

# PLANNING FOR SHARED INNOVATIVE ACTIVITY: THE EVOLVING ROLE OF MATERIAL TRANSFER AGREEMENTS

**ABSTRACT** Material transfer agreements (“MTAs”)—contractual agreements governing the transfer of materials, research tools, and data—provide critical access to researchers and often mark the beginning of shared innovative activity. Yet MTAs have long been known to cause delays or abandonment of promising research. Studies demonstrate that access to materials and data is more problematic for researchers than patents. This essay explains one of the reasons why these seemingly humble agreements cause so many delays. It then shows how technology transfer specialists can improve the material transfer process and thereby facilitate shared innovative activity.

## INTRODUCTION

In today’s scientific and technological landscape, new discoveries, products, and inventions often involve teams of researchers spanning academic institutions, research laboratories, governmental entities, and private industry partners who share expertise, laboratory space, equipment, materials, know-how, and expenses. The future of science and technology is collaborative. How best to support this collaboration through access to tangible research materials, tools, and data is the subject of this essay.

Historically, MTAs functioned primarily as recording mechanisms to track the transfer of research materials and tools, as well as accompanying data,

and set expectations for unexpected events, such as laboratory or transportation accidents, infringement lawsuits, or the introduction of new third parties. This type of MTA is what I will call herein the “traditional MTA.” Yet, now, some industry parties are using MTAs for more than just documentation and basic protections. Industry parties are leveraging MTAs to develop meaningful collaborative relationships, particularly with academic partners. This type of MTA is what I will call herein the “modern MTA.” This shift from a traditional MTA to modern MTA is likely leading to more shared innovative activity between academic and industry science—a goal of many technology transfer offices (TTOs). Yet if TTOs or industry partners miss this shift in the evolving use of MTAs, frustrating negotiations will likely ensue.

## SHARED INNOVATIVE ACTIVITY

Shared innovative activity is a form of collaboration requiring repeated interactions where parties share innovation responsibility. This collaboration is essential between academic institutions, public entities, and private firms to establish new fields and deepen understanding of existing ones. Shared innovative activity also smooths the transition from upstream research to downstream development and commercialization. This is important, as academic institutions continue to explore and sometimes struggle with downstream development and commercialization.

However, shared innovative activity presents challenges. As the commercialization of science advances, and the once-clear distinction between noncommercial scientists focusing on “upstream” research and commercial scientists on “downstream” development has blurred, academic institutions are engaging in downstream activities and seeking valuable patents and collaborations with private partners. Indeed, this is the focus of many TTO activities.

Yet industry parties may now view academic institutions not just as potential partners, but also as competitors. Moreover, the memorialization of detailed research and collaboration ideas between partners—partners that likely do not have the same motivations or end goals—is difficult, as is planning for high levels of risk and uncertainty that naturally accompanies most forms of innovation. As a result of these challenges, these collaborative-seeking or collaborative-memorializing agreements may take months or even years to negotiate and execute. Frustratingly, during negotiations between industry parties and TTOs or technology transfer professionals, researchers often struggle to access essential building blocks for their projects, causing delays that can jeopardize research grants and increase tensions between researchers and their respective administrative offices (Eisenberg, 2008; Walsh et al, 2007).

Traditional MTAs minimize upfront negotiation costs through standardization, making them efficient and perfect for one-time transfers. Traditional MTAs are straightforward, short agreements, designed to get the transfer done without prompting or forcing parties to plan for shared innovative activity. Yet modern MTAs are not so straightforward. Modern MTAs invest more resources in initial relationship-building provisions. This means transaction costs are increased to strategically establish collaborative routines that can reduce friction in later, more complex negotiations if the parties end up engaging in shared innovative activity together. These economic trade-offs help explain why industry partners, with

their long-term commercialization horizons, often prefer the modern approach despite its initial complexity.

Before exploring the modern MTA and determining when to invest time and energy in this different contracting style, let’s review the traditional MTA and its most common provisions.

#### THE TRADITIONAL MTA: A ONE-TIME INTERACTION

Consider a scenario where a global health crisis emerges requiring rapid vaccine development. A biotechnology company with an innovative mRNA “plug-and-play” platform technology needs access to crucial research materials and data, including the virus’s key protein structure, from a government research institute to develop a vaccine against a novel respiratory virus. Conversely, government research teams need access to the biotech’s plug-and-play tool to simultaneously work on identifying mRNA virus vaccine candidates.

In this time-sensitive scenario, an MTA becomes the critical first step. An MTA allows the immediate sharing of essential scientific materials and data while more complex agreements are still being contemplated and/or negotiated. In this way, the traditional MTA serves as a bridge, enabling scientists to begin work immediately while legal teams continue developing more comprehensive agreements covering manufacturing, distribution, and commercialization rights.

In this hypothetical case that largely mirrors that of Moderna and the National Institutes of Health of the United States (NIH), as well as BioNTech and Pfizer, quickly executed MTAs enabled researchers to design an mRNA construct within days of the viral sequence becoming available. This facilitated production of clinical batches within weeks—all while the details of longer-term partnership arrangements were still being finalized (GlobeNewswire, 2020).

Despite repeated calls for standardization for over 20 years now, most academic institutions use their own MTA variations rather than standardized forms like the U.S. Uniform Biological Materials Transfer Agreement (UBMTA) developed by NIH and the Association of University Technology Managers, the U.S. Public Health Service Material Transfer Agreement (PHA MTA), or the European Commission Material Transfer Agreement (EC MTA). Like the MTAs used in the initial days of the Covid-19 pandemic, traditional MTAs developed separately from the UBMTA, PHA MTA, or EC MTA, among others, are simple in structure and include boilerplate language covering:

1. Ownership provisions (provider retains ownership of original material)
2. Use limitations (typically research-only, non-commercial use)
3. Transfer restrictions (prohibiting further transfers)
4. Liability and confidentiality provisions (recipient assumes responsibility for use & both parties agree to appropriate confidentiality terms)
5. Attribution requirements (acknowledgment in publications and sometimes a review period prior to publication)

These MTAs generally establish one-time transfers without expectations of ongoing collaboration. Traditional MTAs are not meant to cover or plan for any sort of shared innovative activity. At most, traditional MTAs might contain a boilerplate intellectual property provision that sets the expectation of the parties that they will not collaborate and create any joint IP, and if they do jointly work together, then the general laws of the jurisdiction will apply to determine any such ownership of jointly created IP. This IP provision does little, if anything, to help parties determine inventorship or ownership of IP stemming from shared innovative activity, and, again, that is likely okay. This is a traditional MTA—researchers and parties are transferring materials, not working together.

But these traditional MTAs do still serve another function: they give parties a chance to see if their research and maybe their researchers are

compatible for shared innovative activity. This means that a traditional MTA can still open the door to future shared innovative activity, even when the initial goal or expectation is simply a transfer of research materials.

For example, when describing a particular project at Pfizer, the former Senior Vice President, of Pfizer Inc. and former President of Pfizer Global Research and Development (after starting at Pfizer as a medicinal chemist decades earlier) explained that an ultimately impactful project at Pfizer started with a simple conversation at a conference between a scientist in Pfizer's immune suppression group and an NIH researcher. After this initial conversation, "the first thing" Pfizer needed was "access" to the enzyme that the NIH researcher was studying so that the parties could determine if it was worth talking with each other further to plan out and define a research collaboration (LaMattina, 2009).

The parties did not sign a modern MTA. Instead, the NIH has a standard template form that is used in situations like this, one that closely resembles the standard template form of the Slovak Centre of Scientific and Technical Information (SCSTI MTA). These traditional MTAs are also like the ones used above at the outset of the Covid-19 pandemic, and they have an important role in technology transfer. These are sign-and-go agreements requiring very little interaction between TTOs and other technology transfer professionals. Some academic institutions in the U.S. have now published policies regarding the timing and process of processing these types of MTAs, helping to increase predictability and transparency regarding the timing of various types of MTAs (WU-Madison MTA Process, 2018).

#### THE MODERN MTA: RELATIONAL CONTRACTING TO PLAN FOR SHARED INNOVATIVE ACTIVITY

While governmental agencies and public partners, including the NIH, SCSTI, and regional TTOs like the Technology Transfer Office at Masaryk University, have understandably steered towards

standardization of traditional MTAs to gain efficiency and certainty in negotiations—leading to faster execution and fewer delays in accessing important materials, tools, and data—some industry partners are intentionally moving in the opposite direction. These industry partners opt for a modern MTA approach that includes forward-looking terms setting the stage for further interactions with the aim to collaborate together on research or commercialization, reflecting different priorities in how they manage the transfer process.

A Modern MTA is not a 2- or 3-page boilerplate agreement that can be read and digested in 15 minutes. Instead, it often spans from 6-12 pages and employs relational contracting to plan for shared innovative technology within the agreement itself. Normative words and phrases that many contract litigators and specialists grimace at—including “good faith,” “diligently,” “commercial reasonableness,” and expressed “desires” to engage in undefined “collaborative research”—fill these contractual agreements (Sandrik, 2016). Beyond simple terminology, these agreements often contain somewhat complex conflict management provisions requiring parties to go through several detailed steps to resolve conflicts before resorting to litigation.

These normative terms and provisions are not enforceable in most jurisdictions—few litigators would take words like “diligently,” “desire,” or even “good faith” into court to contest a breach of contract—yet these relational contracting practices are interwoven, or braided, with classic enforceable terms featuring strict data protection, disclosure, publication, and ownership provisions (Gilson et al., 2010). If a data protection provision is breached, that is objectively actionable, and parties should expect to adhere strictly to the parts of the contract that are immediately and easily litigated.

This type of relational contracting promotes collaborative innovation that depends on both formal contract provisions (enforceable in court)

and informal constraints (requiring extra-legal or non-legal sanctions such as goodwill, reputational costs, or even restitution remedies to police behavior). Theoretical literature posits that this sort of braided contract—combining both formal and informal terms—creates information-sharing and relationship-building routines between parties (Jennejohn, 2020; Sandrik, 2017). Indeed, this style of contracting is common in biotech and pharmaceutical collaborative and commercialization agreements (Gilson et al., 2010; Sandrik, 2025).

Beyond simple one-time transfers of materials, industry partners use these agreements to facilitate knowledge and resource sharing that evolves into broader collaboration, employing conflict management provisions to establish joint steering committees that solve problems as they arise. These joint committees routinely meet, even when no conflict between the parties exists in the moment. This approach to knowledge governance and conflict governance is important, because at the early contracting stage it is impossible to detail precise outcomes or mandates for every potential situation between the parties. The parties must make decisions when the stakes are high and when motivations between the parties may not always align.

Notably for technology transfer specialists, in the private industry sector, these modern MTAs are not always labeled as such, instead sometimes opting for descriptive terms like “collaboration and license agreement” or variations of the classic CRADA (Cooperative Research and Development Agreement) (Sandrik, 2016).

## MOVING TOWARDS THE MODERN MTA IN SLOVAKIA

As a U.S.-based researcher and lawyer temporarily living in Slovakia, I was intrigued to discover modern MTA elements extending beyond what I typically observe in transfers involving academic or government TTOs (and instead only observe

when looking at transfers between biotech or pharmaceutical firms). With all contracts of public institutions in Slovakia being publicly accessible, observing contract innovation in real-time provides valuable insights for TTOs (and foreign researchers), particularly as collaboration between academic and industry or academic and government science continues to emerge in the region.

A notable recent example incorporating elements of a modern MTA is a “Data and Material Transfer Agreement” between Univerzitná Nemocnica L. Pasteura Košice and the Institute of Neuroimmunology, SAS. I highlight this particular agreement here for two main reasons: it is a bilingual agreement (Slovak and English, with the Slovak version prioritized in case of conflict), making it more reliable for an English-speaker like me to use in contract analysis, and it involves the type of parties that, at least in the U.S., are not always on the cutting edge of contract innovation, but that are in the area of science where we, as a global society, need cutting edge partnerships and innovation.

The Data and Material Transfer Agreement include elements of the traditional MTA, including:

1. Ownership provisions (provider retains ownership of original material)
2. Use limitations (research-only for the identified research project)
3. Liability and confidentiality provisions (recipient assumes responsibility for use & both parties agree to appropriate confidentiality terms)

However, moving beyond traditional provisions, the Data and Material Transfer Agreement also has sections covering intellectual property and conflict management that reflect the relational contracting approach of the modern MTA.

Section 5.2 states that if there is a “common creation of Intellectual Property [joint invention] by both Parties, the Parties shall decide jointly about the further use and responsibilities of the

either Party.” The term “shall” is an example of classic promissory language often viewed as enforceable in a court of law, while “decide jointly” represents the informal, less enforceable element characteristic of braided or relational-focused contracts. This language establishes a clear expectation that collaborative creation will be matched with collaborative decision-making regarding ownership—precisely the type of open-ended, relationship-focused approach that modern MTAs embrace.

In a more developed modern MTAs, we might expect additional qualifiers such as “shall decide in good faith” or references to established joint committees comprised of executives and principal investigators from each party to govern this decision-making process. While this particular agreement lacks these specific normative elements, it does address conflict management in Section 9.1, requiring parties to “first attempt to settle any and all disputes . . . through good faith negotiation before resorting to the competent courts [of] exclusive jurisdiction . . . .”

Though we as technology transfer professionals might want more robust conflict management provisions beyond this basic governing law clause using the term of “good faith,” Section 9.1 still demonstrates greater attention to collaborative problem-solving than typically found in traditional MTAs, reflecting the braided contracting approach where formal and informal elements work together to create information sharing routines. It also could very much be an appropriate level of planning for these particular parties and their desires for future shared innovative activity.

Yet to push the example further, what additional elements could strengthen this agreement without significantly increasing transaction costs? One easy element is including contractual language requiring periodic meetings or brief check-ins between sending and receiving researchers that would work to actively build and develop their professional and collaborative relationship. While parties

don't necessarily need contractual directives to communicate in this way, embedding relationship-building mechanisms in the agreement establishes clear expectations that are set when all parties are aligned, and projects are proceeding as planned.

The value of including these relationship-based elements is that the parties are looking to and following the agreement during favorable times so that when challenging circumstances arise, and they often do, the parties will already have a practice of looking to and following the agreement. In other words, when TTOs and contract specialists demonstrate that the parties' initial expectation is continuous collaborative engagement—even if just for research updates—they establish routines for information and knowledge sharing. In my experience, this approach significantly improves outcomes, as research projects rarely proceed exactly according to plan in either academic science or technology and we need practice, routine practice, working with one another in good times so that we can still work together in more challenging times.

By incorporating these relational elements, this Material and Data Transfer Agreement has elements, albeit relatively minimal at this point, beyond a traditional MTA that allows parties to starting thinking about and planning for shared innovative activity. To me, as a technology transfer professional and as someone that is invested in seeing the growth of Slovakia's scientific and technical communities on a worldwide stage, this is exciting. It is a tangible illustration of Slovakia's participation in contemporary scientific and technology collaboration practices and the impact of local and regional TTOs on routine contracting practices in the region.

## CONCLUSION

The disconnection between traditional and modern MTA approaches represents a fundamental difference in organizational objectives that can impede scientific progress. Academic researchers

and TTOs often prioritize efficient, standardized transfers to maintain research momentum and meet publication or grant timelines, while industry partners increasingly view MTAs as opportunities to establish deeper collaborative relationships. This divergence results in prolonged negotiations that delay access to essential materials and potentially valuable partnerships.

Technology transfer professionals stand at this critical intersection, balancing competing interests while facilitating scientific and technological advancement. By understanding both traditional and modern approaches to the MTA, they can better navigate these complex negotiations. For academic and governmental institutions working with industry partners, recognizing when to embrace elements of the modern MTA—with its relational contracting principles and forward-looking collaborative provisions—can transform potential friction points into opportunities for shared innovative activity.

Conversely, industry partners should recognize when standard transfers with one-time interactions best serve immediate the parties' collective needs. This mutual understanding enables more strategic decisions about when to employ simple, standardized agreements versus when to invest in the development of more complex, relationship-building MTAs.

As science continues to advance through increasingly collaborative efforts, balancing these approaches becomes essential. The evolution of MTAs from simple transfer documents to potential bridges for sustained partnership reflects the changing landscape of scientific innovation itself—one that increasingly depends on the thoughtful integration of academic insight, industry capabilities, and public resources. By embracing this evolution while remaining mindful of when each approach best serves scientific progress, technology transfer professionals can help unlock the full potential of shared innovative activity in addressing tomorrow's scientific and technical challenges.



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## REFERENCES

Rebecca S. Eisenberg, *Noncompliance, Nonenforcement, Nonproblem? Rethinking the Anticommons in Biomedical Research*, 1060 HOUSTON L. REV. 1059, 1061-62 (2008) (Eisenberg, 2008).

Ronald J. Gilson et al., *Braiding: The Interaction of Formal and Informal Contracting in Theory, Practice, and Doctrine*, 110 COLUM. L. REV. 1377, 1377 (2010) (Gilson et al, 2010).

*Pfizer and BioNTech to Co-develop Potential COVID-19 Vaccine*, GlobeNewswire, March 17, 2020, <https://www.globenewswire.com/news-release/2020/03/17/2001593/0/en/Pfizer-and-BioNTech-to-Co-develop-Potential-COVID-19-Vaccine.html> (GlobeNewswire, 2020).

Matthew Jennejohn, *Braided Agreements and New Frontiers for Relational Contract Theory*, 45 J. CORP. L. 885, 887 (2020) (Jennejohn, 2020).

John L. LaMattina, *DRUG TRUTHS: DISPELLING THE MYTHS OF PHARMA R&D* (2009) (LaMattina, 2009).

Karen Sandrik, *Innovative Contracting for Better Material Transfers*, 24 TEX. INTELL. PROP. L.J. 49, 51 (2016) (Sandrik, 2016).

Karen Sandrik, *Empowering Inventors*, 30 HARV.

J.L. & TECH. 147, 148 (2017) (Sandrik, 2017).

Karen Sandrik, *The NIH-Moderna Public-Private Partnership: A New Contractual Model for Securing Innovation*, TEXAS A&M L. REV. (forthcoming 2025) (on file w/ author) (Sandrik, 2025).

*University of Wisconsin-Madison Material Transfer Agreement Process*, chrome-extension://efaidnbmnnnibpcajpcglclefindmkaj/https://rsp.wisc.edu/contracts/MTA\_process\_change.pdf (UW-Madison MTA Process, 2018).

John P. Walsh, Charlene Cho & Wesley M. Cohen, *Where Excludability Matters: Material Versus Intellectual Property in Academic Biomedical Research*, 36 RES. POL'Y 1184, 1190 (2007) (Walsh et al, 2007).

PUBLIC HEALTH SERVICE MATERIAL TRANSFER AGREEMENT, chrome-extension://efaidnbmnnnibpcajpcglclefindmkaj/https://www.ott.nih.gov/sites/default/files/documents/policy/MTA.pdf (PHA MTA).

SLOVAK CENTRE OF SCIENTIFIC AND TECHNICAL INFORMATION MATERIAL TRANSFER AGREEMENT, [https://www.cvtisr.sk/en.html?page\\_id=58](https://www.cvtisr.sk/en.html?page_id=58) (SCSTI MTA).

UBMTA, <https://autm.net/surveys-and-tools/agreements/material-transfer-agreements/mta-toolkit/autm-mta-templates> (UBMTA).

ZMLUVA O ZDIEĽANÍ ÚDAJOV A VZORIEK (Data and Material Transfer Agreement), <https://www.crz.gov.sk/zmluva/9256453/>.

Acknowledgement: The Author is a 2024-2025 U.S. Global Fulbright Scholar in Slovakia. She most grateful for her host, the Faculty of Law, Comenius University in Bratislava. The Author is also thankful and appreciative of the support from the U.S.

government, the J. William Fulbright Commission for Educational Exchange in the Slovak Republic, and her home institution, Willamette University College of Law, for the opportunity to live, work, and learn in Bratislava and re-establish her family's Slovak roots for part of an academic year.

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