resulting value is owed to the university. Companies typically seek broad, multi-tier sublicensing rights with minimal approval requirements, while universities often seek visibility and some degree of control. The balance between speed and oversight directly affects the company's ability to execute partnerships.

Sublicense economics are often the most sensitive component. Universities commonly take a share of partner payments, including upfronts and milestones, and the definition of "consideration" can materially affect deal economics. Terms that appear reasonable in isolation may become restrictive in the context of a real transaction.

Assignment provisions are closely related. While most agreements permit transfer in a change of control, requirements for consent, particularly if discretionary, can introduce friction in acquisition scenarios.

Key Takeaway:

In practice, **sublicensing terms shape the company's operating model**: how quickly it can partner, how value is shared with the university, and whether the license will transfer cleanly in a strategic transaction.

²Ropes & Gray. *University Technology Licensing: Practical Law Guide*. January 2023.

Available at: https://www.ropesgray.com/-/media/files/articles/2023/01/20230112_practical_law/20230112_practical_law.pdf

Term & Termination

What this section governs	Important Concepts	Why this matters	Common Issues
When and how the license can end.	Term (often patent life); termination triggers; cure periods; at-will termination; sell-off rights.	Defines downside risk, survivability, and impacts acquisition outcomes.	Not stress-testing termination scenarios and overlooking cure periods or reinstatement rights.

This section defines when the license can end and what happens next. Most licenses can terminate for missed diligence milestones, non-payment, certain insolvency-related events, and in some cases, patent challenges, although termination solely because of a bankruptcy filing may be limited by federal bankruptcy law. Cure periods may allow time to fix issues, but they are not guaranteed. In practice, termination and diligence are among the most consequential parts of the agreement. Interviews consistently highlight this as a major source of downstream friction when expectations are misaligned.

One critical and often underappreciated issue is sublicense survival. Downstream partners, particularly pharma, will want assurance that their rights persist even if the original license terminates. This is a common negotiation point, and while

universities often agree to some form of survival or conversion to a direct license, they typically include guardrails on what obligations they are willing to assume.

Post-termination mechanics also matter more than most founders expect. Strong agreements clearly define what happens to data, materials, inventory, and ongoing obligations. They also specify which provisions survive termination such as accrued payments, confidentiality, indemnity, and audit rights. These details are rarely scrutinized at signing but frequently become central during diligence or transactions.

Termination terms define downside risk. They determine whether partnerships can close, whether a buyer inherits clean rights, and whether the company can recover if something goes wrong.

Founder Checklist for Term Periods:

- ☐ Ensure cure periods are clearly defined and realistic
- ☐ Confirm how sublicenses are treated (survival or conversion)
- ☐ Specify post-termination handling of data, materials, and inventory
- ☐ Identify which obligations survive (payments, confidentiality, indemnity, audits)
- ☐ Make sure termination and assignment provisions don't introduce exit risk

Rights Retained by the University

What this section governs	Important Concepts	Why this matters	Common Issues
What the university can still do with the IP.	Research/teaching rights; publication rights; government rights; non-commercial use by others.	"Exclusive" never means absolute exclusivity. Important for investor and partner expectations.	Trying to restrict publication and misunderstanding government rights or manufacturing requirements.

This is the section where founders most often misinterpret boilerplate. In university licensing, "exclusive" almost never means exclusive in every sense. Universities typically retain a set of core rights, including the ability to use the technology for research, teaching, and public service, and to allow other non-profit institutions to do the same^{6,9}.

They also retain publication rights. Universities will not give up academic publication; at most, they may agree to a short review window (often ~30–45 days) to allow for patent filing before disclosure². This reflects the balance between academic dissemination and protecting IP. If the technology was developed with federal funding, additional government rights apply. These can include a nonexclusive, nontransferable, irrevocable, paid-up license for government use and in some cases, domestic manufacturing requirements for U.S. commercialization under Bayh-Dole⁷.

Finally, university IP is typically licensed as is. Institutions provide minimal warranties and often require indemnification and appropriate insurance coverage from the company as part of their risk management framework.

Key Takeaway:

Exclusivity in academic licensing comes with built-in carve-outs. Understand what rights the university (and government) always retains, and plan accordingly.

²Ropes & Gray. *University Technology Licensing: Practical Law Guide*. January 2023.

Available at: https://www.ropesgray.com/-/media/files/articles/2023/01/20230112_practical_law/20230112_practical_law.pdf

⁶Code of Federal Regulations. *37 CFR §401.14 – Standard Patent Rights Clauses*. Available at: <https://www.law.cornell.edu/cfr/text/37/401.14>

⁷United States Code. *35 U.S.C. §204 – Preference for United States Industry*. Available at: <https://www.law.cornell.edu/uscode/text/35/204>

⁹National Research Council. *Managing University Intellectual Property in the Public Interest*. National Academies Press.

Available at: <https://nap.nationalacademies.org/read/10009/chapter/7>

Best Practices: Stakeholder-Aligned Guidance for Key Issues

For each issue area, founders should prepare with the following framework:

Issue Area	TTO Philosophy	Founder Concerns	Investor Perspective	Founder Action Plan
Sublicensing Revenue	TTO seeks fair share of downstream value	Needs flexibility to partner or sublicense	Avoid hidden royalties; ensure terms support scaling	Ask for clear revenue-sharing formulas; define "enabled products"
Royalty Rates	Use internal or AUTM benchmarks	Want lower rates early, defer higher value	Predictable rates help model ROI	Benchmark with similar deals; negotiate stacked royalties
Milestones	Want accountability and progress	Fear of triggering payments too early	Tie payments to major funding or de-risking events	Request backend-weighted or conditional milestones
Patent Control	TTOs often retain ownership and enforcement rights	Want ability to prosecute or defend patents	IP risk mitigation is essential for funding	Propose shared prosecution costs; define enforcement process
Improvements & New IP	Include future IP in license if "enabled"	Uncertainty around university claims	VCs want clean IP boundaries	Negotiate explicit carve-outs; use option clauses where needed

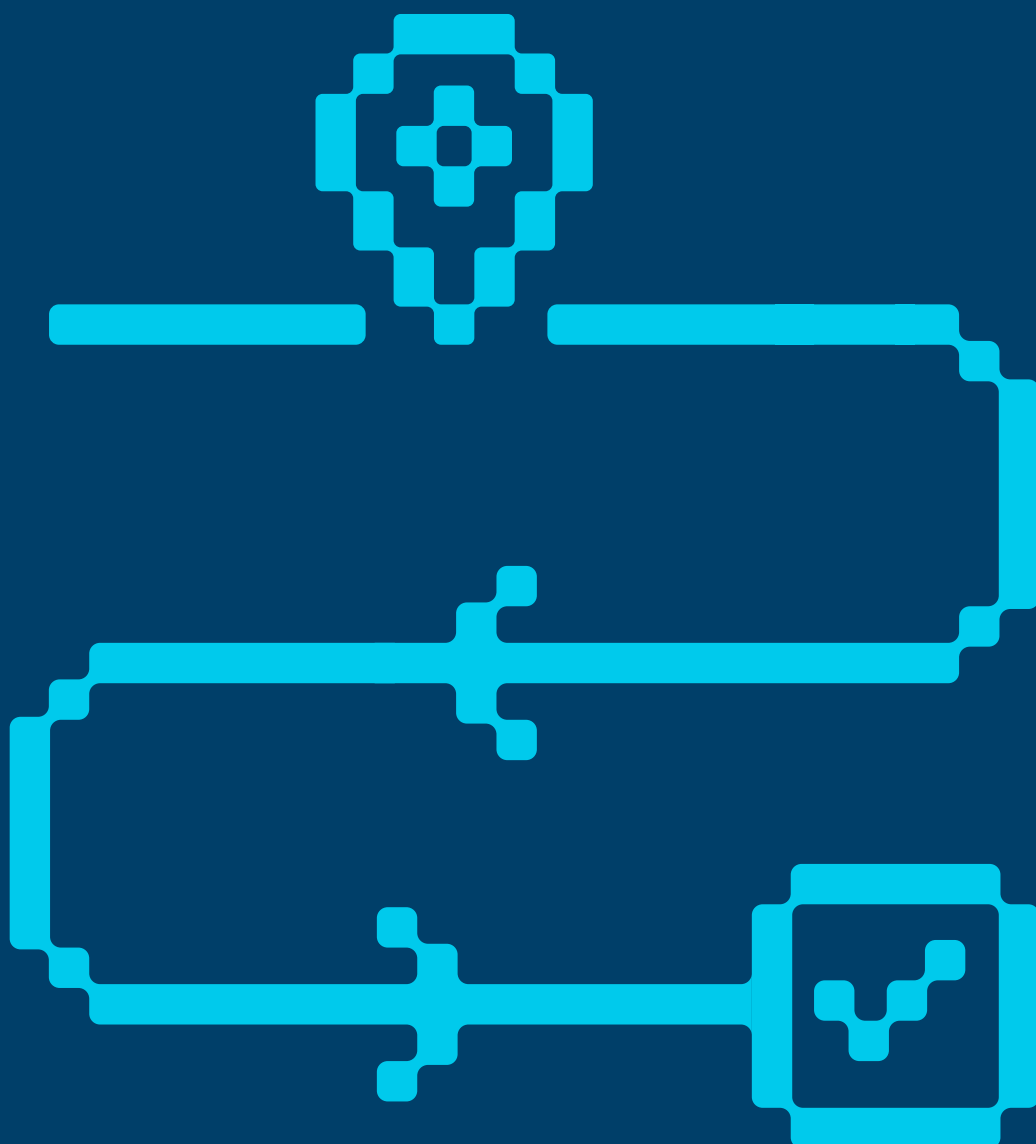
What does a successful university license look like?

Multiple interviewees described successful licensing as *invisible*: it should not draw attention later because attention usually means it is blocking financing, creating conflict, or forcing renegotiation. The ideal license sits quietly, provides the rights the company needs from the university, supports a workable freedom-to-operate strategy, and requires only routine compliance rather than repeated structural conflict.

A license agreement is not a single negotiation: it is a bundle of constraints and permissions that collectively define the company's future.

Chapter

05



The Licensing Process Workflow

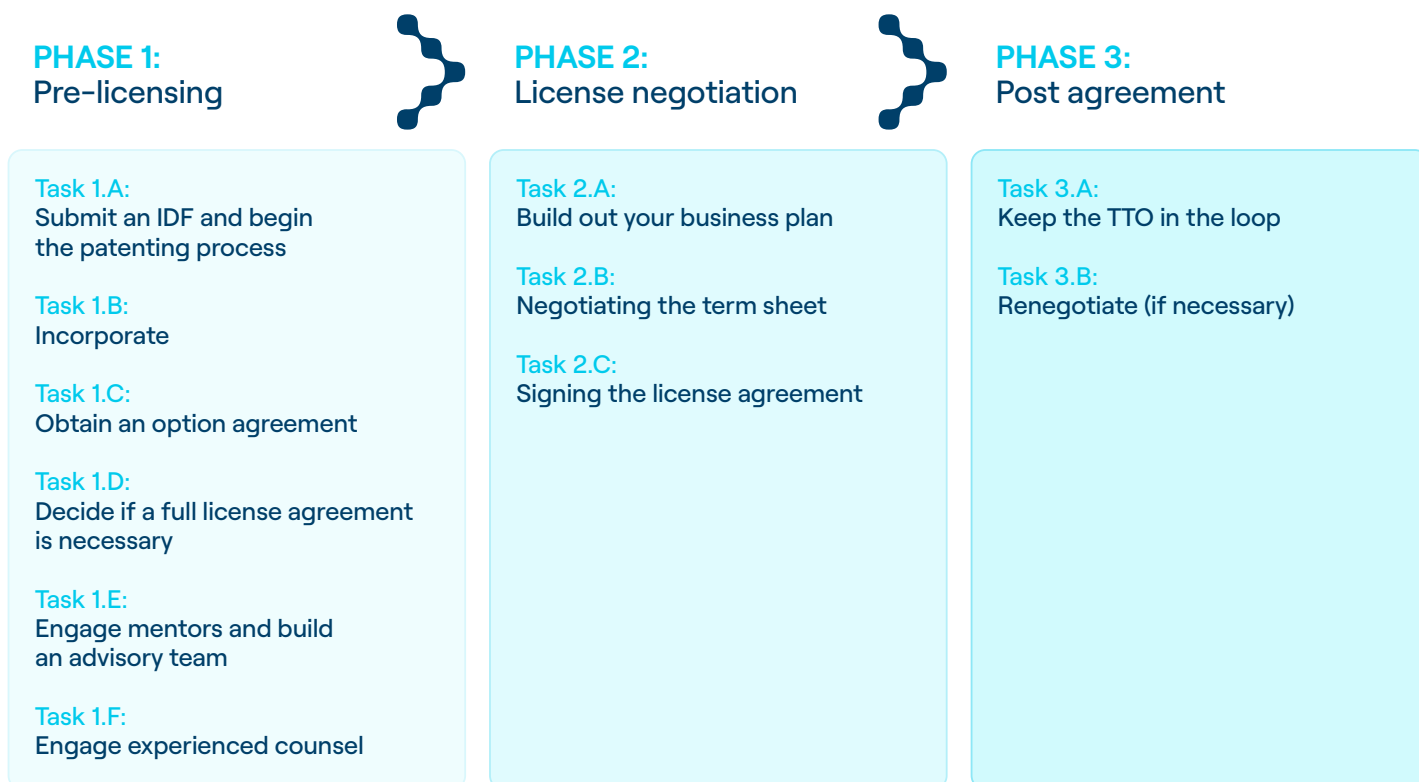
The previous chapters gave a clear view of why licensing is instrumental, what IP is, who the key licensing stakeholders are and the major financial and non-financial terms in a term sheet; this section will walk through how it all fits together. Each TTO and workflow will be unique, but there are common themes and milestones that largely define the licensing process (Figure 7)¹⁻².

Overall, it can be helpful to consider two perspectives when entering the academic licensing process:

1. First, as was outlined in [Chapter 3](#), founders should consider why the licensing system is in place to anticipate and avoid potential points of friction with the TTO.
2. Second, it is critical for founders to remember that licensing is a part of the process, not the ultimate end goal.

Figure 7: The licensing process can be broken into three major phases: pre-license, license negotiation and post-license.

Each of these phases contains multiple tasks that can be completed stepwise or simultaneously.



¹ Technology Transfer Professionals. *Anatomy of a License Agreement*.

Available at: https://autm.net/AUTM/media/TTP/ThirdEditionPDFs/V4/TTP_V4_AnatomyLicense.pdf?ext=.pdf

² Ropes & Gray. *University Technology Licensing: Practical Law Guide*. January 2023.

Available at: https://www.ropesgray.com/-/media/files/articles/2023/01/20230112_practical_law/20230112_practical_law.pdf

Phase 1: Pre-License:

Entering a license agreement with a TTO is best viewed as the start of a long-term relationship that requires transparency, trust, and mutual respect. Before a licensing term sheet is on the table, there are many opportunities that founders can and should use to develop a good relationship with their TTO by keeping them informed of their plans, pivots and goals.

Before approaching a TTO for a license agreement, founders should file an IDF, begin the patenting process, incorporate a company, evaluate an option agreement, determine whether a full license is necessary, and engage mentors and legal counsel.

REMEMBER: The Goal is Commercialization, Not the License

An academic license is an important milestone, but it is not the end goal. The purpose of licensing is to secure the rights needed to build a company, raise capital, develop a product, and ultimately bring technology to market. Founders should evaluate licensing decisions through the lens of long-term company success, not simply the terms of the agreement itself.

Task 1.A: Submit an IDF and begin the patenting process

A founder's earliest interaction with their TTO usually comes when they file an invention disclosure form (IDF), where they first describe their innovation and begin the patenting process³. From there, the founder will work with their TTO to draft and file provisional patent applications that lay the groundwork for the portfolio that will serve as the basis for licensing negotiations. Although submitting an IDF and filing a provisional patent application is a relatively streamlined process, it offers the first opportunity to build a relationship with the TTO. Founders can utilize this interaction to discuss their aspirations for their tech and their goals of spinning out.

Task 1.B: Incorporate

Universities typically license startup IP to a legal entity rather than to an individual, so founders may need to incorporate a company before finalizing a license agreement. Initial conversations can occur before the company is formed, and founders should confirm the TTO's entity requirements early in the process. Alongside IDF filing, incorporation should be one of the first things founders consider when they begin planning their spinout.

Task 1.C: Obtain an option agreement

Once provisional patent applications are filed, those applications can form part of the IP licensed from the university to the founder or spinout. As discussed in [Chapter 2](#), this serves as the basis of academic licensing. Option agreements represent a middle ground between not having any official right to academic IP and pursuing an exclusive license¹.

Many of the TTO officers interviewed for this playbook mentioned that the vast majority of founders enter an option agreement before negotiating a full license agreement. In some cases, the bulk of negotiations occur with the option agreement, allowing for the option to convert to a full license quickly and efficiently. However, it is important to note that this is not always the case and founders should remain prepared to negotiate twice; once for the option and once for the license agreement.

Many founders find themselves in a situation where the TTO requires upfront payments to license the IP, while investors require IP to give capital. In these scenarios, founders with an option agreement in place may have time to continue developing the company and generating value before entering into a full licensing agreement, subject to the rights granted under the option. For many investors, an option agreement provides sufficient control over the IP to support an initial investment.

¹ Technology Transfer Professionals. *Anatomy of a License Agreement*.

Available at: https://autm.net/AUTM/media/TTP/ThirdEditionPDFs/V4/TTP_V4_AnatomyLicense.pdf?ext=.pdf

³ Stanford University Research Policy Handbook. *Inventions, Patents, and Licensing*.

Available at: <https://doresearch.stanford.edu/policies/research-policy-handbook/intellectual-property/inventions-patents-and-licensing>

Pre-License Option Agreements

An option agreement gives the company the right, but not the obligation, to take a license to university IP at a later date¹. In practice, this is how many spinouts secure access to technology while they are still forming, fundraising, or generating early data.

The key question is how much is actually “locked in” at the option stage. Some options include pre-negotiated license terms (economics, field, structure), while others leave those terms open for future negotiation. That distinction matters. If core terms are not defined, the company is effectively taking on pricing and structural risk at the moment it exercises the option: often when it has more leverage, but also more pressure. Timing is another critical variable. Option periods are often shorter than fundraising timelines, which can create misalignment if the company is still raising capital when the option expires. Extensions may be possible, but they are not guaranteed and can introduce additional cost or uncertainty.

From a founder perspective, an option should be treated as a pre-license, not a placeholder. The goal is to reduce uncertainty before entering a financing process. That means understanding exactly what is fixed versus negotiable, ensuring the timeline matches your capital plan, and avoiding a situation where key terms are renegotiated under pressure at exercise. An option is also a great way to begin a relationship with the university's TTO. Often a good option agreement will make the negotiation of the license easier as the relationship has been established and high-level terms have been discussed.

Task 1.D: Decide if a full license agreement is necessary

University IP is typically foundational for new company formation. However, founders should first critically assess the strength of the university's patents. If the patents are weak, easily worked around, or not strictly necessary for the product's development, it may be more efficient to bypass a full licensing agreement and focus on generating new, stronger IP within the spinout company post-incorporation.

The primary value of an academic license, as outlined in [Chapters 1 and 2](#), is the exclusive right to use the university-generated IP. Crucially, this value is determined not by the scientific novelty of the innovation, but by the robustness of the patent claims⁴.

In certain scenarios, securing an option agreement for the IP might be sufficient. This approach allows the company to raise capital and reach key scientific or business milestones, potentially resulting in the generation of new IP that diminishes the necessity of a subsequent, exclusive academic license.

Before committing to an initial term sheet, founders must evaluate whether the university's IP is sufficiently strong to justify the significant investment of time, effort, and capital required to negotiate and execute an option or license agreement.

¹ Technology Transfer Professionals. *Anatomy of a License Agreement*.

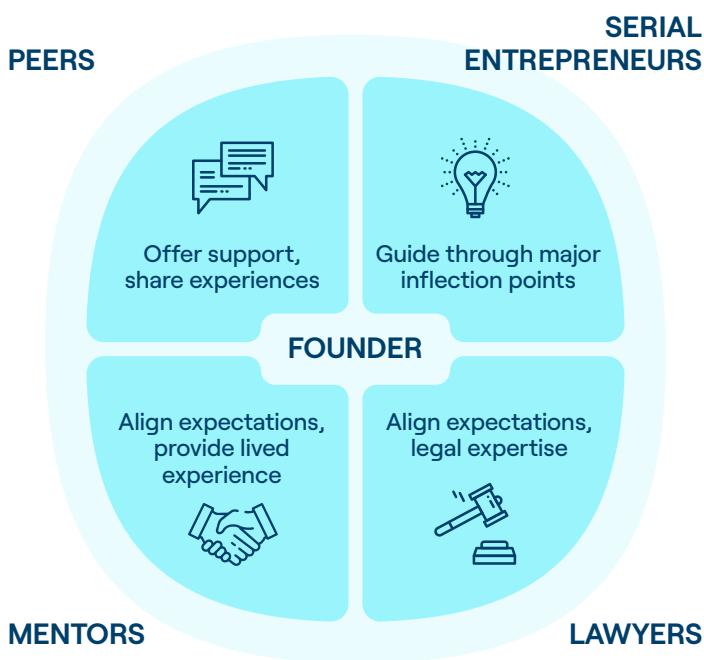
Available at: https://autm.net/AUTM/media/TTP/ThirdEditionPDFs/V4/TTP_V4_AnatomyLicense.pdf?ext=.pdf

⁴ World Intellectual Property Organization. *Exchanging Value: Negotiating Technology Licensing Agreements*.

Available at: https://www.wipo.int/edocs/pubdocs/en/licensing/903/wipo_pub_903.pdf

Task 1.E: Engage mentors and build an advisory team

Figure 8: The Essential Advisory Team for an Academic Founder



As founders move through the spinout process, they naturally build relationships with mentors, operators, and investors in their local ecosystem. It is critical that in addition to organic connections, they intentionally build out a team of advisors and mentors that can offer their experience and perspective as they move forward through the process. Although every startup is unique, the process of spinning out from the lab can be streamlined by seeking experienced advice to help you navigate or avoid common pitfalls and obstacles (Figure 8).

There are likely entrepreneurs in every network that have negotiated licensing agreements many times over, and can give valuable feedback on what terms are important, what financial ranges are reasonable and how to move the process forward. Additionally, having an experienced and committed team of mentors and advisors signals to TTOs that the founding team has access to a wealth of knowledge and experience, further derisking the inventor as a founder.

Engaging a lawyer

Question	What it asks
When should you engage with a lawyer?	With most professional services (accounting, tax, law etc) engaging earlier is better. Often law firms or independent lawyers may offer pro bono or discounted services early on to help build a relationship with startups that are low on capital. Many startups first engage with lawyers during the incorporation or the licensing process.
How can you find a lawyer?	Founders can connect with the right lawyer primarily through their network of peers and mentors. TTOs can also connect founders to lawyers.
How important is it that my lawyer understands science?	This can range from not as important to critical. For corporate law (incorporation, fundraising, licensing etc) it is important that your lawyer understands the unique considerations that come with a life science company, but may not need to understand your tech. For patent filings, it is critical that your lawyer deeply understands your tech and how it is differentiated from what is already known. For academic licensing, your lawyer should have experience working within the life science space and understand how different types of IP can give rise to different types of technologies and how this may alter which terms are important for growth.
Are lawyer fees always fixed and as advertised?	No, many firms and lawyers offer discounts or payment options for startups. Experienced lawyers will understand that startups need legal services before they have enough capital to afford it and will often work with founders to establish a plan that works for both parties.

Task 1.F: Engage experienced counsel

In addition to gathering mentors that can help navigate the entrepreneurial side of being a founder, engaging experienced legal counsel can help streamline the process and build credibility.

Finding a good lawyer was one of the most common pieces of advice received when interviewing TTOs, founders and investors about the academic licensing process. Similar to a team of mentors, skilled attorneys will have negotiated a wide range of licenses in the past, bringing valuable experience and perspective.

Although experienced counsel can be expensive, engaging the right lawyer early on can save money in the long run by steering founders at major crossroads including incorporation, licensing, fundraising, IP development and eventually IPO. Skilled lawyers can advise founders to make the right moves on the first try, increasing efficiency and building a scalable company framework. Altering legal documents after they have been filed can be

costly and painful, and in some cases, impossible. As companies continue to grow, it is critical that the legal and corporate infrastructure can support their development. Founders can identify a good lawyer through their network, including other founders in their ecosystem, their team of mentors and advisors and local accelerator or incubator programs. Additionally, TTOs can recommend experienced lawyers they have worked with in the past, which can help streamline the process. Every TTO is unique, with teams of officers that vary in size, experience, standards and preferences. Employing a lawyer that has a strong relationship with a distinct TTO can help founders navigate the idiosyncratic process of negotiating a licensing agreement with that unique TTO. Lawyers who are comfortable with a specific TTO will have insights into the terms they typically value and the terms that might be flexible during initial negotiations and renegotiations².

Attorney red flags

An experienced attorney can make or break an early startup. A common red flag of an inexperienced lawyer is over red lining or nitpicking. For the most part, academic licensing term sheets should be relatively standard (of course every tech and TTO is unique but there are general standards that are typically followed), so if an attorney sends back a completely redlined term sheet, that can raise some concern and frustration. In line with maintaining a holistic view of the licensing terms, trying to alter standard legal language or terms can bog down the process and erode the confidence in the founding team.

Phase 2: Licensing Process:

As founders prepare to solicit an initial term sheet from their TTO, they should have begun the patent process, built a preliminary relationship with their tech transfer officer, identified a team of mentors, engaged with a lawyer and begun the incorporation process. With these things in place, founders can begin to think about broaching the licensing process.

The core of obtaining a strong academic license is negotiation. Building out a strong business plan can help founders prepare for negotiations by identifying terms and considerations that impact their unique business plan. Additionally, preparing for the aftermath of a successful license agreement (i.e. upfront payments and incorporation requirements) can help founders hit the ground running after an agreement is signed.

Task 2.A: Build out your business plan

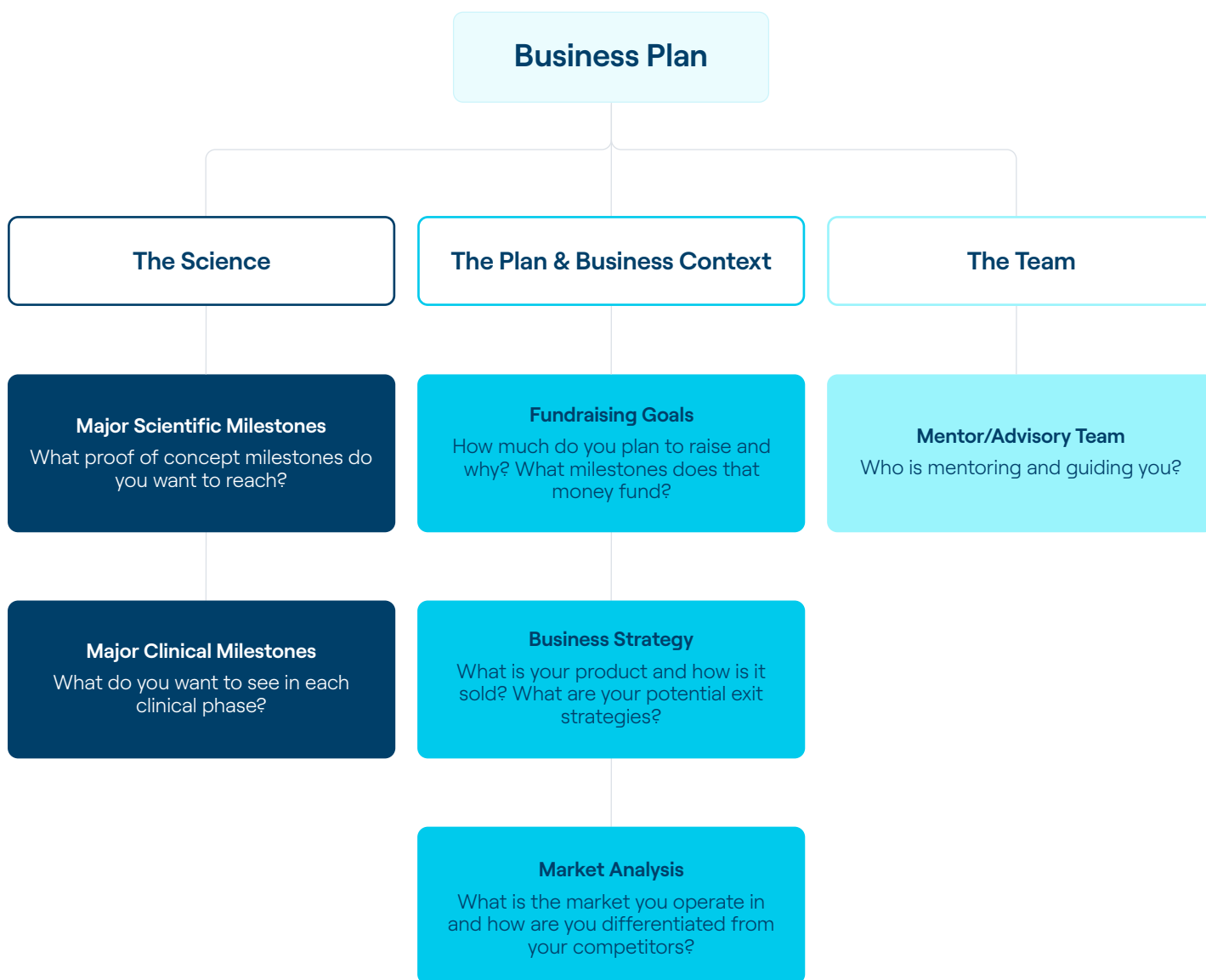
Before engaging their TTO for a term sheet, founders should develop a business plan (Figure 9). As researchers enter into licensing discussions, they are making the transition from scientist and inventor to start-up founder, and the university will view them in that new role⁵. It is important to take note of this transition, and the change in expectations that come with it. Founders should be able to explain why they are the best person to carry the tech to commercialization, how they plan to do so and how this impacts the terms that are important during negotiation. If the TTO is confident that founders can and will transform the IP into a product, they're more likely to prioritize those licensing conversations as it will translate into revenue and good reputation for the university.

²Ropes & Gray. *University Technology Licensing: Practical Law Guide*. January 2023.

Available at: https://www.ropergray.com/-/media/files/articles/2023/01/20230112_practical_law/20230112_practical_law.pdf

⁵Woolston, C. *How to Launch a University Spinout*. Nature Careers, 2020. Available at: <https://www.nature.com/articles/d43747-020-00217-x>

Figure 9: Components of a Life Science Spinout's Business Plan



Within the business plan, founders should flesh out how they envision their tech becoming a product. This includes a go to market strategy, development plan and milestones, competitive landscape analysis and a detailed description of how the university IP will give rise to new technology or therapeutic. Engaging experienced mentors can help guide founders on how to think through each of these components. An additional piece to a strong business plan is a section describing the founding and advising teams. This includes any co-founders as well as advisors and board members.

While building out a business plan, founders should start to consider how licensing terms fit into their vision (see Chapter 4). For example, the importance of sublicensing and royalties for a platform company may be very different from a therapeutics company (Figure 10). Understanding how the proposed business plan may alter the relative importance of different financial and non-financial terms can help guide negotiations by highlighting which terms can be flexible and which ones are absolutely critical.

Figure 10: Licensing terms can vary by company type

Term	Platform-Focused Company	Therapeutics-Focused Company
Field of Use	Usually broad	Often narrow
Exclusivity	Can be non-exclusive or co-exclusive	Almost always exclusive
Milestones	Tied to platform validation	Tied to clinical/regulatory stages for a specific asset (e.g., Phase I/II/III starts, FDA approval).
Royalty Structure	Often lower "per-product" royalties	Running royalties are typically structured as a percentage of Net Sales, with rates varying based on the technology, development stage, exclusivity, patent strength, and overall economic package.
Sublicensing	Critical flexibility needed	Simplified

For an inventor turned founder, the first job is convincing the TTO they are the right person to commercialize the IP

While the TTO has the right to seek other licensees, the inventor possesses unique know-how and technical expertise that provides a significant advantage over competitors⁵. The inventor's key responsibility is to convince the TTO that they are not just the right scientist, but also the best potential founder, business person, and executive to advance the intellectual property. A critical part of building this conviction is assembling a strong team with relevant experience and a history of success, demonstrating that the founder and their team are the optimal choice for commercializing the academic IP.

⁵ Woolston, C. *How to Launch a University Spinout*. Nature Careers, 2020. Available at: <https://www.nature.com/articles/d43747-020-00217-x>

Express licenses often still require negotiation for life science companies

Many universities have express licenses which are designed to make the entire licensing process as quick and easy as possible, with the goal of increasing the amount of IP that gets out of the lab and into industry⁶. Many times, express licenses will have relatively standard financial and legal terms that should alleviate friction between the founder and the university. Oftentimes, these express licenses can serve as a good starting point, however, for startups in the life sciences some amount of negotiation is often necessary.

Task 2.B: Negotiating the term sheet

At this point in the process, founders have decided an academic license is required, built out a business plan, gathered a team of mentors, engaged a lawyer and have a strong initial relationship with their TTO. They are now ready to begin term sheet negotiations.

Negotiation is where a good lawyer can make or break your experience. Typically, the university will prepare the first draft of the term sheet, send it to the founder and their lawyer to review and go back and forth until amenable terms are reached. An experienced lawyer can take much of this load off of the founder's shoulders, allowing them to focus on other aspects of early company formation including fundraising.

Successful negotiations involve a balance of give-and-take, requiring founders to assess terms holistically². For instance, lower upfront costs might necessitate agreeing to higher royalties or milestone payments.

To gain leverage in negotiations, founders should identify which terms are flexible. For example:

- **If capital is strained:** Consider offering more equity in exchange for lower upfront costs.
- **If sublicensing is critical to the business plan:** Offer higher royalties or upfront costs to secure more favorable sublicensing terms.

Partnering with an experienced lawyer and mentor is crucial here, as they can help determine the most critical terms and identify effective points of leverage.

Identifying terms with flexibility can open up negotiations such that founders can prioritize an agreement that promotes success and limits financial hardship tied to the university license. Oftentimes, the majority of the focus is placed on financial terms, however, terms surrounding control and ownership can frequently cause negotiations to slow. Understanding how non-financial terms can alter the structure of your company can help guide how you negotiate.

It is critical to remember that overall, strong business sense, legal counsel and relationships outweigh a "perfect" term sheet. Licenses may need to be amended over time as the business matures, but any changes require agreement between the parties. Founders should continually remember that the licensing process is one step in their journey, and that accepting terms that are less than ideal but continue to move the company forward is better than spending a year or more negotiating terms that may not matter in the future.

²Ropes & Gray. *University Technology Licensing: Practical Law Guide*. January 2023.

Available at: https://www.ropesgray.com/-/media/files/articles/2023/01/20230112_practical_law/20230112_practical_law.pdf

⁶Boston University. *EZ Startup License Agreement*. Available at: <https://www.bu.edu/researchsupport/forms-policies/ez-startup-license-agreement/>

Phase 3: Post Licensing:

Task 2.C: Signing the license agreement

Once negotiations are complete, the process shifts from deal-making to execution. There are some considerations to keep in mind as the agreement is finalized, including payments and reporting.

Often, licensing agreements will require spinouts to pay a number of upfront fees including reimbursement for costs required to file provisional patent applications and upfront licensing costs. It is important to be financially prepared for these costs before signing an official agreement.

As part of the final license agreement, there will be diligence and reporting requirements that allow the university to continually monitor the progress of its IP⁷. Founders should prepare for required reports and structure their internal documentation strategies to enable efficient and streamlined reporting.

After the license agreement has been finalized, the founder and their spinout are free to utilize the academic IP. As mentioned previously, a licensing agreement is a long-term relationship between a founder and their TTO and should be continually fostered after the final signature.

Task 3.A: Keep the TTO in the loop

At this stage founders have licensed IP out of the university and are able to move forward with the next phases of company building and product development. Ideally, the license agreement is at most a footnote in their journey and does not inhibit their path forward.

A critical factor for the continued success of a license agreement is a strong working relationship between the founder and their TTO, a connection that becomes vital when renegotiations are necessary. Founders should maintain open informal communication in addition to required reporting, providing regular updates to the TTO about progress, especially key fundraising and development milestones that may lead to the need for renegotiation.

As companies grow, their licensing agreement may need to change

Remember that as companies grow, spinout success is the university's success, so if the license agreement needs to change to allow for continual growth, it is in the university's best interest to not stand in the way.

Task 3.B: Renegotiate (if necessary)

There are many cases where renegotiating becomes necessary; a strong relationship between the founder, TTO and attorneys can help streamline the process. As companies continue developing IP, fundraising and developing their product, milestones and timelines will likely change. Additionally, as the company grows, it gains more leverage over the TTO.

Reasons license agreements are renegotiated

New investors and partners. As companies engage venture capital firms and potential industry partners, they may push to renegotiate terms before deploying capital or engaging in an official partnership. High royalty rates, equity or strict sublicensing terms can stall deals and trigger renegotiations. Additionally, industry partners may demand sublicensing terms that allow them continued rights even if the original startup fails and voids the initial academic license².

Changes in product pipeline. The final product is often very different from the initial idea outlined in a founder's first business plan, and may require alterations in the field of use terms to move forward successfully.

Unrealistic milestones. Initial milestones may become unrealistic with operational, scientific or clinical delays. Renegotiating time- or output-based milestones can prevent startups from financially suffering from licensing payments tied to unachievable milestones.

M&A exit. Many university licenses require consent for a change of control, typical during an acquisition.

Conclusion

The academic licensing process is a crucial, multi-phase journey for academic founders aiming to commercialize university-generated IP. The workflow of reaching a signed licensing agreement can be broken into 3 phases: pre-licensing defined by preparation and relationship building, licensing negotiations and post-licensing defined by continued relationship management.

Founders must treat the process as entering a long-term relationship, prioritizing transparency and communication with the TTO from the earliest stages, such as filing an IDF and securing an option agreement. Critical preparation, including incorporating the spinout, building a strong advisory team, and engaging experienced legal counsel, is essential before soliciting a term sheet.

The negotiation phase demands a strategic approach centered on a robust business plan. Founders must balance competing terms, identifying leverage points to secure an agreement that promotes long-term commercialization rather than imposing financial hardship. License agreements may sometimes be amended as circumstances change, but renegotiation is not guaranteed. Over-negotiating minor initial terms can still cause unnecessary delay, so founders should focus on the provisions with the greatest long-term business impact.

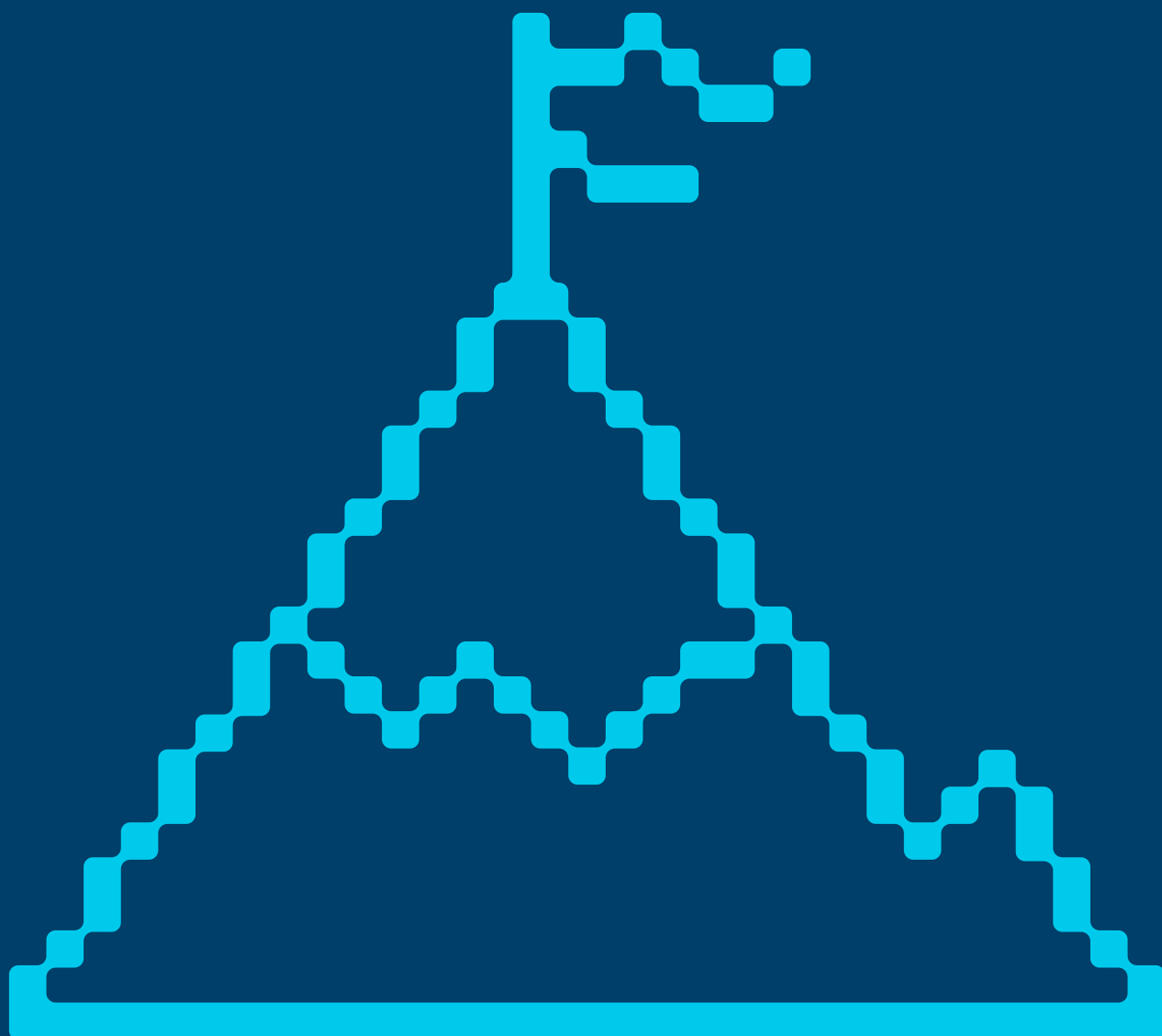
Ultimately, the license agreement is a necessary tool for the commercialization journey, not the final goal itself. By focusing on fostering a strong TTO relationship and ensuring the core terms support the business's growth trajectory, founders can efficiently secure a foundation that allows them to move past the paperwork and focus on developing their product and building a successful company.

²Ropes & Gray. *University Technology Licensing: Practical Law Guide*. January 2023. Available at: https://www.ropergray.com/-/media/files/articles/2023/01/20230112_practical_law/20230112_practical_law.pdf



Chapter

06



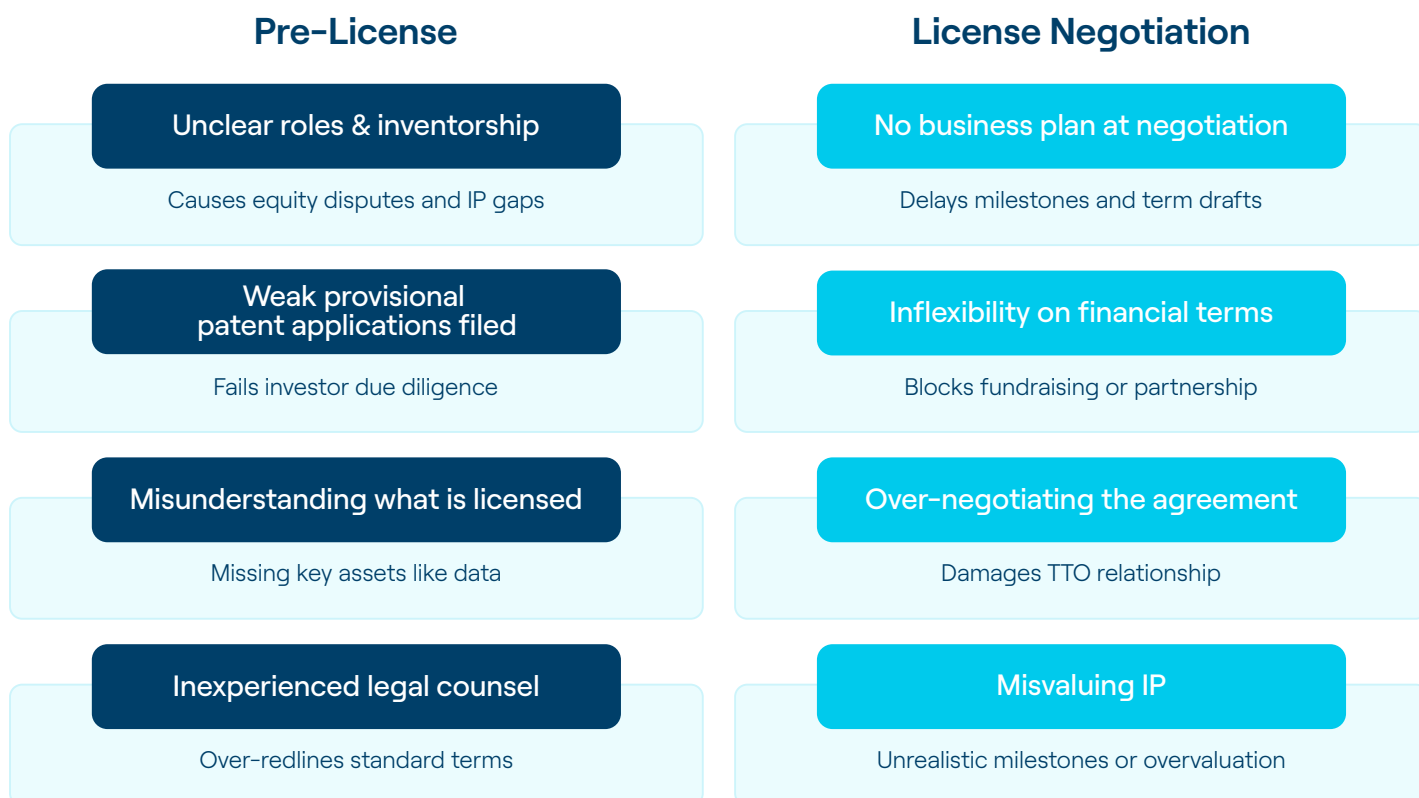
Navigating Common Licensing Challenges

The licensing process is largely driven by relationship building and management between founders, their TTO, attorneys and eventually investors or potential partners. In general, how smoothly a licensing agreement goes can come down to how well the founder, their lawyer and the TTO get along, leaving room for many areas of potential friction. Misunderstandings between major parties can lead to lengthy and expensive licensing negotiations, in some cases dragging out multiple years.

Although founders cannot always control how well personalities mesh, there are some common causes of friction that can be considered and hopefully mitigated ([Figure 11](#)). Misalignment from either the founder or TTO side can cause friction that slows the process. Below are some examples of common sources of friction between founders and their TTO that can arise during the academic licensing process and potential solutions.

Figure 11: Common sources of friction in the academic licensing process

Friction between founders and TTOs often stems from structural misalignments rather than personal conflict. Early mentor engagement and mutual transparency can mitigate many of these challenges.



Most friction is structural! Engage mentors early and approach licensing as a formal commercial transaction

Understanding the Licensing Process

This section covers challenges that arise when founders enter licensing discussions without a clear understanding of how university technology transfer works.

Founders misunderstand the licensing process as a whole

Outcome: In some cases, first-time founders may not be at all familiar with the licensing process and why it exists. This initial misunderstanding can cause them to enter into negotiations with very different expectations than their TTO, causing frustration and defensiveness.

Solution: Founders should explore the licensing process and why it is in place before asking for a term sheet or approaching the TTO. Leaning on online resources, such as this playbook, as well as mentors can help founders become more familiar with what exactly is being licensed, why this process exists and what some of the typical expectations are. Going into the negotiations more educated on what to expect can help avoid early misunderstandings and miscommunications.

Founders view academic licensing as an afterthought

Outcome: Founders that underestimate or misunderstand how academic licensing works, or how long it can take, can become frustrated with the process as a whole, leading to worsening relationships with their TTO.

Solution: Recognize that securing an academic license is often a protracted endeavor that necessitates both negotiation and flexibility. While these interactions rely on relationship management, it is important to remember that friction or delays are typically structural rather than personal. View the process as a formal commercial transaction between the university and the startup, rather than a personal exchange.

Founders misunderstand what is being licensed

Outcome: If founders misunderstand that patents are not the only assets that need to be considered during licensing, they may fail to secure rights to or access to key assets such as data.

Solution: Founders should take a holistic look at what information they need access to in order to fully develop the tech they are founding the company around. In addition to foundational IP, founders should consider what other knowledge is required and ensure that is covered by the initial license.

Building the Right Team

Licensing is ultimately a relationship-driven process. The people involved can have a major impact on both the speed and outcome of negotiations.

Founders hire an inexperienced lawyer

Outcome: A lawyer that lacks experience in the life sciences may misunderstand the value of different terms such as sublicensing, royalties, equity, etc., ultimately misleading the founder to take a worse licensing agreement. A lawyer that does not have experience with academic licensing in general, or an existing relationship with a specific TTO may over red-line, trying to negotiate standard licensing terms, stalling the negotiations for months.

Solution: Hire counsel that has experience in the life sciences, academic licensing and preferably an existing relationship with the relevant TTO.

Founders underestimate the importance of building a relationship with the TTO

Outcome: By missing chances to establish a meaningful connection, founders risk being labeled as uncooperative, which can cause TTO staff to enter formal negotiations as guarded or defensive.

Solution: Founders can view the TTO as an early stakeholder and partner in their development. Take advantage of opportunities to build a relationship built on mutual respect and trust.

Founders displaying inconsistent positions due to external influence

Outcome: Founders may be receiving advice and input from external sources such as mentors, investors and potential partners behind the scenes as they negotiate a licensing agreement. This can cause inconsistencies in expectations and understandings between the founder and TTO, causing friction in the relationship and delays in negotiation.

Solution: When possible, allowing for all parties to meet and become familiar with one another in the beginning stages of license conversations can help all stakeholders keep one another in the loop. When this is not possible, it can generally be helpful to remain open and honest with your TTO as you navigate multiple different sources of input.

Preparing for Negotiations

Many licensing challenges can be avoided through preparation before the first term sheet is drafted.

Founders fail to delineate clear founder roles and inventorship

Outcome: If founders fail to make early designations clear (founder roles, inventorship) the ambiguity will cause friction later on. For example, friction can arise when more-invested co-founders become frustrated that a relatively large portion of the equity is owned by a co-founder who is not pulling their weight or by an academic PI who has not advanced

company-creation efforts. Additionally, ambiguity or confusion over inventorship can cause breaks in the chain of title within the IP portfolio, raising diligence red flags.

Solution: Founders should have potentially uncomfortable discussions early on about ownership. Defining roles, responsibilities and corresponding equity and ownership is critical to ensure that the company is moving forward with clear personal expectations.

Founders approach the TTO without a business plan

Outcome: Founders that come to the negotiation table without a plan for the IP can give the impression that they are not prepared to commercialize the university's IP. The TTO may be more inclined to shop the IP around to other potential licensees or deprioritize that founder's licensing agreement in favor of other teams that are more prepared to commercialize. This can also cause delays during negotiations as business plans give context to what ranges are reasonable for financial terms, and what might be required for non-financial terms. For example, if a founder spinning out a platform company does not explain their business plan that relies on pharma partnering or sublicensing, a TTO may begin with strict sublicensing terms that will need to be negotiated. Additionally, an underdeveloped plan can make it difficult for the TTO to initially draft milestones, causing further delays.

Solution: Founders should develop a business plan and get feedback from mentors and experienced entrepreneurs early on so they can give context to their TTO before a term sheet is drafted. A detailed business plan also prepares the founder for negotiation by having concrete explanations for why certain terms need to be changed.

Navigating Negotiations

Once negotiations begin, founders can unintentionally create friction by focusing on the wrong issues or entering discussions with unrealistic expectations.

Founders try to overnegotiate the license agreement

Outcome: First time founders may feel inclined to overnegotiate to optimize every term individually. This will slow negotiations and damage their relationship with their TTO by causing unnecessary delays and friction.

Solution: Founders, especially first time founders, should engage mentors early on, before they interact with their TTO. Getting early feedback on expectations can prevent founders from approaching their TTO with potentially unreasonable or nonstandard demands. Mentors and experienced entrepreneurs can help reframe the licensing process as a step in the process, rather than an end goal and remind founders that much of the license agreement will be renegotiated later on.

Founders feel the TTO is asking too much

Outcome: Founders that become firm that the TTO is asking for too much equity can stall negotiations.

Solution: It is key to engage experienced mentors that can help set healthy and realistic expectations for how much equity the university should typically receive. Additionally, experienced mentors can help founders push back constructively when their TTO is asking for terms that may be too much.

TTO and Licensing Challenges

Not all licensing challenges originate from the founder's side. Universities and TTOs can also create obstacles that complicate commercialization efforts.

TTOs misestimate or do not understand the tech

Outcome: TTOs may misunderstand the tech and set unrealistic milestones or overvalue the IP, leading to a licensing agreement that is unacceptable in the eyes of investors or potential partners.

Solution: Engaging mentors and repeat entrepreneurs in the relevant ecosystem can help founders educate their TTO about why certain terms and expectations are unacceptable. Additionally, bringing in mentors and experts that have strong reputations and weight in the ecosystem can help substantiate arguments founders make to their TTO.

TTOs file weak provisional patent applications

Outcome: Weak university IP may lack strong claims protecting the founder's invention. This can come up during diligence with potential investors and partners, ultimately hurting the founder's reputation and ability to raise capital or partner.

Solution: If the university IP is weak and can be worked around, it may be faster to incorporate without a full licensing agreement and generate new IP within the spinout. To raise initial capital, an option agreement may be sufficient. Founders should ensure that the IP they are potentially licensing from their university is strong and should do their own diligence before entering formal negotiations.

TTOs are firm on financial terms and upfront payments

Outcome: TTOs that are inflexible on financial terms or upfront payments can result in an agreement that prevents fundraising or partnership.

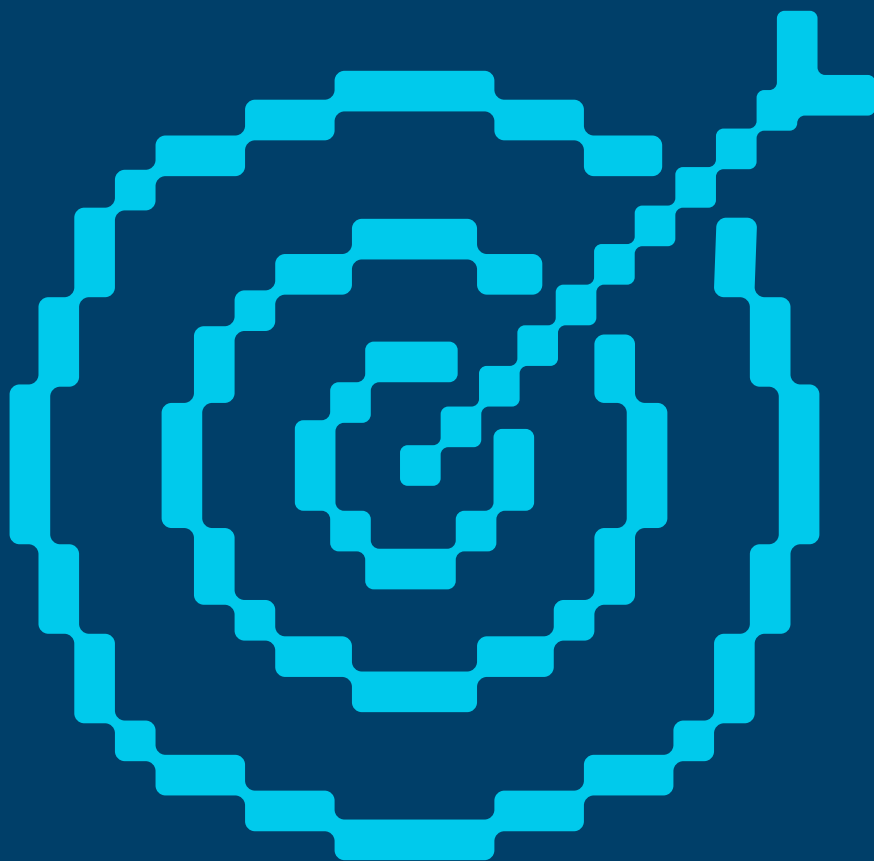
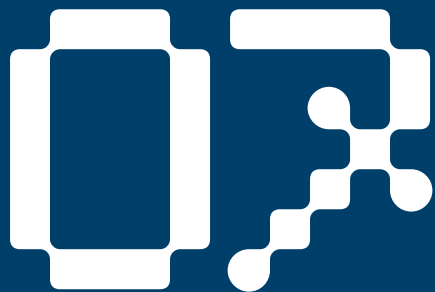
Solution: Engaging potential investors or partners that are unwilling to enter into a deal due to the unreasonable terms can push the TTO to rethink. Oftentimes, if investors or partners make clear that the licensing terms are preventing the tech from moving forward, it will be enough pressure to shift those terms.

Turning Friction into Progress

Successful licensing negotiations are rarely won through aggressive bargaining. More often, they are the product of preparation, communication, and alignment among founders, advisors, and the TTO. Most friction between founders and TTOs stems from misunderstandings, mismatched expectations, or a lack of early planning rather than bad intentions. Founders can significantly improve the licensing process by educating themselves on technology transfer, assembling experienced advisors, developing a clear commercialization strategy, and approaching negotiations as a long-term partnership. At the same time, founders should recognize that TTOs face their own constraints and may not always have a complete understanding of the technology or market opportunity. In many cases, transparency, mentor involvement, and realistic expectations are the most effective tools for resolving licensing challenges before they become major obstacles.



Chapter



Final Advice

We asked every interviewee:

"If a first-time founder asked you for one piece of advice before starting the licensing process, what would you tell them?"

The most consistent advice across all interviews was:

- Get experienced legal counsel familiar with life science licensing and engage them early.
- Come to the table with a thoughtful, credible business plan.
- The licensing process is a relationship, not a transaction. How you communicate and build that relationship with your TTO matters.

Their answers are organized below by perspective.

ADVICE FROM ACADEMIC FOUNDERS

Get a Perspective That Shares Your Incentives

Don't rely solely on the university's word. Their incentives are partially aligned with yours but not entirely. Seek out founders who have already been through the same TTO and ask them directly what to expect.

Negotiate Smartly, But Stay Flexible

Founders often arrive with a specific number locked in their head and hold to it too rigidly. Look at the license holistically: royalty, equity, license fees, and milestones all have a combined net value. Most universities are open to renegotiating down the road. Don't sacrifice the relationship over terms that can evolve.

Talk to People Who've Worked With That Office

TTOs vary enormously: some are founder-friendly, some extract as much as possible. Your network is your intelligence. Find other companies that have spun out of the same institution and hear what they experienced before you walk in.

Delay Payments When You Can

It's worth paying a bit more two years later than committing to large upfront obligations before you've validated the IP. Use that time to assess whether the patent is actually worth what you're paying for it.

Decide How Involved You Want to Be

Before you license anything, get clear on your own role. There needs to be real alignment between your equity stake and your day-to-day involvement as CEO, board member, or scientific advisor. Misalignment here creates friction early.

ADVICE FROM TECHNOLOGY TRANSFER PROFESSIONALS

Get a Good Lawyer

This was the most consistent message from TTOs. Founders routinely try to save money by hiring attorneys without licensing or venture experience. The result is often endless redlines over irrelevant terms, delays, and higher long-term costs.

Get Your Company Formation Documents Right

The license you negotiate is minor compared to the damage founders do with poor company formation. Co-founders skip internal agreements and employment contracts because they're best friends and don't plan for things going wrong.

Plan for conflict. Put the paperwork in place early. One TTO officer described watching a company dissolve, restart, and then face lawsuits from the original collaborators; all preventable.

Build Your Network Early

Plug into campus resources, incubators, and communities before you ever need to license. Talk to VCs and operators. Learn cap tables, dilution, and option pools so that equity conversations don't stall your momentum when they finally happen.

Negotiate Smartly, But Be Realistic

Many founders come in thinking the TTO is extracting massive value. In reality, ~3-5% equity is standard. Pick the terms that genuinely matter for your business and don't fight over the ones that don't.

Understand What's Actually Non-Negotiable

No one will tell you upfront which terms are fixed and it can vary by institution. Good lawyers know this, bad ones don't. Understand where the university's playbook is rigid before you walk in. It saves everyone time and signals that you're an informed counterpart.

Remember the academic context

A university and its tech transfer office are typically operating under: (a) obligations attached to federally funded inventions, and (b) non-profit/tax constraints that shape what terms they can accept. Those constraints are a major reason academic licenses can look "off-market" compared to company-to-company IP licenses.

Licensing Is Relationship-Driven

How you show up in your very first conversation with the TTO sets the tone for everything that follows. The moment you file a disclosure, you've started a relationship. Treat it accordingly.

ADVICE FROM LAWYERS

Build a Solid Business Plan Before Your First TTO Conversation

Your business plan is the foundation from which everything else flows. It builds credibility, shows you've thought through the market and strategy, and helps the university justify taking the risk of licensing to a new, unproven company.

It doesn't need to be perfect or final. Timelines and indications will change. What matters is demonstrating that you're moving from a science project to a real business.

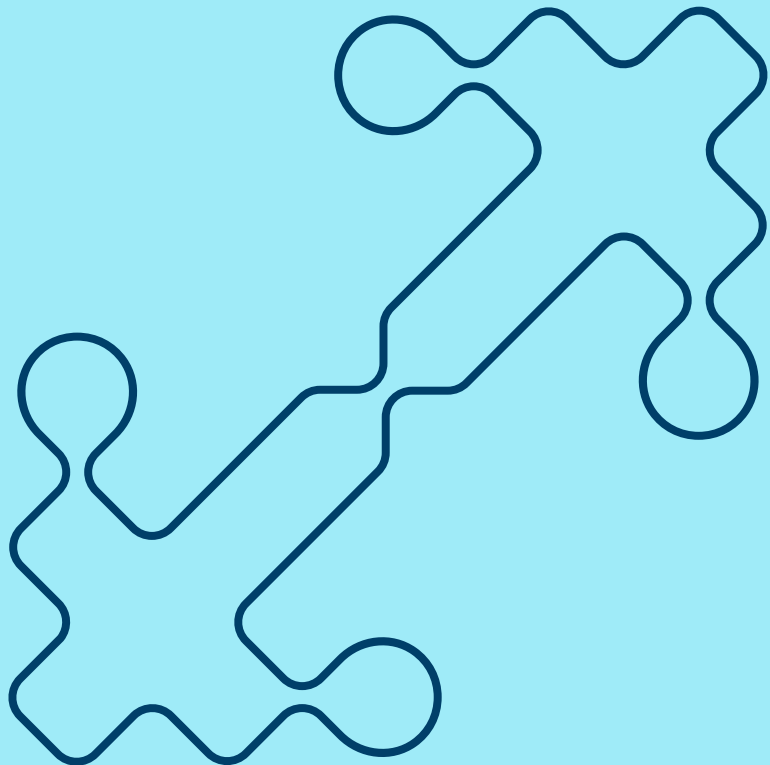
Plain language reduces risk.

If language is not clear, it is likely not clear enough; a third party (or a future replacement team) will interpret the license based on the text left behind.

Engage Counsel Earlier Than You Think

Don't wait until you're at the term sheet to involve a lawyer. Bring experienced counsel in at the NDA stage, before negotiations begin. The cost of involving a good lawyer early is far lower than the cost of fixing mistakes made without one. You can often have short, inexpensive introductory calls with lawyers to test the waters.

And tell your lawyer what matters. Attorneys are trained to negotiate everything. Give them a budget and a priority list so they focus on business-relevant terms, not cosmetic redlines.



ADVICE FROM INVESTORS

Know Your Priorities Before You Sit Down

Identify the two or three things that genuinely matter for your business before any negotiation begins. Make sure those are addressed clearly in the agreement. Then let the rest go. Founders who fight on every term end up with delays, legal bills, and a strained relationship with the TTO.

Give Your Lawyer a Budget

The licensing process is not simple. Setting a clear budget focuses the work on terms that have real business impact.

The License Is Mostly Invisible to Investors

Most investors take IP in as a small, but important, piece of the equation. What they care about is whether the science works and whether there's a path to a product. A good license sits quietly, provides the rights needed from the university, and fits within the company's broader freedom-to-operate strategy.

Be Patient & Factor Time Into Your Runway

Licensing takes longer than founders expect. Build that explicitly into your financial runway.

Frame Your Mission, Not Just Your Business

TTO staff don't earn commissions. Their primary motivation is enabling societal impact. When you walk in, tell them you want to cure a disease, improve patient outcomes, or solve a real problem. That framing changes the dynamic of the whole conversation.

ADVICE FROM PHARMA & INDUSTRY PARTNERS

Engage With Potential Partners Before You Need Them

Connect with companies and industry partners early: at conferences, in informal conversations, long before formal licensing begins. These early relationships are essentially free consulting. A potential partner

can help you identify gaps in your thinking and strategy while there's still time to adjust. Anytime is the right time to start. You can have these conversations before IP is even filed.

Don't wait until you're ready to negotiate. The conversation itself is part of the value-building process.

Resources

Sample Term Sheets & Templates

Compare against your actual term sheet

[US-BOLT Life Science Term Sheet](#)

A widely used benchmark template for early-stage life science licensing developed by the National Venture Capital Association and Association of University Technology Managers (AUTM), the main professional organization for tech transfer offices in North America. It provides a representative starting point for university-startup licensing deals, including standard clauses and negotiating positions across key terms. Use this as a reference to map the concepts in this playbook to real deal language.

See how a full agreement is structured

[Boston University EZ Start License Agreement](#)

A standardized template developed by Boston University to streamline startup licensing. It provides a full-length license agreement with pre-structured terms across key sections, including grant of rights, sublicensing, diligence milestones, and royalties. Use this to understand how complete licenses are structured in practice and how clauses interact across the full agreement.

Case Studies

Understand TTO behavior

[Maximize Collisions, Minimize Friction](#)

[Nijhawan, Technology & Innovation, 2017](#)

A case study from Boston University's Office of Technology Development describing how they restructured their TTO around a platform model. Useful background for understanding how TTOs think about their own mission: they distinguish between "benefiting society" as the primary goal and generating license revenue as secondary. This helps explain TTO behavior in negotiations: why they push diligence milestones hard, why they favor spinouts over large company licensees, and why faculty inventor buy-in matters more than founders often expect.

Checklists & Negotiation Guides

Know what terms to push back on

[Fifty Years Spinout Playbook](#)

A founder-facing guide covering the full arc from deciding whether to spin out through closing a license. Includes practical

benchmarks: equity typically 1–5% (above 10% is problematic for future fundraising), royalties normally 0–5% with royalty stacking provisions common, diligence timelines should be set 3–5x what you expect, and maintenance fees should be under \$5K/year. The most directly actionable resource for understanding what terms to push back on and what leverage points founders actually have.

Anticipate the TTO's pre-signature review

[Closing the Deal](#)

[Chitale, Lawler & Macfarlane, Nature Biotechnology, 2016](#)

A concise checklist-driven guide written by TTO professionals at NYU, Partners HealthCare, and SUNY. Organized around ten issues: internal due diligence, license grant, definitions, payments, sublicensing, diligence/reporting, IP management, termination, representations/warranties, and final sign-off. Most useful as a pre-signature checklist: it helps founders anticipate what the TTO is verifying on their end and spot gaps in a draft agreement before getting locked in.

Understand why universities push certain terms

[Key Negotiating Points in Academic IP Licenses](#)

[Ropes & Gray / Practical Law](#)

A practitioner-authored breakdown of the major sticking points in university licensing, written from the licensee's perspective. Covers license scope definitions (patents, know-how, materials), exclusivity, sublicensing, royalty stacking, diligence milestones, and termination. Particularly useful for understanding why universities push certain terms and what counter-positions are considered reasonable in practice, including the mandatory sublicensing provisions and government rights obligations that surprise many first-time licensees.

Map licensing concepts to deal language

[WIPO Successful Technology Licensing Guide](#)

A practical guide developed by the World Intellectual Property Organization that outlines the core components of licensing agreements and how to approach negotiation. It covers key terms, negotiation strategy, and how licensing fits within broader business relationships, emphasizing preparation and the importance of structuring deals.

Glossary

A

Anti-dilution

A clause protecting a stockholder (often the university) from equity value loss in future financing rounds. Full ratchet is most investor-hostile; weighted average is more common. Can complicate future fundraising if poorly structured.

B

Bayh-Dole Act

U.S. federal law governing rights and obligations relating to qualifying inventions made under federal funding agreements. Contractors may elect to retain title to subject inventions, while the government retains specified license and march-in rights. In certain circumstances, a federal agency may require additional licensing of a subject invention, including for failures related to practical application, health or safety needs, public-use requirements, or applicable U.S. manufacturing obligations. Certain exclusive U.S. licenses are also subject to domestic manufacturing requirements.

C

Chain of title

The documented ownership and assignment history of IP, tracing title from the original inventor or owner to the current owner. A licensee generally receives contractual rights under the IP rather than title itself.

Change of control

An acquisition or merger resulting in a new entity controlling the licensee. University licenses often require consent for a change of control, which can affect exit dynamics.

D

Diligence obligations

Contractual requirements that the licensee actively develop and commercialize the licensed technology, typically via a "commercially reasonable efforts" standard plus specific milestones. Failure is one of the most common termination triggers.

E

Equity (university)

An ownership stake taken by the university as part of the license. Typically around 5% on a fully diluted basis; stakes above 10% can raise investor concerns.

Exclusivity

Defines whether the university can license the same IP to others. In university licensing, "exclusive" almost never means absolute. Research, teaching, and government use rights are typically retained.

F

Field of use

Defines the specific applications or markets in which the licensee may operate. One of the highest-leverage terms in a license. Too narrow constrains future programs; too broad increases costs and obligations.

Freedom to operate (FTO)

An assessment of whether a company can commercialize without infringing third-party IP. Distinct from owning or licensing patents.

I

IDF (Invention Disclosure Form)

A document submitted to the TTO describing a novel invention. Usually the first formal step in the university licensing process and the beginning of the founder-TTO relationship.

IP stack (full IP package)

The complete set of assets required to commercialize a technology: not just patents, but also trade secrets, know-how, data, software, tangible materials, and clear chain of title. A clean patent license alone does not guarantee access to everything needed.

Inventorship

The legal determination of who contributed to the conception of patent claims. Distinct from scientific authorship. Incorrect inventorship can create chain-of-title problems.

K

Know-how

Practical, often tacit knowledge (unpublished protocols, optimization conditions, experimental techniques) essential for reproducing a technology but not captured in patent claims.

L

License agreement

The foundational contract giving a spinout specified rights to university-controlled IP. License agreements may be amended by mutual agreement as the company grows, but their existing terms remain binding unless modified.

M

March-in rights

Under Bayh-Dole, a federal agency may require additional licensing of a subject invention in specified circumstances, including failures related to practical application, health or safety needs, public-use requirements, or applicable U.S. manufacturing obligations. As of February 2026, federal agencies had never exercised march-in rights.

Milestone payments

Payments due upon specified development, regulatory, or fundraising events. Tying milestones to fundraising events is generally more company-friendly, as payments coincide with capital availability.

MTA (Material Transfer Agreement)

A contract governing the transfer of tangible research materials (e.g., cell lines, plasmids). MTAs can restrict commercial use or sublicensing even when the underlying IP is licensed.

N

Net sales

The revenue base for running royalty calculations, typically gross sales minus permitted deductions (returns, rebates, freight, taxes). One of the most heavily negotiated definitions in any license.

O

Option agreement

A contract giving a company the right to take a full license at a later date. Widely used while a spinout is still forming or fundraising. Key variables: how much is pre-negotiated, and whether the option period aligns with fundraising timelines.

R

Royalties (running royalties)

Ongoing payments to the university, commonly calculated as a percentage of Net Sales. Royalty rates vary substantially depending on the technology, development stage, exclusivity, patent position, and other financial terms in the license.

Royalty stacking

The cumulative royalty burden from multiple license agreements on a single product. Stacking provisions allow reductions in university royalties (within a cap) to account for third-party obligations. Can render a product commercially unviable if uncapped.

S

Spinout / spinoff

A company formed to commercialize IP developed in an academic lab. The journey involves three conversions: scientific hypothesis → venture hypothesis → investable plan → rights to execute through licensing.

Sublicensing

The right to grant licensed IP rights to third parties (e.g., pharma partners). Central to life sciences business models. Terms govern how freely the company can partner and what share of partner payments flows back to the university.

Sublicense revenue sharing

A financial obligation requiring the licensee to pay the university a percentage of consideration received from sublicensees. Often the most sensitive financial term in a license, as it can affect pharma partnership attractiveness.

T

Term sheet

A summary of proposed license terms that is often largely non-binding, although specific provisions may be binding depending on the document's language and applicable law. The university typically prepares the first draft. Key terms include field of use, exclusivity, equity, royalties, milestones, sublicensing, and patent prosecution.

TTO (Technology Transfer Office)

The university office managing, protecting, and commercializing university-generated IP. Typically the primary negotiating counterparty.

U

Upfront fees

Payments due at or shortly after license execution, often including reimbursement of past patent costs and a license initiation fee. Commonly reduced or deferred for early-stage startups.

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PHILANTHROPIC





Nucleate Mission & History

Non-profit, trainee-led, educationally focused

Our programming is fully organized and executed by our student leaders, and supported by corporate and philanthropic sponsors. Our unique trainee-led structure allows us to execute on our educational mission without charging fees or requiring teams to give up equity in their companies to participate in our programs.

01 Mission

To empower academic trainees through open-access educational resources.

02 Vision

To solve the world's most pressing biomedical and ecological challenges by enabling the next generation of bio- and eco-entrepreneurs.

03 Origins

Nucleate, formerly Activate Bio, was founded in Boston in 2018 with the GSAS Harvard Biotech Club. As a 501(c)(3) nonprofit, we empower local leaders to build and grow regional chapters while providing organizational support and shared resources. Nucleate currently operates 45 chapters across 22 countries worldwide.

04 Leadership

Our leadership team is composed of 2000+ diverse and exceptional academic trainees in PhD, MBA, MD, JD, MS, and undergraduate degree-granting programs. Our leadership is passionate about bridging the gap between innovation and translation by helping to educate future founders and biotech leaders and build support systems to encourage the translation of groundbreaking scientific work. Our leadership team aspires to become future leaders in biotech through VC, BD, and entrepreneurship.

Nucleate Team

Playbooks Team

Committed to developing free and publicly available playbook resources for the life sciences entrepreneurial community, addressing key knowledge gaps experienced by scientific trainees.

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Providing support, direction, & serving our community

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Acknowledgements

This playbook was made possible through the efforts of many individuals across the Nucleate community and beyond. We are deeply grateful to everyone who contributed their time, expertise, and perspectives throughout its development.

We are grateful to the team at Morrison Foerster for their guidance, insights, and contributions throughout this project. We would like to thank the team at Schmidt Futures for making Nucleate's Entrepreneurial Scientist Playbook Series possible through their support and shared commitment to advancing scientific entrepreneurship.

Nucleate is a nonprofit organization built by academic trainees and supported by a global network of volunteers, mentors, founders, investors, and industry leaders, including Eitan M. Akirav at KonKai Consulting. We thank the many members of the Nucleate community whose creativity, dedication, and leadership continue to empower the next generation of life science innovators.

Finally, we extend our appreciation to the entrepreneurs, investors, technology transfer professionals, attorneys, and ecosystem leaders who shared their experiences and lessons learned. Their perspectives helped shape this playbook, and we hope it serves as a valuable resource for future scientific founders navigating the path from discovery to impact.

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