

starting a
start-up

SUCCESSFULLY MANAGING

THE DYNAMICS OF A
NEW COMPANY

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Dear CU Research Investigator:

The University of Colorado has received international acclaim for the research conducted by investigators at the university, and your research has become part of the body of knowledge in your scientific domain. However, in many instances your research may not have achieved the broader societal impact that you desire. By working with the university to protect your intellectual property (IP) through the conventional approaches of patents and copyrights, the intellectual property from your research can be translated into products and services that people can use in their everyday work and public lives.

At the CU Technology Transfer Office (TTO), we work with you to pursue two major approaches to move your inventions, ideas, and software into a commercial stream. The first approach is to convey the intellectual property via license to an existing company. The second approach is the topic of this guidebook—conveying the intellectual property to a new company, often called a start-up. The common theme in both approaches is the facilitation of sizable private investment, which is always required to deploy new technology in the form of improved goods and services. The TTO has skilled licensing managers who can help you identify and evaluate the commercialization strategies for the intellectual property you create.

If you are interested in starting a company to develop and commercialize your invention, you or your potential business partners likely have fundamental questions about the process and the roles of various participants. Even if you have previously been involved in a start-up, the nature of the changing start-up environment may lead to questions about new approaches and resources.

Over the past five years TTO has been involved in the creation of about 10 companies a year. This experience has enabled us to develop knowledge, resources, and relationships that can be instrumental in creating a platform for success. Because of the high-quality research at the university and the entrepreneurial business culture in the region, the CU TTO has been recognized as one of the nation's top 10 university technology transfer offices for start-ups.

CU and TTO encourage you to consider, and if appropriate, to pursue commercialization opportunities based on the fruits of your research. If you have questions about commercializing your invention in general or about pursuing a start-up in particular, then this guidebook is for you—read on to learn more about this process.

Please always feel free to contact us at TTO about any questions you have about your inventions, intellectual property, licensing, or related topics.

Best regards,

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Law Clinic**

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Introduction

The University of Colorado (CU) has a proud history of creating companies based on university research. During the early '90s, a few pioneering CU faculty members—including Robert Allen, Marvin Caruthers, Tom Cech, Larry Gold, Kristina Johnson, and Robert Sievers—became a new breed of research investigator: internationally recognized scholars *and* the scientific drivers of companies commercializing their research. Through the 1990s, many of the companies started by these faculty members became significant forces in the technology community of Colorado.

New company creation based on CU research has accelerated since the 1990s; during the fiscal year (FY) 2004 through FY 2008 period, 49 companies have been created. During the last five years new serial entrepreneurial faculty have emerged, such as Michael Bristow, John Carpenter, Richard Duke, Leslie Leinwand, Garret Moddel, Robin Shandas, Ted Randolph, Karen Newell Rodgers, and Alan Weimer.

Two fundamental changes have occurred in the university business creation environment since the early days of CU technology transfer. First, the notion that the faculty inventor has to shoulder the burden of most start-up activities and “drive” the company has been supplemented with support from the university, state government, and the Colorado entrepreneurial community. Second, the CU Technology Transfer Office (TTO) now plays a more supportive role through its proof of concept programs, experienced staff, greater intellectual property resources, and ability to engage the university and business communities in university start-up activity. Certainly the scientific role of the faculty inventor remains paramount, especially in the first few years of a company, but today the resources for start-ups are much better known and accessible.

This document is intended to serve as a guide to assist university inventors interested in starting a company to commercialize their inventions. Of course, start-up companies are not the only approach to university technology commercialization, and the primary commercialization mode is licensing university technology to existing innovative companies. For example, in FY 2008, TTO executed 45 exclusive licenses and options, of which 15 were executed by the 11 companies started that year. Moreover, this guidebook should not be viewed as the sole source of information for start-up commercialization. Inventors interested in such pursuits are strongly encouraged to talk to TTO staff, who have experience supporting inventors and steering them to needed resources, as well as their peer entrepreneurial faculty and contacts in the business community.

Section 1. Working with the University

The University of Colorado is committed to commercialization of CU investigator-created inventions. This section explains how the Technology Transfer Office (TTO) facilitates and supports the development of start-up companies based on university research. It also addresses the potential roles, considerations, and opportunities for university-affiliated inventors.

A. OVERVIEW OF THE PROCESS AND KEY CONSIDERATIONS TO CREATING A START-UP BASED UPON A UNIVERSITY DISCOVERY

- The process starts with the inventor disclosing the invention to TTO (www.cu.edu/techtransfer/disclose).
- TTO will work with the inventor to make an **initial assessment** concerning patent-ability, technical feasibility, and commercial potential of the invention and make a preliminary judgment about the potential to create a new company. (About 20 percent of the inventions received by TTO are initially determined as having the potential to serve as the technological foundation on which to build a new company; the vast majority of inventions are more appropriately directed to existing companies.)
- Based on a complete disclosure and favorable perspectives about patent, technical, and commercial viability, **TTO will pursue intellectual property protection** in the name of the university. For inventions that are still relatively undeveloped, TTO may defer filing a patent application until additional enabling data is obtained. If TTO ultimately declines to pursue a patent, TTO will offer the patent rights to the inventor, who may pursue patenting and commercialization of the invention on his or her own.
- Prior to the creation of the new business entity, TTO and the inventor will work to create an advisory group involving a combination of technology/market domain experts, business process experts, serial entrepreneurs, and early-stage investors. During this company gestation period, the primary focus is to determine the feasibility of the company. Over time and as feasibility becomes more apparent, TTO will work with the inventor and other proposed members of the technical team to **determine the level of their participation** in the new company. Given that the inventor and/or university technical team is the repository of scientific knowledge about the invention, these people will be critical to the new company at its early stage of operation.
- At a point when the inventor, TTO, and a business person (or a small group of business people) decide that the proper mix of skills, knowledge, experience, and personalities are evident in the start-up team, a new company can be formed. Typically at this stage the lead business person, called the **“business driver,” will negotiate with TTO** to secure intellectual property (IP) rights for the new company from the university. TTO’s preferred initial approach is to execute an option giving the company the right to enter into a future exclusive license for the invention.
- During the gestation period of the company, the inventor must fulfill certain obligations to the university about reporting his or her intention to become involved in the company. The inventor must work with the appropriate university officials to **sort out any conflicts of interest and commitment** relative to the dual roles the inventor will assume.

- For the new company and TTO to convert the option to an **exclusive license**, the new company, with cooperation from the university, will need to complete several steps to set the foundation: establish a defined role for the inventor, finalize a university-approved conflict of interest management plan, craft a viable business strategy (as evident in the business plan), recruit an experienced business driver, and obtain both initial funding and solid prospects for accessing additional capital as needed. With the foundation set, the new company is able to begin developing and eventually marketing products.

B. UNIVERSITY IP REQUIREMENTS

i. Bayh-Dole Act

The Bayh-Dole Act of 1980 (the “**Bayh-Dole Act**”)¹ sets forth important federal policies governing university intellectual property (IP) and is the most important legislative source for university technology transfer. Pursuant to any federally sponsored research, the Bayh-Dole Act conveys to universities the right to patent and own discoveries made by university researchers using federal funds (approximately 80 percent of CU’s research expenditures). Based on these rights, university intellectual property policies require inventors to assign rights to inventions to the university. The Bayh-Dole Act provides for the sharing of licensing royalties with the inventor and encourages the domestic development and commercialization of the discovery. Further, the Bayh-Dole Act imposes patenting and other reporting obligations upon universities, which TTO addresses during the patent filing and prosecution process.

ii. CU Intellectual Property Policy

The University of Colorado intellectual property policy (the “**CU IP Policy**”) is a critical part of discharging Bayh-Dole obligations. The CU IP Policy was established by the Board of Regents and implemented through an Administrative Policy Statement (“**APS**”).² Certain provisions of the CU IP Policy are summarized below; however, all parties involved in licensing CU IP should review and be familiar with the APS and related CU policies, such as conflict of interest, before undertaking critical decisions concerning commercialization of any university invention.

The CU IP Policy applies to faculty members, research investigators, and all other employees of the university. This includes students on appointment as university employees, any other persons using university facilities, and any person who collaborates with one of these parties in a “**discovery**,” which covers both patentable inventions and copyrighted software. As set forth in the CU IP Policy, the university has an ownership interest in a discovery if the discovery was made: (1) while performing duties required by a university grant or contract; (2) with “substantial use of university resources” (as defined below); (3) as a result of the use of sponsored program funds supplied or administered by the university; or (4) in fulfillment of an inventor’s work responsibilities. The “substantial use of university resources” criteria is mainly applicable to non-employee students and visiting researchers, and would involve the use of university funds, programs, equipment, space, or other physical assets that go above and beyond those customarily and currently provided. Under the CU IP Policy, offices, office equipment, library access, desktop and laptop computers, photocopy equipment, telephones, and fax machines, which are customarily provided, are excluded from the determination of “substantial use of university resources.”

¹ 35 U.S.C. §200–212.

² International Property Policy on Discoveries and Patents for Their Protection and Commercialization (hereinafter, “CU IP Policy”), available at www.cusys.edu/regents/Policies/Policy5J.htm; University of Colorado Administrative Policy Statement (March 2, 2006), available at www.cu.edu/techtransfer/downloads/discov-patent_admpolicy.pdf.

The CU IP Policy defines a “discovery” as an inventive idea and/or its reduction to practice which relates to: new processes or methods of producing a new and useful industrial result; any composition of matter, including chemical and biological compounds; any new devices; any new plant; any new design in connection with the production or manufacture of an article; any computer hardware and/or software programs; any knowledge supporting these inventive ideas, systems, devices, compositions, programs, or processes; and any new use or improvement of existing systems, devices, compositions, programs, or processes.

Boulder Innovation Center

The Boulder Innovation Center (BIC) was created in 2005 to support local entrepreneurial ventures, with one particular focus on technology-based companies. The BIC has developed a process to support the evaluation and commercialization of technologies emerging from CU. The BIC brings a third-party perspective that can be invaluable for understanding the commercial opportunity and the steps required to introduce a new product into the marketplace. The BIC's methodology currently applies to CU inventions in the following areas: aerospace, bioscience, renewable energy, software, and engineering/materials science.

Evaluating High-potential Inventions and New Company Formation

Once TTO presents a technology to the BIC, the BIC assembles a group of industry experts from its extensive network. These experts have been pre-screened by BIC staff for technology and market expertise, familiarity with creating companies, team-building skills, experience raising capital, and the capability to take a lead role without the need for an initial salary.

If the BIC is able to identify one or more entrepreneurs who are a good match for the inventor(s) and who are willing to commit significant amounts of unpaid time to a new venture, it is expected that the inventor(s) will commit to a partnership with the entrepreneur(s). At this point, a company will be formed, if that has not already occurred. Also at this point, it will be essential to resolve the allocation of stock between founding inventors, founding entrepreneurs, the university, future investors, and key employees.

Supporting the New Company

With access to the BIC network, the BIC can help companies tackle a wide variety of challenges ranging from technology development plans, competitive and regulatory assessments, and marketing strategies. The BIC supports technology companies in their formative stages by helping the team navigate through start-up hurdles. During this phase, the BIC leverages relationships with local firms (legal, accounting, real estate, banking, insurance, etc.) for services well matched to the company's needs.

A unique resource is BIC's partnership with the CU-Boulder Leeds School of Business MBA program and the Deming Center for Entrepreneurship. When appropriate, MBA students are recruited to help understand the technology's market feasibility and refine the business plan. These services are undertaken as part of the students' coursework and supervised by faculty. For more information, please visit www.boulderinnovationcenter.com.

Fitzsimons BioBusiness Partners

The Fitzsimons BioBusiness Partners (FBBp) was created to support promising bioscience companies and enhance global visibility of the bioscience industry in Colorado with its epicenter at the Science + Technology Park at Fitzsimons, located across the street from the University of Colorado Denver Anschutz Medical Campus. FBBp provides clients access to the following resources:

Mentoring

The FBBp director is an experienced biotech executive who works with inventors, entrepreneurs, and management teams to optimize their chances of raising capital to fund operations, whether it is from investors, grants, or alliances.

Advisor Feedback

FBBp gives qualified clients the opportunity to present to its advisory board, a group of venture capitalists, senior executives, and domain experts. Clients are rigorously prepared so that the essence of their business plan and the case for the opportunity are evident. Following the presentation, FBBp works with the client to integrate the advisors' recommendations to further refine and improve both the underlying components and the overall opportunity.

Networking

In addition to connecting clients with our advisors, FBBp taps into an extensive regional and national network of contacts, including:

- Angel, seed, and venture-stage investors
- Prospective collaborators, customers, and licensees
- State, federal, philanthropic, and NGO funding opportunities
- Industry experts, clinical thought-leaders, and academic innovators

Access to Infrastructure

A substantial public investment of over \$4 billion is transforming the 587-acre former Fitzsimons army base into a world-class science and technology campus. The project is anchored by the significant research and clinical presence of the Anschutz Medical Campus, which includes the University of Colorado Denver, the University of Colorado Hospital, the Children's Hospital of Denver, and the Denver VA Hospital (opening 2012). The adjacent 70-acre Colorado Science + Technology Park @ Fitzsimons provides:

- Advanced turnkey research and clinical facilities
- Flexible office and lab layouts
- Bioscience Park Center—60,000-square-foot incubator providing office and research space
- Bioscience East—25,000 square feet of office and laboratory space for incubator graduates
- All of the resources of the Fitzsimons Life Science District and Anschutz Medical Campus in support of FBBp clients

For more information, please visit www.fitzbiobusinesspartners.com.

iii. Disclosure of University Inventions

Identification and protection of IP occurs when the investigator reports the invention to TTO. For TTO adequately to protect the invention, the CU inventor is responsible for reporting the invention within a reasonable time after such invention is made and within a reasonable time before any submission of the invention for publication or presentation to a public audience. Such written disclosure should be made using an invention disclosure form (available at www.cu.edu/techtransfer/disclose). **To help protect intellectual property rights, inventors are strongly encouraged to contact TTO if they have any question as to whether or not an invention has been conceived.** It is important for preserving foreign patent rights that at least a provisional patent application be filed before the invention is disclosed through public presentations and/or published abstracts or papers.

iv. Working with Technology Transfer Office

Once the invention disclosure is complete, TTO works with the inventor to determine the commercial viability of the invention. This evaluation process involves a TTO licensing manager, the inventor(s), and in some cases, third-party experts under an obligation of confidentiality. The licensing manager conducts research using a variety of databases and technical and business contacts to develop an understanding of the invention's technical merit, patentability or protectability, and commercial applications. The evaluation process determines whether TTO will expend funds to patent the invention or perhaps defer patenting until additional supporting data is obtained. This evaluation will also consider licensing strategies, including the possibility of a start-up as the licensee.

TTO involves the CU inventor in this process and helps set inventor expectations about his or her involvement in the patenting and licensing process, including possible roles in a start-up company if that is being considered. Regardless of the licensing strategy, the inventor's active involvement is essential for ensuring that the patent application appropriately captures the invention. Often, the inventor's willingness to provide post-license consulting or sponsored research will be critical to successful licensing of the invention.

v. Distribution of License Revenues

After recoupment of all external patent and licensing expenses paid by TTO, the CU IP Policy provides that all consideration (i.e., money) received under a license agreement (including proceeds from the liquidation of equity received as a start-up license fee) will be distributed as follows:

- 25 percent is paid to the inventor(s) personally (essentially as supplemental income);
- 25 percent is paid to the inventor's laboratory research operations;
- 25 percent is paid to the chancellor, which proceeds are directed as prescribed by specific campus-level policies,³ but mainly to the department where the inventor resides; and
- 25 percent is paid to the university system to fund TTO operations and proof of concept programs.

Obtaining a patent takes many years. After a provisional application is filed, a regular U.S. application and any foreign applications must be filed within one year of the provisional filing date.

If a regular U.S. application is filed, it usually takes approximately two years before the first action is received. Once the application is under review, it can take another one to three years before the patent issues, depending on the outcome of the examination of the application. After the patent is issued, it will be in force for 20 years from the priority filing date. During that time, maintenance fees must be paid at the 3^{1/2}, 7^{1/2}, and 11^{1/2} years to keep the patent in force.

If foreign rights are also pursued through the filing of a PCT application, foreign applications must be filed within 30 to 31 months from the filing date of the provisional application. Then each foreign application is examined separately and the time for this step varies depending on the country. It can take anywhere from one to five years to get an issued foreign patent.

³. See www.cu.edu/techtransfer/policies.

Laboratory notebooks serve an essential purpose beyond just good organization and record keeping. They can be critical for establishing inventorship, and the dates are also used to prove inventor status on a patent or patent applications. Laboratory notebooks provide evidence to defend against challenges made by infringers to an issued patent. Though patent infringement litigation is relatively rare with regard to university patents, the more valuable an invention, the more likely it will be contested. To be named an inventor on a U.S. patent, the applicant must prove two points: initial conception (formation of the idea) coupled with reduction to practice (how the idea would actually work). To be named as an inventor, you must have contributed to the conception and/or made an inventive and non-obvious contribution to the reduction to practice of the invention as described in the issued claims of that patent. To determine the date of invention, under U.S. patent law an inventor must be able to show a date of conception and a date of reduction to practice. (Importantly, authorship of an article in which the invention is described does not equate to inventorship.) The first inventor to do both of the above has a reasonable chance of obtaining the invention's patent rights.

C. TTO PROOF OF CONCEPT (POC) PROGRAMS

The flow of inventions from research universities to the marketplace is often pictured as a linear path where good ideas obtain funding. However, market financial mechanisms are imperfect when applied to university technology commercialization; consequently, many good technological ideas do not receive funding, and when they do, the path is often circuitous. A funding gap exists between inventions that exhibit commercial promise and adoption of the technologies by the commercial sector.

i. TTO Proof of Concept Grants

In the fall of 2005, the TTO Proof of Concept grant program (POCg) was initiated. TTO POCg provides awards to enable the development and validation of promising CU inventions that are, or will become, suitable for commercialization. For example, three categories of activity for which a relatively small amount of research funding may yield a dramatic increase in value for the invention are:

- **Advancement of hypothesis testing**—test an idea or in silico prediction with in vitro experiments, extend in vitro results with in vivo experiments, or build a bench prototype;
- **Target validation**—screen small molecule libraries, produce antibodies, or select target-binding peptides or aptamers; and
- **Pre-commercial research**—validate academic software code for commercial application, drug formulation, or develop alternative applications for technology.

These POCg awards are less than \$25,000, and the awardees are selected by the TTO. No overhead (F&A) is charged against these grants, and each award is deposited directly into a CU research account. In order to apply for a POCg award, an invention disclosure for the subject technology must be on file with the TTO.

ii. Proof of Concept State Bioscience Grants

In 2006, the State of Colorado passed a law (HB 06-1360), that provides matched Proof of Concept grant funding to Colorado research institutions. This program provides funds to be used on a one-to-one matched basis (match provided by the University of Colorado) for development-oriented research to accelerate bioscience commercialization by reducing inventions to operational practice and validating their ability to address significant market applications. Commercialization potential from the selected research projects should primarily be realized by companies operating in Colorado. Typical examples of development research objectives that may dramatically increase commercial value and applicability for inventions are:

- **Pre-commercial research**—validating drug targets and biomarkers for clinical application, drug formulation/reformulation, or developing alternative applications for existing technologies and products;
- **Advancement of hypothesis testing**—testing an idea or in silico prediction with in vitro experiments, extending in vitro results with in vivo experiments, or building a bench prototype; and
- **Product development**—producing antibodies, selecting target-binding peptides or aptamers; formatting assays; or optimizing specifications of devices and processes.

In 2008, the Colorado Legislature and Governor created HB 08-1001. This program will operate for five years with a pre-allocation for CU of approximately \$800,000, and when matched TTO will fund eight to ten awards annually (from \$50,000 to \$200,000 per award).

iii. Proof of Concept Renewable Energy Grants (POCeI)

In 2008, TTO, in partnership with the CU-Boulder Energy Initiative, devised a Proof of Concept grant program to enable the further development and validation of promising sustainable energy sources as well as efficient utilization of energy. POCeI proposals must be based on intellectual property created at the University of Colorado at Boulder. The renewable energy POC awards can be in amounts up to \$50,000 (no F&A charge). The technologies are selected by a competitive application process. Proof of Concept grant applications for renewable energy technologies are accepted twice a year (in the fall and in the spring).

iv. Proof of Concept Investment

In 2004, TTO launched a Proof of Concept investment program (POCi) to provide early-stage “seed” investments to enable the development and validation of promising CU technologies that are, or will become, the platform for a CU start-up company. These investments address the critical funding gap that often exists between basic research and the advancement to commercialization of a technology. Proposals should present a compelling value proposition for the use of the funds in moving the technology toward successful commercialization.

The applicant for a POCi must be a start-up company based on technology from the University of Colorado, and the company must be located in Colorado. Investments will only be made in companies with an exclusive option or license agreement from CU. Execution of either of these agreements is a condition for investment, not the POCi application.

POCi funds must be used primarily for applied research, prototype development, product testing, and other technology-focused activities consistent with the Proof of Concept purpose of the investment. Up to 25 percent of the investment amount may be used for business activities, such as market analyses, business development, or intellectual property analyses. POCi applicants should not have previously received significant private investment (such as Series A venture capital investment). POCi investments are in the form of an unsecured convertible note, which converts to equity when the company obtains a minimum level of outside investment. POCi recipients are expected to keep TTO informed regarding progress toward achieving the POCi project objectives and to present a final report on the use of funds and project results to TTO following completion of the work. POCi investments can range from \$50–\$100,000, and the technologies are selected by a competitive application process.

v. Future Proof of Concept Grants

TTO continues to engage outside partners and the Colorado Legislature to provide funds for additional POC programs. As these programs develop, investigators will be informed about them through TTO’s communication channels.

D. START-UPS AT THE UNIVERSITY OF COLORADO**i. Start-up Conditions**

CU encourages the creation of new companies for the purpose of commercializing university inventions. However, before TTO grants an exclusive license, the company must satisfy three conditions: (1) a business plan that sufficiently identifies the resources and steps necessary to commercialize the IP; (2) a commitment of adequate initial financing and a reasonable chance to obtain additional capital necessary to commercialize the IP; and (3) a sufficiently experienced and committed business driver and/or management team capable of raising capital and executing the business plan.

A confidential disclosure agreement (“CDA,” aka non-disclosure agreement, “NDA,” or confidentiality agreement) is a document that, when signed, will allow one or both parties to discuss their confidential information (including their work and ideas) with other interested parties. It legally binds those parties to keep the information confidential for a period of time and not to disclose it to third parties. In all countries including the United States, the public disclosure of an invention can be considered a forfeiture of the right to patent that invention. TTO will assist in determining what confidentiality terms best suit specific needs, initiate the CDA, and execute it in the name of the university. Only certain designated officers of the university have the delegated authority to execute these agreements.

The Entrepreneurial Law Clinic (“ELC”) at the University of Colorado Law School is a unique area resource for inventors and entrepreneurs in the midst of launching a start-up. The ELC provides free legal assistance to founders and start-ups in many areas of business law, including: entity formation, intellectual property strategies, employment issues, and contracts. More information is available at www.colorado.edu/law/clinics/entre.

In addition, CU requires that conflict of interest and commitment concerns are addressed in a Conflict-of-Interest Management Agreement with the university. This is discussed in Section I.E below.

In many cases, a start-up will not be able to meet the requirements for a business plan, funding, or a business driver for some time, and yet the company will want some assurance that it will have the right to negotiate an exclusive license when those requirements are met. In such cases, TTO will negotiate a time-limited option to an exclusive license, which gives the company time to build the business plan, organize the business team, conduct proof of concept development research, and identify motivated investors. The option period also provides time to clarify the role and interests of the inventor, which is important because long-term success is only possible if positive personal chemistry exists between the inventor and management team.

A typical option agreement provides the new venture with a six-month timeframe within which TTO will not market the technology to others. When the new company fulfills the option conversion requirements, it can exercise the license option. In contrast, if the new company does not fulfill the conversion requirements of the option agreement, TTO may either consider granting additional time or, if it appears that the fit of the company to the technology is not right, TTO may pursue other licensing alternatives.

ii. The Licensing Process

University license agreements vary in depth and complexity. The Bayh-Dole Act, CU IP Policy, and prudent university risk management and licensing procedures require certain standard terms in the license agreement. These standardized, non-negotiable terms include, for example, the following: the university’s retention of the right to practice the invention for nonprofit research and educational purposes, the university’s right to publish research results, the requirement that the company indemnify the university, the absence of warranty and provisions that indemnify the company, and limitations on the use of the university’s name.

Other provisions of the license agreement, however, are negotiable. These terms include but are not limited to fields of use; the right to grant sublicenses; business development diligence; commercial milestone requirements; reimbursement of the university for the cost it incurred for patent prosecution; the company’s right to prosecute the licensed IP; rights to follow-on and new IP; and economic considerations due the university such as fees, payments, and royalties.⁴ Virtually all start-up licenses are exclusive, essentially meaning that the university cannot grant to another party the same access to the licensed IP. The scope of the license can be broad enough to include all applications and industries or narrowed to specific applications, markets, and/or geographic regions.

The company may terminate the license at its own discretion. The university may only terminate the license based upon a material breach of the license terms and conditions. When a license agreement is terminated, either due to a failure of the company to cure a breach of contract within the proscribed period or due to termination by the company, the IP rights essentially revert back to the university. Investors will consider the economic terms as one of the key components of the venture. For example, royalties are based on a percentage of net sales and have an impact on profitability. Inventors should anticipate that their new venture will not

⁴. See more generally, www.cu.edu/techtransfer/downloads/IP_guidebook.pdf.

generate revenue quickly. It is common for companies to take considerably longer and need more money than expected to achieve an early revenue target.

Given TTO's extensive experience with start-ups, it understands that commercialization timelines can slip and follows three principles to support responsible company growth. First, TTO wants to see some level of financial commitment of the founding team into the company. Second, TTO will not seek significant funds from the company during the development period. Significant fees, with the exception of patent reimbursement and minimal license maintenance payments, are seldom due prior to product sales; if they are, as in the case of clinical milestone payments, TTO will entertain the option of those fees being paid with equity to University License Equity Holdings, Inc. (ULEHI), an entity discussed in Section I.F.ii. Third, enduring license agreements are amended from time to time. Good communication, true advancement toward commercialization, and positive relationships overcome the unforgiving nature of license contract terms that at one time made sense, but years later may no longer serve the interests of the company and the university.

CU TTO negotiates at arm's length with the new venture and must serve the interests of the university. That said, successful negotiations are always characterized as win-win situations. An inventor's chosen role and equity in the new venture must not affect the outcome of the negotiations. Even if the inventor is more involved (in terms of an official company role) or financially vested, he or she may not actively be involved in the negotiation or advocate for any specific terms; to do so would put the inventor in direct conflict with his or her responsibilities to the university. The inventor must realize that his or her first obligation is to the primary employer—the university.

The process from invention disclosure to execution of the exclusive license to a start-up company can take from six months to a few years. The key points for the inventor are as follows:

- break down each step into manageable components,
- realize that all parties want to see eventual commercialization of the invention,
- seek out others who can serve as mentors and advisors about all the different types of decisions to be made, and
- maintain moderate expectations because at any time in the entrepreneurial process a “deal breaking” event can occur.

As much as the entrepreneurial process is new and challenging to inventors, it can be one of the most rewarding activities an individual may ever encounter. The excitement of seeing an idea come to fruition and possibly changing people's lives for the better is palpable and reinforcing.

TTO works with dozens of these emerging company situations at any one time and has seen the best and the worst outcomes. A TTO licensing manager will be the primary contact, but given the complexity and duration of this process, a few others from TTO will become involved in the process. For TTO, start-ups are important in their own right but are also a key indicator of TTO's performance. TTO acts proactively in the interests of both the university and inventors. Collaborative interactions are a key component for success.

E. CONFLICT OF INTEREST AND CONFLICT OF COMMITMENT

As part of the faculty member's employment (as stipulated in the Appointment Letter Agreement) and based upon guidelines promulgated by federal funding agencies, the university requires all faculty to disclose their conflicts of interest and conflicts of commitment on an annual basis. Conflict of Interest (COI) refers to situations in which financial or other personal considerations may adversely affect, or have the appearance of adversely affecting, an employee's professional judgment in exercising any university duty or responsibility. Conflict of Commitment refers to situations in which the outside relationships or activities adversely affect, or have the appearance of adversely affecting, an employee's commitment to his or her university or responsibilities. Potential conflicts of interest are adjudicated by the university in one of three ways depending on the issues:

- no COI is deemed to exist,
- a potential COI exists and is managed (mitigated) through a set of decisions and actions defined in a COI management plan between the university and the inventor, and
- the potential COI is deemed as unmanageable and the particular activity not permitted.

Potential conflicts are reported slightly differently on each campus⁵. However, if an inventor decides to pursue a new venture that intends to license university-owned technology, the inventor is expected to discuss this intention with his or her department/center chair and update his or her most recent COI disclosure.

If a university employee wants to start a company based on university-licensed technology, he or she must choose his or her level of involvement with the company. There are certain CU policies which may affect this decision, depending on the specific appointment. For example, most faculty members are limited to using one-sixth (1/6) of their time for outside activities such as consulting. Some faculty members, particularly in the College of Medicine, have other arrangements for consulting, which may affect their role in the new company. TTO assists inventors with interpreting and suggesting language consistent with universities policies in consulting and business-related agreements.

An inventor may select from a variety of options with respect to the time he or she devotes to the commercialization of his or her discovery and the position he or she takes with the new venture. Four such alternatives are considered below:

- 1) The inventor may decide to have a limited role or no role at all in the company and simply remain a full-time faculty member of the university. Although this is certainly one alternative, in reality almost all faculty inventors are involved in the development of their inventions. When a low-engagement alternative is chosen by the faculty inventor, it is likely that former graduate students, technicians, and/or postdoctoral fellows play a role as scientific drivers in the company.
- 2) Many inventors choose to participate in a new venture by becoming a member of the company's scientific or technical advisory board, or in some other related advisory capacity. As its name implies, a scientific or technical advisory board provides advice with respect to strategic, technical, and scientific personnel decisions, and is typically populated by highly respected scientists from the company's technology domain.

⁵ For a detailed look at the University of Colorado conflict of interest policies, see upg.cusys.edu/detail.asp?id=20.

- 3) Some inventors choose to go beyond the advisory role and become officers of the new company, such as a chief scientific or chief technology officer. Typically, officers of early-stage companies also are on the board of directors. Because officers and directors have fiduciary duties to the company, inventors who assume officer and/or director responsibilities must recuse themselves from any decisions that involve the university, such as contract negotiations.
- 4) A further example of involvement in the company would be unpaid temporary leave from the university so that the inventor can devote more time to company development. A variation of this, which may not be available depending on a faculty member's particular appointment, is a reduced time appointment at the university. Either of these options may have significant effects for the university and for elements of the inventor's academic career, such as critical class offerings, advisee commitments, and continuation of sponsored research. A leave of absence must be arranged by the faculty inventor with his or her departmental chair and/or other such academic officials. Of course, an inventor is free to terminate university employment, but this is an infrequent course of action.

F. OWNERSHIP CONSIDERATIONS

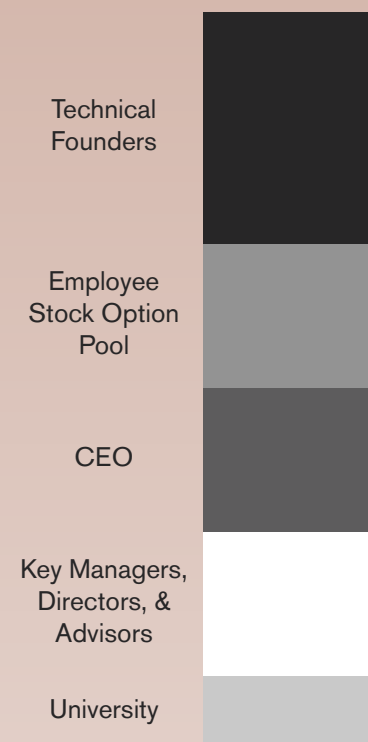
i. Founders' Agreement and Founders' Equity

There are a number of different approaches to creating a company. No matter what the approach, early in the process before individuals pour considerable time and effort into the enterprise, the founding parties must come to terms concerning the initial distribution of company ownership (equity). This founders' agreement should also designate the roles and responsibilities of the various founders and define the ownership consideration received for successfully achieving the start-up objectives. An example of a common approach to a founders' agreement is contained in Appendix A.

The approach taken in Appendix A models a start-up situation involving a CU inventor and a businessperson. The scenario contemplates an initial distribution between the two founding partners. Issues related to company development such as ownership consideration for other parties brought into the new company (e.g., additional technical and/or management personnel) would require a subsequent agreement and/or amendment. These subsequent agreements are specific to the facts and circumstances facing the company and should be undertaken with the services of an attorney or law firm.

An alternative approach is to keep most of the stock in the company treasury and allow each founder to vest a certain percentage based on a combination of time spent in the company and performance of certain milestones.⁶ This allows founders to allocate unvested shares among the various parties that they anticipate will become involved with the company. This includes the founders, key managers, investors, and the employee stock option pool. Founders should take a realistic view of the value that they bring to the new company and should not allocate a disproportionate share of the founding stock to themselves, otherwise stock will not be available to adequately compensate other parties who are necessary to make the venture a success. For example, if a scientific founder wishes to remain at the university and serve only periodically on a scientific advisory board, the individual should expect to earn much less stock than his or her colleague who plans to take a leave of absence to develop the technology at the company for several years. Similarly, the venture must allocate a

⁶ In this situation, founders must consult an attorney to plan for what would happen to unvested shares allocated to an employee who departs early.



This illustration shows a theoretical allocation of Founders' and preferred equity, before and after a Series A round of investment.

greater share of equity for a CEO who has an outstanding track record of success and will be able to bring an investment group to the company. There is no typical deal. Often, if there are two technical founders and a CEO, we have seen the three divide the founding stock three ways. This is much more likely to succeed than if one of the three founders was to hold on to 95 percent of the equity. However, it is worthwhile to have an open discussion about the value and time commitment that each founder will bring to the table, so that the division of equity better reflects each individual's contribution.

Stock vesting typically happens over a period of several years. A stock allocation for a CEO might be 20 percent of the founding stock, with 5 percent coming upon reaching certain milestones and the additional 15 percent vesting over a period of three to five years.

TTO will generally not play a role in matters of company formation, founder ownership and vesting, founder duties, and other company governance issues such as board composition and voting rights. However, TTO has to ensure that the structure of the company is one amenable to growth, which typically means external investment, additional shareholders, and securing the services of key managerial and technical talent.

ii. License Fee Equity

In most cases, an existing company that receives an option or license to CU IP will pay an "up-front" or license execution fee. For a start-up company, the equivalent of a license execution fee can be paid by the company in its primary currency—equity. The university receives an ownership interest in the new venture (for example, if the new venture is formed as a corporation, the university receives stock in the corporation). The equity in consideration for the license is held by University License Equity Holdings, Inc. (ULEHI), a Colorado nonprofit corporation. ULEHI is statutorily enabled by Colorado law and is a controlled affiliate of CU. The percentage of equity that ULEHI receives in a new company under a license or option agreement is typically less than 10 percent. However, the ULEHI equity interest is normally protected from dilution, which occurs when the company issues additional equity to other parties. Dilution occurs when additional individuals or investors receive or purchase equity in the company, reducing the percentage owned by the pre-investment owners (but also typically increasing the value of the shares held by pre-investment owners). ULEHI's anti-dilution protection provisions often only operate until a certain milestone is reached (e.g., a "Series A" financing or an additional investment above a dollar amount, e.g., \$XM investment).

By providing ULEHI with anti-dilution protection, the parties are essentially providing some assurance of the value of the license fee equity, based on a (hoped for) future financing event in which a company valuation is established by a professional investor. For example, if ULEHI receives 5 percent of the outstanding stock with anti-dilution protection through \$3 million in equity investment in the company, and the company later receives a \$3 million venture capital investment for 50 percent ownership of the company, the "pre-money" valuation would be \$3 million (as determined by the investor) and the "post-money" (i.e., post-investment) valuation would be \$6 million. The value of the 5 percent equity stake at the close of the investment would be \$300,000 (5 percent of \$6 million), but the present value at the time of the license would be much less, as it would be discounted for the time

required to obtain that level of investment and the risk that it is never obtained and the company fails.

Other than the ULEHI share, investors are seldom willing to accept anti-dilution protection for founders' equity. Although this arrangement may strike founders as unfair, until a capital infusion, the technology is likely the most valuable asset of the new venture and commands a premium.

The new company should engage an experienced corporate law firm for representation in licensing and capital formation matters. These issues are often complex and resolve sometimes competing interests in the company. The inventor may wish to seek outside counsel for representation about his or her personal share of ownership among the founders and investors. TTO will provide advice about meeting university policies, but cannot provide legal representation to the inventor about his or her personal ownership share in the new company.

G. OTHER ISSUES INVOLVING THE UNIVERSITY INVENTOR AND START-UP COMPANY

i. Consulting Arrangements

University policy requires that, prior to engaging in any consulting or business activity with a third party, university employees should make their university IP obligations clear to the other party.⁷ The CU IP Policy specifies that the university's IP rights shall not be diminished by the terms of any consulting or business agreement between a university employee and a third party, except as may be specifically authorized in writing by the university's chief technology transfer officer. Consulting work that is related to an inventor's research may involve discoveries in which the university has an interest and thus would require disclosure and compliance with university policy. While TTO cannot negotiate the contract between the inventor and the company, TTO will provide guidance on these matters to ensure compliance with university policy.

ii. Facilities Use Arrangements

Inventors cannot use university facilities, equipment, and/or labs for company-based activities to conduct business for the company or any other third party. In some cases, the university will enter a written agreement with the company to allow use of university resources.

iii. Use of University Name

The licensee company may not use the name, people, trademarks, or reputation of CU to market itself or its products without the university's prior written consent in each case. Approval is typically given when the statements are factual and not overreaching as to the role of the university—for example, the new venture is allowed to state that it has licensed IP rights from the university. However, the university will not endorse any particular company or product. TTO will provide further guidance on this issue.

iv. Sponsored Research

CU is one of many universities that allow companies in which a faculty member has an ownership interest to conduct sponsored research in the laboratory of the faculty member. Given the potential conflict of interest presented by this situation, COI

⁷ CU IP Policy Statement, www.cusys.edu/regents/policies/policy5J.htm.

management is paramount. With proper COI safeguards, investigators are able to pursue technology development objectives under a sponsored research agreement.

The standard CU industry sponsored research agreement provides the opportunity for the sponsor to secure rights to the IP resulting from the research (including patent rights, copyrights, and data). This agreement also includes provisions protecting the ability of the involved CU researchers to publish the results of the research, subject to certain review rights of the sponsor. The IP terms would typically include either one of the following two approaches:

- 1) Option Rights—A 30-day period to elect a six-month option to an exclusive, royalty bearing license to IP developed under the contract; to secure the option, the industry sponsor will reimburse the university for costs associated with protecting the intellectual property rights (patent costs, copyright filing fees, etc.).
- 2) License Rights—A 30-day period to elect a nonexclusive, royalty-free license to IP developed under the contract in a limited field of use of commercial interest to the company in exchange for reimbursement of patent costs.

In the case of collaborative research projects, inventorship is determined by U.S. patent law. In most cases, inventors will assign their rights to their respective primary employer. CU employees are required to do so. If a sponsor co-owns a patent as a result of a joint invention, the sponsor and university will have equal, undivided rights under U.S. patent law. Such equal, undivided rights typically do not exist in international jurisdictions. To secure the entire IP asset, the sponsor can elect an option to negotiate for a royalty-bearing, exclusive license to the university's rights in the invention.

Companies can also pursue work for hire agreements with the university. A work product can be considered a work for hire if it does not include any inventive intellectual input from university employees. Examples may include:

- software code that implements an algorithm provided by the company;
- analytic evaluation of a device according to predetermined criteria; or
- data resulting from a double blind study, where the research protocol was designed by the sponsor.

According to patent law, inventorship always includes an intellectual contribution to the patent claims. This is not considered a work for hire.

v. Departmental Requirements

A frequent concern that inventors have when they begin to devote more time to a company born from a university-owned invention is what effect their new endeavor will have on their tenure and performance evaluations. This is an ongoing discussion within the university community. Generally at CU inventive activity is encouraged, but as is true at virtually all other U.S. research universities, inventive activity is not an explicit criterion in tenure and annual performance. Accordingly, inventors should talk to departmental colleagues and proactively contact the department chairperson to assess the implications of potential entrepreneurial activities.

Section 2. Working with the New Company

GENERAL CONSIDERATIONS FOR STARTING A NEW COMPANY

- Choose co-founders
- Prepare business plan
- Determine choice of legal entity
- Prepare and file (if required) proper business formation documents (i.e., articles of organization or incorporation, operating agreement or bylaws, shareholder or member agreement, and other organizational documents)
- Determine roles of the founders and prepare founder employment or consulting agreements
- Recruit management and advisory board members
- Prepare employment or consulting agreements for management and advisory board members
- Take steps to protect intellectual property (registration, secure know-how, and provisions in employment, consulting, and independent contractor agreements)
- Raise capital by issuing equity or debt instruments in accordance with federal and state securities laws
- Maintain corporate records; hold annual shareholders meetings if required

A. NEW VENTURE LOGISTICS

i. Choosing Co-Founders

One of the most difficult aspects of creating a new business is determining who is in the business and establishing expectations concerning roles in, and commitments to, the company. If the inventor is the main motivator for the new company, then he or she has to grapple with this decision, considering also personal goals and family and professional commitments. If the inventor is not the motivator for the decision, then the business driver will have to determine who is involved, which by necessity always includes the inventor in some role. This section discusses different dimensions of the roles for founders.

ii. Business Plan

An early step in developing a new company is formulating a business strategy, otherwise stated as the “business model.” The business model is manifest in the business plan, which is a dynamically evolving document drafted and re-drafted many times during the company’s early life. A business plan contains information about the company’s markets and market development plans, products and product development plans, intellectual property, capital requirements, management needs, and other strategic elements. Additionally, the business plan ultimately serves as a key reference document prepared for many resource allocation needs, such as interviewing new key employees and pitching potential investors.⁸ See Appendix B, “Business Plan.”

iii. Choice of Legal Entity

A range of tax, accounting, business structure, corporate governance, and certain personal considerations drive the process of selecting an appropriate business entity.

⁸ For more in-depth information on forming a business plan, see ABA Section of Business Law, *Emerging Companies Guide: A Resource for Professionals and Entrepreneurs*, edited by Robert Brown and Alan Gutterman (2005).

While many different considerations are involved, the most important decision is to form a separate legal entity that limits the personal liability of the entity's owners. While an entrepreneur is free to do nothing and simply operate by default as a sole proprietorship or general partnership, in these structures the entrepreneur is personally liable for the debts and other liabilities of the business. Fortunately, there are alternative structures—most notably, a C-corporation, S-corporation, limited partnership (LP), and limited liability company (LLC)—that offer enhanced liability protection. Forming a legal business entity is not difficult or expensive; however, one should consult with a qualified attorney as to which form of business entity is most appropriate. These structures offer a range of attributes that are beneficial or detrimental to the entrepreneur depending upon his or her specific set of circumstances.

The LLC has gained popularity as the entity of choice for many new businesses. An LLC with multiple owners (members) is treated as a pass-through entity for federal income tax purposes, unless it elects otherwise, while an LLC with only one member will be disregarded for federal income tax purposes, unless it elects otherwise. In addition to limited liability and pass-through taxation, the LLC provides the most flexibility with respect to allocation of profits and losses, capitalization, and corporate governance. However, with this flexibility comes more complexity in the business structure. Another option, the S-corporation, also takes advantage of pass-through taxation. However, this approach has several limitations, including limitations on the number and type of shareholders it may have, which may make it unsuited for many early-stage technology businesses. For companies looking to grow quickly and receive institutional investor money, a C-corporation is generally the preferred entity, even though it is subject to taxation at both the entity and shareholder levels.

When deciding on a type of entity, consider both the current and future needs of the company. Figure 1 is a table identifying certain aspects of entity selection, although this is by no means a complete list of issues that should be considered.

Figure 1: Choice of Entity—Key Considerations⁹

	C-corporation	S-corporation	LLC
Pass-Through Taxation (all business losses, profits, and expenses flow through the company to the individual owner{s})	No	Yes	Yes
High Level of Flexibility Concerning Governance	No	No	Yes
Limitations on Eligibility and Capital Structure	No	Yes	No
Favorable Tax Treatment for Incentive Stock Options	Yes	Yes	No
Ability to File for a Public Offering (IPO)	Yes	Yes	No

⁹ For an extended table of the pros and cons of the various business entities, see Constance E. Bagley and Craig E. Dauchy, *The Entrepreneur's Guide to Business Law* (2008) at 67–68.

Finally, when considering choice of entity you should know that while it is helpful to make a thoughtful decision, you can always change the entity if appropriate in the future. For example, it is not unusual for a company originally organized as an LLC to change to a C-corporation upon receiving a commitment of venture capital funding. However, there may be tax or other consequences as a result of a change in the form of entity, and one should consult with a qualified attorney prior to undertaking any such change.

iv. Formation of the Entity

Once the decision has been made on which type of entity to form, affirmative steps are required in order to form the entity. For example, if an LLC is chosen, one must decide in which state to organize and file articles of organization with the appropriate state authority. To be eligible for many State of Colorado financial assistance programs it is necessary to file as a legal entity in Colorado. All three legal entity types are eligible for Federal Small Business Innovation Research grants. In addition, while not filed with the state, an operating agreement should be adopted which governs the rights and obligations of the members and managers of the LLC. If the decision is to form either a C-corporation or an S-corporation, one must decide in which state to incorporate, file articles of incorporation, and adopt bylaws and other organizational documents. Additionally, if an S-corporation is formed, additional steps are required by the Internal Revenue Code and applicable rules and regulations of the IRS. A qualified attorney will be experienced in assisting with the drafting and filing of necessary legal entity documentation.¹⁰

v. Corporate Hygiene

Regardless of the business structure chosen, the company founders must document corporate actions and be mindful of not mixing personal and corporate property. The absence of these measures could lead to a “piercing of the corporate veil,” depriving the founders of the corporate structure’s protection against personal liability and exposing their personal assets and themselves to claims made against the company.

The following checklist of basic documents provides a good starting place for start-ups. While the volume of documents may seem overwhelming, the goal is to help provide a solid foundation for the company’s organic growth. Once in the midst of the peaks and valleys of building a company, bringing on shareholders, raising capital and creating economic value for shareholders, it becomes more challenging and expensive to address these foundational matters.

- **Organizational Resolutions:** Written approval of the incorporators or organizers of the company (i.e., the founders), the directors (of a corporation) or managers (of an LLC), and the shareholders (of a corporation) or members (of an LLC) of each of the organizational matters set forth below, in addition to other basic authorizations regarding banking, election of officers, fiscal year, and general authority.
- **Bylaws, Operating Agreement:** Establish the ground rules and manage the relationships among the company and its shareholders (members), directors (managers), officers, and third parties.
- **S-election (if applicable):** Election of corporation to be treated as a pass-through entity for federal (and generally state) income tax purposes. Must be filed with the IRS within two months and 15 days of the company’s formation.

¹⁰University of Colorado Technology Transfer Office Bulletin, “Entrepreneur’s Guide to Legal Hurdles,” available at www.cu.edu/techtransfer/downloads/Bulletin-LegalGuideforEntrepreneurs.pdf.

- **Capitalization Table:** Reflects the authorized and/or outstanding capital stock (membership units in an LLC) and other equity instruments of the company, determined with sensitivity toward long-term goals, including additional investors, dilution, and related matters.
- **Stock (Membership Unit) Ledger:** Clear, concise record of all stock (membership unit) certificates outstanding with related shareholder (member) contact information.
- **Stock (Membership Unit) Certificates:** Actual certificates indicating ownership of capital stock (membership units) labeled with appropriate restricted transfer legends.
- **Shareholder (Member) Agreement:** Sets forth the rights of shareholders (members) to purchase, acquire, encumber, sell, dispose, and otherwise transfer capital stock (membership units) of the company. In an LLC, these provisions will likely be set forth in the Operating Agreement so that a separate document may not be required.
- **Stock (Membership Unit) Incentive Plan; Notice of Award and Award Agreement:** This plan is designed with a long-term view toward promoting the success and value of the company by aligning the personal interests of the directors (managers), employees, officers, and consultants with the success of the company.
- **Charter for Scientific Advisory Committee or Business Advisory Committee:** States the purpose and obligations of the advisory committees organized by the company to provide strategic advice and recommendations.
- **Consulting Agreements:** For key management and advisory committee members of the company, designed to define obligations with respect to services to be performed, compensation, expenses, and ownership of intellectual property.
- **Indemnification Agreements:** Provide adequate assurances and protection against inordinate risks of claims related to actions by directors (managers) on behalf of the company.
- **Federal Trademark Application and Intellectual Property Plan:** To protect the name of the company and its chief product lines and detail the company's proactive plan to develop and protect its intellectual assets and competitive advantage.

B . CONFLICTS WITHIN THE NEW VENTURE

The formation of a new entity presents issues and decisions that can create tensions between or among the founders. This section identifies and explains some tensions and issues that may arise, as well as some possible resolutions.

i. Founders' Roles

In the rush to launch a new company, the temptation is to select co-founders before the long-term implications of these decisions have been considered. Depending upon the provisions for co-founders in the company's organizational documents, it may be difficult to part ways after organization. Investors are generally reluctant to make management changes; most will just go on to another opportunity.

Starting a company costs more and takes longer than most founders envision. During the early stages of a company, the founders fill all functional roles within an organization. At any given time, these may include chief scientist, officer, director, consultant, investor, recruiter, bookkeeper, and so on. Early on it is important to understand individual strengths and weaknesses and to formally divide these roles and tasks.

As the new company develops, responsibilities and needs often expand beyond the abilities of the founders. Formal and informal business advisors are a good way for founders to inexpensively gain an alternative informed perspective. Many companies establish clinical, business, and/or scientific advisory boards composed of people who are incentivized with ownership or, to the extent available, cash, to assist during these formative years. The best advisory board should include proven, seasoned veterans who give straight advice and help mold first-time founders into successful entrepreneurs and provide introductions to contacts in the relevant market and to investors. Advisors should be able to give meaningful feedback to the new venture on all of the questions that must be answered in the business plan described in Section 2.A.ii. Founders should not expect potential advisory board members to make connections for them until the advisor begins to believe in the founders and in the potential of the technology. TTO has many contacts into entrepreneurial networks and helps founders maneuver through the process of finding good advisors.

One specific position of note is the Chief Executive Officer (CEO). Often one of the scientific founders takes the position of CEO because he or she is understandably hesitant to relinquish managerial control, especially after the labors expended developing the IP rights. The key question in selecting the CEO is whether or not the CEO is “investible”—i.e., would experienced investors trust the CEO with their capital based upon his or her business acumen and experience? The CEO is the manager of the entity that builds and executes the model, hires and incentivizes key talent, and raises capital (which is a continuous process).

ii. Expectations

(a) Founders

The founders should be clear about their expectations and goals before the venture’s inception. It is not uncommon for founding entrepreneurs to spend months just writing the first rudimentary draft of the business plan. A common concern of TTO and potential investors is that once a founder receives equity, he or she may walk away from the new venture without any future performance. As such, beyond recognition of the time spent by founders figuring out fundamentals of the business, any grant of ownership should be subject to a vesting schedule. A vesting schedule allows a portion of the founders’ equity to be “owned” by such founder over a period of time (typically one to three years), contingent on his or her continued employment and performance with the company. By itself, time spent with the company has no economic value without clear accomplishment of specific milestones.

(b) Employees and Independent Contractors

All individuals employed by the new entity should be required to enter into employment agreements similar to those of the founders, including non-competition, non-solicitation, and non-disclosure provisions. Similarly, all consultants and other independent contractors engaged by the new entity should be required to enter into consulting agreements with these provisions. It is typically the case that a start-up company will pay new employees, not just founders, a salary and equity or options for equity. If an employee is compensated with equity, it is essential that the employee’s equity be earned pursuant to a vesting schedule to secure performance and commitment. An additional benefit of issuing equity as employee compensation is that it provides an incentive for success. A downside of issuing shares of equity as employee compensation is dilution of the founders’ equity

interests in the company. In addition, there are many tax and other rules governing deferred compensation and employee benefits with which the company would have to comply, and the company should consult with a qualified employee benefits attorney in structuring any such equity plan. Most ventures establish an omnibus stock incentive plan (or a membership unit plan in the case of an LLC) in connection with organization pursuant to which 15 percent to 30 percent of the company's equity is reserved to attract and retain valuable personnel.

(c) Advisory Board Members

Advisors can be motivated to help for many reasons. One common motivation for advisors of early-stage start-up companies is the satisfaction and enjoyment that they get from guiding a new venture to success. Others join advisory panels organized through the BIC or the FBBp for the chance to network with others in their field and give back to the community. Individuals who act as advisors should not expect to receive any financial compensation for their time and insights. After some period of time working with an advisor, a small company may determine that the advice and connections provided by the advisor are so valuable that the advisor should be compensated by receiving some amount of stock options or that the advisor should be considered for a role as an outside director. The board of directors, including directors representing investors, would need to authorize that action.

iii. Building an Intellectual Property Portfolio

The value of most start-up companies is initially contained in proprietary technology licensed from the university. Over time, the company might enhance the IP with actions of its own. Preserving and enhancing IP value involves a multifaceted approach including a trade secret policy and a combination of trademark, copyright, and patent protection. TTO will execute a license that enables the start-up to secure IP created at CU related to the licensed patent rights. Similarly, the company should have agreements with its consultants and employees to ensure that IP created at the company or through its resources are assigned to the company. While an attorney can assist in establishing and implementing a plan for protecting intellectual property, it is ultimately the entrepreneur's diligence that determines its value and integrity.

In some cases a company must be willing to enforce its IP rights against a fraudulent or infringing party. If this occurs, it is typically a few years after the company is created. Enforcement of IP may require litigation which can be expensive in terms of time and capital. In order to prevent unnecessary IP disputes, it is important to consult attorneys as to prosecution and development of an IP plan that works for the company. Three basic steps at the outset can assist in crafting a sensible IP protection strategy.

First, names are important; they identify the company and its products in the marketplace. Although it is not essential for use of a trademark, service mark, trade name, and/or copyright, registration with appropriate legal bodies is relatively inexpensive. Certainly whenever a trademark or trade/service name is used it should be identified with the appropriate symbol such as tm, sm, or ©. Simply doing this informs the world that you have made a claim to the use of this mark (design or symbol), name, or copyright.

Second, all employment or independent contractor agreements should contain provisions that secure the company's interest in intellectual property. To be clear: in the absence of a written agreement otherwise, most intellectual property developed by an independent contractor is not owned by the company. Accordingly, it is critical

that new companies ensure that intellectual property is accounted for through agreements regarding ownership of IP, work-for-hire, and/or assignment of inventions. These provisions ensure that all intellectual property developed by the company remains under the company's control. In connection with employment agreements, all employees should be required to enter into nondisclosure agreements to prevent employees from discussing confidential information or trade secrets with parties outside of the new entity. Similar provisions should be included in the consulting agreements of all independent contractors.

Finally, the new venture should develop a patent strategy to protect the core inventions it has licensed from the university. In nearly all cases, a CU licensee will be granted the right to control prosecution of licensed patents. Enhancing the patents is a complicated matter and it is important to file and prosecute new improvements and to anticipate assaults on the company's patent estate.

C. OWNERSHIP AND FINANCING

Most companies are initially started from the financial resources of the founders. Beyond founders' cash contributions, equity and debt are two basic ways to finance a business based on outside capital: an equity investment gives the holder an ownership interest in the company, and a debt investment makes the holder a creditor of the company.

The type of equity available to investors differs depending on the choice of entity for the venture. All corporations have common stock. An S corporation may only have one class of common stock (although it may have voting and non-voting common stock). C-corporations may have both common stock and numerous classes and series of preferred stock. LLCs are even more flexible and can mirror nearly any class of equity of a C-corporation with its membership units. Founders and employees typically receive equity in the form of common stock. Investments by third parties are generally structured as equity investments, which are senior in preference to founder equity. A more detailed discussion of types of stock is addressed in Appendix D.

To grow operations and commercialize technology licensed from CU, nearly all start-up companies find they must seek outside capital. This typically results in the sale of company stock but may also involve promissory notes or a combination of the two. When raising capital (even from friends and family and other "angel investors") and issuing equity, the venture needs to comply with certain regulations, including federal and applicable state securities laws. You should consult with a qualified attorney prior to seeking outside capital.

Concluding Remarks

This guidebook has progressed from general statements about the start-up process to legal considerations such as company ownership. This guidebook is not intended to provide legal advice but to provide a general overview of certain legal and other issues to consider in forming a new company. It should be clear that starting a company and positioning it for growth is a complex legal process. Nothing should be taken for granted; all agreements should be written and executed by relevant parties. Accordingly, it is important for CU inventors who decide to embark on this journey to seek expert advice from various individuals at different junctures, including qualified business attorneys. At every step of the way, the CU Technology Transfer Office is willing to advise and help create positive relationships that will assist the new company to access the resources it needs for growth, sustained operations, and, if so chosen, exit.

Appendices

Appendix A: Founders' Agreement

This Founders' Agreement ("Agreement") is made and entered into this ____ day of _____ 20____ ("Effective Date") by and among _____ ("Jones"), an individual residing at _____, and _____ ("Smith"), an individual residing at _____, collectively referred to in this Agreement as "the Parties."

WHEREAS, Smith, as an employee of the University of Colorado ("University"), has made inventions concerning _____ and related technology ("Technology") and is an inventor on a provisional U.S. patent filed by University Identification Number _____ ("Intellectual Property") concerning the Technology;

WHEREAS, the Parties desire to start a company that will execute an exclusive option ("Option") to license the Intellectual Property from the University of Colorado;

WHEREAS, Smith and Jones desire to form a new corporation ("Company") to commercialize Intellectual Property and related Technology;

WHEREAS, Jones is prepared to establish, organize, and manage the Company to pursue commercialization of opportunities presented by the Intellectual Property and related Technology; and

WHEREAS, Smith is prepared to contribute to efforts to secure funds and corporate collaborations for the Company and to serve as a scientific advisor to the Company.

NOW, THEREFORE, in consideration of the mutual covenants herein contained, the parties agree as follows:

1. Responsibilities and Activities of the Parties

- 1.1. Jones will assume the positions of Chief Executive Officer and Chairman of the Company in accordance with an employment agreement ("Employment Agreement") to be negotiated in good faith and in a timely fashion with the Company. Such agreement will include the stipulation that Jones will manage the operations of the Company until and unless a mutually satisfactory replacement is identified. As Chief Executive Officer and Chairman of the Company, Jones will make reasonable best efforts to execute the roles and responsibilities typically carried by those positions, including, but not limited to:
 - 1.1.1. Overseeing the incorporation and preparation of by-laws governing the Company;
 - 1.1.2. Preparing business plans and business presentations acceptable to the Parties;
 - 1.1.3. Negotiating, in good faith and in a timely fashion, with University the terms and conditions of an exclusive license to the Intellectual Property, the Technology and any other related Intellectual Property and technologies, as might be appropriate ("License");
 - 1.1.4. Assembling, with the unanimous agreement of the Parties, a Board of Directors of the Company ("Board");
 - 1.1.5. Subject to the approval of the Board, negotiating, in good faith, agreements under which Smith will serve as a scientific advisor to the Company;
 - 1.1.6. Soliciting investment interest from potential investors and, subject to the approval of the Board, negotiating the terms and conditions governing such investments prescribed by the diligence terms in the License;
 - 1.1.7. Soliciting interest from third parties in collaborating with the Company and, subject to the approval of the Board, negotiating the terms and conditions governing such collaborations;
 - 1.1.8. Identifying suitable locations for establishing the Company's operations, and, subject to the approval of the Board, negotiating the terms and conditions of a lease;
 - 1.1.9. Initiating and overseeing the operations of the Company; and
 - 1.1.10. As finances permit, recruiting, negotiating employment agreements with, and hiring, appropriate Company personnel.
- 1.2. Subject to his/her documented responsibilities and obligations to University, Smith will:
 - 1.2.1. Make reasonable best efforts to implement the Technology at the Company;
 - 1.2.2. Make reasonable best efforts to assist Jones with the development of the Company's product development and business plans;

- 1.2.3. Make reasonable best efforts to participate in soliciting investment interest investing in the Company and from potential third parties in collaborating with the Company;
- 1.2.4. Make reasonable best efforts to respond in a timely fashion to requests from Jones for participation in such solicitations of interest, including attendance at meetings for such purposes;
- 1.2.5. Send the University Technology Transfer Office and the Company a copy of all manuscripts regarding the Technology for review with respect to patent filing at least 30 days before anticipated publication;
- 1.2.6. Respond in a timely fashion to reasonable requests from Jones for information and/or advice regarding the Technology and/or the Intellectual Property;
- 1.2.7. Maintain in good standing all agreements with the University concerning Conflict of Interest; and
- 1.2.8. Serve as a scientific advisor to the Company, and negotiate in good faith the terms and conditions under which Smith will serve as a scientific advisor to the Company, including but not limited to, a standard Company confidentiality agreement and a standard Company non-compete agreement.

2. Consideration

2.1 In consideration of applying their reasonable best efforts in carrying out their responsibilities and activities as described in Paragraph I., Smith and Jones will each be entitled to purchase shares of the initial equity of the Company in the following amounts:

Jones: _____ shares

Smith: _____ shares

Jones's shares shall be _____ vested upon initial financing of the company, and Smith's shares shall be _____ vested upon initial financing of the company; all unvested shares shall vest over three years following initial financing of the company and based on satisfactory completion of duties as defined in 1.1 and 1.2.

2.2 As of the earlier of the Effective Date of this Agreement or _____, Jones will be entitled to receive the sum of _____, plus any other benefits agreed to in the Employment Agreement, with the proviso, however, that such payments will be deferred, free of interest or any other charges, and will not be due and payable, until the earliest of:

2.2.1 Thirty days after the Company has received financing, in the form of debt, equity or grant support, in an amount greater than or equal to _____ thousand dollars;

2.2.2 First commercial sale, or commercial agreement, related to the Technology; or

2.2.3 Change in control or sale of substantially all of the assets of the Company.

It is understood that Jones's subsequent compensation following financing of the Company will be determined based on his subsequent responsibilities and activities as determined by the Board and indicated in his Employment Agreement.

3. Reimbursement

3.1 Except for those expenses described in Sections 3.2 below, each Party will be entitled to reimbursement by the Company for its reasonable and customary travel expenses (including food and lodging, if appropriate) on behalf of the Company (free of interest or any other charges) incurred prior to financing of the Company. Such payments will be deferred and the Company will reimburse a Party upon the later of (i) thirty days after the Company has received financing in an amount not less than _____ dollars and (ii) thirty days after the company has received an invoice from that Party documenting his/its expenses.

3.2 Except for those expenses described in Sections 3.1 above, after the Company has received financing in an amount not less than _____ dollars, the Company will reimburse each Party for any and all of his/its subsequent documented, reasonable, and customary business expenses on behalf of the Company within thirty days after the Company has received an invoice from the Party documenting the expenses.

4. Term and Termination

4.1 This Agreement shall terminate 12 months from the Effective Date of this Agreement in the event that the Company has not signed binding term sheets, mutually acceptable to the Board, for financing and for the License.

4.2 Prior to termination according to 4.1 above, this Agreement may be terminated by a majority of the Board for material breach of this Agreement by any one or more of the Parties.

4.3 Upon termination, all of the conditions and obligations of the Parties as set forth in this Agreement shall terminate.

The undersigned agree to abide by the terms and conditions of this Agreement as of the Effective Date.

Jones

Date

Smith

Date

Appendix B: Business Plan

An early step in developing a new company is formulating a business strategy, otherwise stated as the “business model.” The business model is manifest in the business plan, which is a dynamically evolving document drafted and re-drafted many times during the company’s early life. A business plan can start out as a simple internal tool to help the founders plan their activities for the next six to twelve months.

Ultimately, a business plan contains information about the company’s markets and market development plans, products and product development plans, intellectual property, capital requirements, management needs, and other strategic elements. Additionally, the business plan ultimately serves as a key reference document prepared for many resource allocation needs, such as interviewing new key employees and pitching potential investors.

The technical founders do not need to be responsible for writing the business plan. A passionate group of founders who have developed a breakthrough technology can often attract a business driver who has successfully developed business plans and raised money in the past. A business driver might just need to get an idea of some of the possible opportunities, without knowing any of the details. That person can take responsibility for creating a business plan that is suitable to present to investors.

This section includes some information on major sections of a business plan. You can find many excellent resources online that present more detailed outlines of business plans.¹

A. Beachhead Product or Service

Before founders can develop a business plan, they must understand the opportunity in terms of a product or service that can be sold to a customer. A customer does not need to be an end-user. A customer could be the businesses in a particular industry, such as major aerospace companies or certain research laboratories.

In many cases, the product and customers can be easily defined. For example, therapeutic drugs and medical devices may be developed for a particular disease indication. Customers will be people with that disease.

Often, companies are started based on platform technologies, meaning technologies that have multiple applications and many possible product embodiments. In those situations, the founders must decide on a product or service that will give the company a “beachhead” market. This is not necessarily the largest market opportunity, but it should address a market need that is not adequately addressed by other products or services that are currently available. The customers should be “early adopters” of innovative new technologies, who have shown a willingness to take a risk on a new technology that can deliver much greater value to them. The idea is that success in the beachhead market will prove the value of the technology. After succeeding in the first market, the company can introduce new products and services to mainstream markets.

For a new venture that is based on a platform technology, the value of the venture must include multiple products and market opportunities that are within reach. However, the execution of the business plan in the early life of the start-up must be focused on the initial beachhead market.

When conceptualizing a beached product or service, it is important to understand its features and benefits, and the difference between the two. A feature is an attribute of your product, such as a longer battery life. Each product feature provides one or more benefits to the customers. A benefit is the reason that the customer would purchase the product, such as less downtime spent recharging batteries.

B. Business Feasibility Analysis

One step that should be taken before a business plan is written is a business feasibility analysis to validate the leading, beachhead product or service opportunity that the founding team has chosen. A business feasibility analysis answers two questions: will anyone be willing to buy this product or service and will the new venture be able to make money?

Will anyone be willing to buy this product or service? There are many information resources available to answer this

¹ For more in-depth information on forming a business plan, see ABA Section of Business Law, *Emerging Companies Guide: Resource for Professionals and Entrepreneurs*, edited by Robert Brown and Alan Gutterman (2005). The Leeds School of Business’s business plan preparation website contains excellent templates and tips on writing a business plan: leeds.colorado.edu/bplan. Venturehacks is a good blog on developing a business plan and raising money: venturehacks.com.

question. Market analyst reports cover current trends in certain industries such as information technologies, but they are often too costly for a new company. The blogosphere contains an ever-increasing amount of information, but it is not always accurate. Industry publications are a good source of information on new products offered by competitors, which may be an indication of an existing market need. The best way to get this information is to figure out who your customers are and to talk to them. You can ask them if the problem you are trying to solve is a significant problem, how they are currently addressing the problem, and what complaints they have about their current solution. Is it costing them too much in terms of time or money? Would your customer be willing to try your solution? What are the most important benefits they see in your solution? What would they be willing to pay? What kind of service or training would they need or expect from your company? Are there any complementary products or services that must be available to them before they could consider purchasing yours?

It is not easy to find someone who is willing to have this conversation with someone they do not know, but the information you can get is invaluable. Ask your board of advisors, your service providers (attorneys/accountants), the Technology Transfer Office, potential investors, as well as friends and family members for any contact who would know some of the answers to these questions. Do not be afraid to call strangers, without any kind of warm introduction. Offer to take people to lunch. Remember that most people are interested in new business ventures, and would enjoy talking to entrepreneurs and giving their advice. If you find someone with especially useful insights, it is a good idea to ask them to join your board of advisors.

Will the new venture be able to make money? This question must be answered by making a rough estimation of the revenue and costs that you can expect from the product. Once you have some idea of a reasonable price for the product, and you understand what percentage of that price must go to a salesperson, or to other companies that make up the distribution channel, you have an idea of the revenue. The next step is to estimate the company's internal costs of delivering the product or service. This can be done from the "bottom-up" by thinking through costs of materials, personnel, marketing, and the general costs of keeping the business open (rent, utilities, general, and legal expenses). This can also be done from the "top-down" by finding annual financial reports of publicly traded companies that deliver a very similar product or service to that of the new venture. Business advisors who have experience in the industry may be able to review your estimates and provide feedback.

Estimating the profitability of the new venture is not an exact science, but going through the exercise can present the founders with strong evidence to indicate if they should or should not proceed with the venture. Entrepreneurs often find that customers are just not willing to pay enough to cover the costs of delivering the product or service. In that case, the founding team must go back to finding a new beachhead product or service that is more likely to lead to a successful business venture.

C. Business Plan (Market Analysis and Competition)

Successful entrepreneurs would agree that it is critical to understand your market. This means understanding your customers (consumers or corporate customers) and knowing your competition. Many ventures that are based on a breakthrough platform technology make the mistake of believing that they have no competitors. Even if there is no product or service on the market that is comparable to yours, remember that your customers are currently meeting their needs somehow. There are always substitutes for your product or service, even if there is no direct competition.

Common questions you will receive about the market include:

- Who is your customer?
- If your customers are companies in a certain industry, are there many small companies or a few large companies?
- Who in the company has the authority to make purchasing decisions? What benefits would most influence their purchasing decisions?
- What complementary products are necessary for your company to buy with your product? Does your product need to be bundled with another company's product, and should it be sold by that company?
- Does your customer generally buy this type of product or service directly, or through a retail or re-seller sales channel? Do the companies in the sales channel have so much power that they could leave you with little profit margin after the sale?
- Is the demand for your product growing?

The best way to answer these questions is to talk to your customers and to other people in the industry. There are also resources online and in the library where you can learn more about companies and markets. Industry trade publications available in your library's electronic database are especially useful.

D. Business Plan (Operational Strategy)

A start-up's operational strategy includes everything that will be involved in delivering the product or service. Investors will want to see that the founding team has thought through all operational issues. This section can also include information on additional development and regulatory checks that must be completed before a product can be sold.

Common questions you will receive about operations include:

- What is the development timeline for the technology? How many people are required and how much time will it take? Does the team need to hire additional developers?
- Which companies will you need to work with to supply materials or components needed to build the product? Are they willing to supply your company at a reasonable price?
- Do you need an exclusive contract with your suppliers?
- If you are selling a service, are people required to deliver it? If so, how many? Must it be delivered in person?

What kind of training, maintenance, and/or support will be required for your customers to use your product or service? Will your company or another company deliver this?

E. Business Plan (Financial Projections)

It takes specialized expertise to develop meaningful financial projections, but it is possible for founders to create estimates based on templates and instructions that are available online. Financial projections can form the basis of determining the projected value of the new company. Sales can be projected based on a reasonable estimation of the market size the venture will be able to capture, as well as assumptions about when the first sales will occur and how quickly sales will increase from year to year. Other costs can be estimated

based on the top-down and bottom-up methods described in Section B. Some investors will estimate the value of your company as some multiple of revenue or a multiple of profits. The multiple comes from calculating the ratio of the value of companies that have recently been acquired or gone public and their actual revenue or profit. If this calculation is based on expectations of future revenue, the value must be discounted significantly based on the risk that revenue and profit may never materialize. Business advisors and entrepreneurs with experience in this area can give feedback to the founding team to see if their estimates are realistic.

F. Talking to Investors

Successful entrepreneurs generally do not complete a business plan before they begin talking to potential customers and investors. Instead, they use what they learn in those discussions to evolve and sharpen the business plan. Most investors have achieved their current position because of tremendous success in launching, growing, and selling new ventures. Many investors are well connected in their industry and they have a good understanding of current market trends and needs. Investors generally prefer to be initially approached by founders who are seeking their advice rather than those who are seeking to "pitch" a business plan to them. Investors need to get a feel for whether the founders are willing to take their advice. It may take several meetings for investors to understand how quickly the company can make progress and make a decision that it is a good candidate for investment. The company's advisory network should be able to provide introductions to investors as well as advice on when you are ready to approach them. Even if the investor does not fund the company, they can provide valuable contacts and advice.

Appendix C: Working with Attorneys

The right attorney can be a great help to a new business; the wrong attorney can be an expensive distraction. This section provides suggestions to entrepreneurs about finding and working with an attorney who can be a trusted business advisor. Note that you might need to engage intellectual property (e.g., patent) and general legal counsel separately, depending on your business model, needs, and the law firm you pick. The advice in this appendix is by no means exhaustive. Rather, it is illustrative of the different service perspectives, styles, and expertise that attorneys provide to a new company.

A. Finding an Attorney. A promising way to start a search for an attorney is to obtain referrals from up to a half dozen successful entrepreneurs who are operating in your technology and/or market space. Faculty entrepreneurs and CEOs will typically be pleased to spend a few minutes talking to you about their experiences with legal counsel. A personal referral from a trusted source is a promising initial approach. Colorado has an ample supply of legal firms and lawyers working in private practice that regularly engage entrepreneurs and can be an asset to your business; the key is meeting a quality attorney that meets your unique needs and circumstances. Early in your search, seek leads to quality firms and attorneys with on-point experience that fits your needs. In the case of a patent lawyer, seek scientific training or patent experience that should enable them to work on your technology as seamlessly as possible.

B. Interview Law Firms. A firm should convince you that it is the right one for you. Here are a few items to explore:

- Who will you be working with? You will likely initially talk to a partner, but partner time is expensive. In a larger firm, ask if you will be assigned an associate (which is imperative if costs are needed to be kept down), and then ask to talk to the associate who will be your primary attorney. Explore the relationship between the associate and the partner, and make sure that the partner and associate have worked together on a similar project.
- Background and experience? What is their industry experience and educational background? Have they assisted clients in your technology sector, development stage, and/or market?
- Connections and reputation? How well are they networked to the entrepreneurial community? Will they give you names of clients? Can they provide leads to management, financial, accounting, insurance, real estate, and other resources?
- What are their costs? Do they have a set hourly rate, are they willing to provide a not-to-exceed price quote for particular work duties, or do they even engage in the fee-for-services approach that is starting to emerge in a few areas of law, notably patent law? Will they defer payment until financing or possibly convert the unpaid balance to equity upon financing? What other creative billing approaches can they suggest?
- Cooperative model? Will they let you prepare notes, outlines, drafts, or other documents that they would revise? Conversely, will they let you comment on their notes, outlines, and drafts rather than just penultimate documents?
- How do they use technology? Are they as facile with new technology as you, or are they using old technology approaches that are not compatible with you?
- Do they allow you access to their client intranet? Some law firms now have and enable direct access to the client file from an internet portal. This can be helpful in creating cost savings if you have a simple question and don't want to bother the lawyer for the answer.
- Share your objectives. Don't be afraid to get to know your lawyer as well as possible, and share with them corporate goals and expectations and your business plan/direction. The more the lawyer knows you and your business, the better they are at assisting you to reach your goals. Remember that before formal engagement, most lawyers are not on the clock, so maximize your time and ability to get to know them before you hire them.

C. Who is the client? Once you have selected the firm that you would like to hire, the next issue to determine is precisely who the attorney will represent. In many instances, an attorney may represent the start-up company (i.e., the entity), rather than an individual founder. The engagement letter provided by the attorney should clearly establish who the client is. There is not a right or wrong answer as to who the client should be, however, you want to be aware of who the client is. In the normal life cycle of a company, the interests of a particular individual and the formal entity will not always be aligned.

D. Attorney-client confidentiality and privilege. It is worth being familiar with the separate but related concepts of confidentiality and attorney-client privilege. Confidentiality concerns an attorney's duty to a client: an attorney is required to keep information related to a client's representation confidential, with limited exceptions. Notably, client-lawyer confidentiality extends beyond conversations between the attorney and client, and includes other information learned which relates to the representation. Meanwhile, the attorney-client privilege is an evidentiary rule which applies in case of a legal conflict. Specifically, a court lacks the ability to require disclosure of attorney-client communication in connection with the request or provision of legal advice, provided that certain legal requirements are met. An easy way to forfeit this privilege is to include a non-client third party in the communication. Accordingly, if you intend a privileged communication, be careful not to copy an outside third party on an e-mail to your attorney.

E. Organize for cost savings. Lawyers are almost always on the clock, and it's important to keep track on your end of the amount of time you spend engaging the lawyers to be sure you are in agreement with the bills. Organize your meetings with your attorney, and be cognizant of the time spent e-mailing and on the telephone. Start-up companies are multifaceted legal undertakings. Cost efficiencies are realized when issues can

be batched with an agenda agreed on before the meeting and realistic expectations of how long it will take to discuss the issues. Make sure the "to-do" list is clear, not open-ended, and that you achieve the goals of the communication first, before you start discussing issues unrelated to the purpose of the call or e-mail. In the case of patent lawyers, it is very likely that a number of communications will be required to get patent filings and responses to various patent issues done correctly, and as best you can, make the communication efficient and thorough by asking your lawyers to summarize what they are sending you succinctly and clearly. It might help, if you are not already familiar with patents, to review some patents yourself at uspto.gov to become comfortable with the language employed by patent attorneys to protect inventions.

F. Create a responsible point of contact. Empower one employee to maintain the business relationship with the law firm. Every employee should have to go through the person that manages the law firm relationship. That legal account "owner" will know how to best engage the firm to maintain quality affordable service. Have the legal account owner review the bill with a finance officer. If you have questions about your bill, ask for clarification and detailed explanations.
Resources: *The Entrepreneur's Guide to Business Law* by Constance E. Bagley, Craig E. Dauchy

Appendix D: Equity and Debt Considerations in Start-ups

Equity Structure: Common and Preferred Stock

A. Common Stock. Holders of common stock have the right to vote for directors and the right to approve or disapprove certain significant actions, such as mergers or the sale of all or substantially all of the assets of a corporation. In addition, holders of common stock usually have the right to receive dividends and assets upon liquidation of the corporation. Such rights, however, are generally subordinate to rights of preferred stockholders.

B. Preferred Stock. Only C-corporations may have common and preferred stock. Preferred stock gives its holders certain preferences over other stockholders (including over other preferred stockholders). Preferred stock may be divided into one or more classes and the classes may be further subdivided into one or more series within such classes. The rights and preferences of the holders of a particular class or series are identical to the rights and preferences of all others holding the same class or series. The rights and preferences between classes and series, however, generally are different, and the differences often are the subject of heavy negotiations between the investors and the company. Preferred stock often is issued in several “rounds” or “raises,” whereby the corporation attempts to raise cash in increments. For example, a not uncommon amount for a first serious angel round may be \$.25 to 2 million. A second round of another \$25 million or more may follow within the next several months. To entice existing investors to invest more, or to attract additional investors, the later rounds often have senior or more extensive preferences than earlier rounds. Thus, even if an investor has preferred stock, subsequent investors may receive additional and/or senior preferences.

C. Preferences and Protective Provisions. There are numerous preferences, the most common of which are summarized below. Preferences can be the subject of heavy negotiation between the company and the investor. The more the company needs the investor’s money, the more and better preferences the investor receives. An early-stage company should be careful about including too many protective provisions for preferred stockholders, as subsequent rounds of investment will demand equal or more favorable provisions.

i. **Conversion Rights.** Investors usually insist their preferred stock be convertible into common stock. This gives the investor the ability to participate in the company’s initial public offering,

sale, or other liquidation event, as the vast majority of those “exit” transactions use common stock.

ii. **Anti-dilution Protections.** Convertible preferred stock, and stock held by ULEHI, usually contains some degree of anti-dilution protection for the investor and ULEHI. Dilution can occur in several different circumstances and can be dilutive of an investor’s “ownership percentage” of the company and/or the “economic deal” of the investment, as illustrated by the following example:

Assume a company is valued at \$100,000 and has 100,000 shares of common stock issued. Further assume Investor A purchases 100,000 shares of convertible preferred stock for \$1.00 per share that converts to common stock on a one-to-one basis (a \$100,000 investment). After the investment, the company is therefore worth \$200,000. Investor A has purchased a 50 percent ownership interest in a company now worth \$200,000. Thus, Investor A’s percentage ownership of the company is 50 percent, and the “economic deal” is that the investment is worth \$100,000.

Dilution By Stock Split or Stock Dividend. Assume after Investor A makes an investment, the company does a three-for-one stock split (or issues 200,000 common shares to the common holders as a dividend). A stock split or stock dividend does not change the value of the corporation; it merely increases the number of issued shares. Essentially, the pie remains the same size it just has more slices. After the three-for-one split (or 200,000 share dividend), there will be 300,000 common shares and 100,000 convertible preferred shares issued. The value of the company remains \$200,000, as no additional funds have been invested. Without anti-dilution protection, if Investor A exercises one-to-one conversion rights, the investor will own only 25 percent of a \$200,000 company. Investor A’s percentage ownership will have dropped to 25 percent, and the economic deal will have dropped to \$50,000.

Dilution by Issuance of Cheap Stock. Cheap stock is stock issued at a price lower than the price paid for the convertible preferred stock. Assume after Investor A makes an investment, the company issues 200,000 common shares to Investor B at the same price as the preferred shares. If Investor A exercises one-to-one conversion rights after such issuance, Investor A

will own 25 percent of a company worth \$400,000. While Investor A's percentage ownership will have dropped, the economic deal will have remained the same—the investor still has an investment worth \$100,000. Assume instead of issuing 200,000 common shares at the same per share price as the preferred stock, the company issues them for \$.75 per share (\$.25 per share less than for the preferred stock). Without anti-dilution protection, if Investor A exercises one-to-one conversion rights after such issuance, Investor A will own 25 percent of a company worth \$350,000. This time, not only has Investor A's ownership percentage dropped to 25 percent, the economic deal has dropped as well. Investor A's investment is now worth \$87,500.

Dilution By Higher Price Repurchase. Assume the company repurchases 50,000 shares of its common stock for \$1.50 per share (\$.50 more than that paid for the preferred stock). Without anti-dilution protection, if Investor A exercises her one-to-one conversion rights after such issuance, Investor A will own 66 2/3 percent of a company worth \$125,000. Though Investor A's percentage ownership will have increased, the economic deal will have dropped. Investor A's investment is now worth \$83,325.

- a. **Methods of Anti-Dilution Protection.** There are basically three methods for investors to protect themselves from dilution. The following is a summary only. These are formula-driven protections, and there are numerous variations, many of which can be quite complex, and all of which are subject to negotiation.
- b. **"Percentage Ownership" Protection.** This maintains the investor's percentage ownership. This method is typically used to protect against dilution that would otherwise result from stock splits or stock dividends. This approach is used by ULEHI.
- c. **"Full Ratchet" Protection.** This gives the investor the same economic deal as a new investor if the new investor is issued cheap stock. This is an aggressive play by an investor, as it may result in a windfall to the investor at the expense of the existing common stock owners.
- d. **"Weighted Average" Protection.** This allows the investor to maintain his or her economic deal even though his or her percentage ownership may be decreased. This is a more balanced protection than full ratchet protection.
- iii. **Dividend Rights.** Preferred stock often carries the right to dividends. Dividend rights may include (A) the right to participate in dividends at the same time dividends are paid on common stock (called "participating dividends"), (B) the right to be paid a certain amount of dividends (such as 5 percent of the investment per annum), (C) the right to receive dividends before any common stock holders receive dividends, (D) the right to accrue dividends that are not paid (called "cumulative dividends"), and (E) the right, in a sale or liquidation of the company, to get back the original investment plus accrued dividends plus a portion of the residual value of the company (called "double dip preferred" or "participating preferred").
- iv. **Voting Rights.** Preferred stock usually has voting rights, which could enable the preferred shareholders to wield significant control over the direction of the company. Voting rights may include the right to vote on all matters voted on by the holders of common stock on an as converted basis, as well as the right to vote as a separate class on certain significant corporate actions. These actions include amending the corporation's charter documents, authorizing additional shares of existing classes of stock, creating new classes of stock with preferences the same as or senior to the preferred stock, mergers, the sale of all or substantially all of the assets of the company, significant expenditures, stock redemptions, payment of dividends, dissolution, or an initial public offering. The right to vote as a separate class on such matters effectively gives holders of the preferred stock "veto rights," because unless the specified percentage of that class approve the action, the action will fail even if the holders of common stock voted to approve it. Preferred shares also may be entitled to designate a certain number of directors to the company's board.
- v. **Liquidation Rights.** Upon liquidation (which depending on the negotiation could include a merger, acquisition or change of control of the company), preferred stock generally carries the right to a pro rata portion of the value of the company, the right to be paid prior to the holders of common stock, or the right to be paid back the initial investment (or a multiple thereof) prior to the holders of common stock.
- vi. **Redemption/Put Rights.** Preferred stock may carry the right to compel the company to repurchase the preferred stock at a certain price, which may be the investment amount or the investment amount plus cumulative dividends or some other formulation.

D. Other Rights Given to Common and Preferred Stockholders.

- i. **Preemptive or Maintenance Rights and Rights of First Refusal.** Investors and ULEHI may negotiate for the right to be given the opportunity to purchase an amount of any additional shares issued by the company (“preemptive” or “maintenance” rights) or intended to be sold by another stockholder (“rights of first refusal”) giving them the ability to maintain their respective ownership percentages. ULEHI pursues this right in its own name and secures the right to assign the maintenance right to the CU Foundation. Sometimes, if a stockholder does not exercise that right, the stockholder may lose the opportunity to exercise that or other anti-dilution rights in the future. These so called “pay-to-play” rights are used to persuade existing investors to stay financially committed to the company and reinvest.
- ii. **Tag-Along Rights.** Investors may negotiate for the right to sell their preferred stock to a buyer in the event the buyer seeks to purchase some percentage of the company’s stock from other stockholders (even if the buyer did not make the offer to the preferred stockholder), so that the stockholder is not left behind in the company in the event of a sale of a significant portion of the company. This primarily protects minority stockholders, because a purchaser can control the company without owning all its shares.
- iii. **Drag-Along Rights.** Investors may negotiate for the right to compel other stockholders to sell their stock in the event the stockholder is approached by a purchaser who desires to purchase more than the stockholder owns. This primarily protects significant stockholders from the ability of a minority stockholder to kill a deal where a purchaser wants to buy all or a large percentage of a company.
- iv. **Demand Registration Rights.** This exit strategy gives a stockholder the right to demand the company register stock for public resale. In theory, this gives the investor liquidity to sell his, her, or its stock, because stock purchased by an investor is subject to state and federal securities laws that may restrict the ability of an investor to resell the stock for a period of time unless the stock is registered or unless an exemption to registration is available. In practice, because the registration process is so expensive and because it may not be in the investor’s best interest to force a registration management does not support (thereby potentially depressing the offering price), this is used as leverage by the investor to effect changes the company’s management otherwise may not do.
- v. **Piggyback Registration Rights.** This exit strategy gives a stockholder the right to have his, her, or its stock registered in the event the company decides to register company stock for a public offering. Usually, the amount of stock a stockholder may register is limited to an amount the underwriters believe would not depress the market for the shares.
 - a. **Debt Investments.** Debt investments make the investor a creditor of the company, not an owner. The debt may be secured or unsecured. In the case of a debt placement by ULEHI, which occurs if the company has been selected for a CU proof of concept investment, the debt is unsecured. Debt instruments include promissory notes, debentures, and bonds. Corporations and LLCs may not issue dividends, even on preferred stock, if it would leave the company with insufficient funds to pay its debts as they become due. Thus, debt holders stand ahead of equity holders. Depending on the stage of the investment target, debt may or may not be a component in an investor’s investment. Debt is not used with earlier-stage companies as much as later-stage companies, because at earlier stages the likelihood a company is able to pay the debt is questionable. Accordingly, the investor may be accepting the same amount of risk with a debt investment as the investor would with an equity investment, but without the opportunity for as large of an upside as an equity investment could provide.
 - b. **Warrants and Options.** Warrants (issued to investors) and options (given to employees, management, and consultants in exchange for services) are the same; the terms are used herein synonymously. They are agreements that give the holder the right to purchase a certain amount of stock in the future for a pre-determined price or price formula. Options, as discussed previously, are given as part of an employee equity compensation plan. Warrants are given or sold to investors as an additional incentive for the investor to invest in the company. The investor may exercise the warrant and purchase company stock in the future by paying to the company an amount (the “strike price” or “exercise price”) equal to the aggregate value of the stock to be purchased, as determined on the date the warrant was issued. If the value of the stock appreciates after the warrant is issued, the investor can exercise the warrant and purchase stock at the strike price even though the stock is worth more. Conversely, if the stock decreases in value (called being “underwater”), the investor need not exercise the warrant because to do so would cause the investor to purchase stock for more than it is worth.

c. Registration. There are only two ways to offer company stock for sale without violating securities laws—register the transaction with the Securities and Exchange Commission (“SEC”) or seek an exemption. For a start-up with limited funds, the enormous cost and time involved with registration makes that option impractical if not impossible. The most popular exemption available to the entrepreneur is a “Regulation D offering,” referring to Regulation D (Rules 501-508) of the Securities Act of 1933, as amended. To comply with Regulation D, the entrepreneur should limit sales of stock to “accredited” investors. An accredited investor includes an officer or director of the start-up, a

person with a net worth of \$1,000,000, or a person who consistently earns at least \$200,000 per year individually or \$300,000 with a spouse. Even though a Regulation D offering is exempt from registration, the company must file a Form D with the SEC giving the SEC notice of the offering. In addition, the company will likely need to make notice filings in the states in which its securities are offered and sold. The filing requirements vary by state. The company should consult with qualified legal counsel to comply with all applicable securities laws.

Notes

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