

University of Iowa Research Foundation



New Ventures Guide: Overview, Formation, Policy, Resources



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Overview

This guide is intended to serve a number of purposes:

- Starting point for University of Iowa faculty, staff, and students with a University-based invention and an interest in starting a company;
- Summary of resources available for University startups;
- Where to go for further assistance;
- Introductory educational information on starting a company; and
- Practice and policy at the University regarding startups.

The Table of Contents provides a useful summary and can direct the reader to areas of specific interest. It is not necessary to read the Guide from start to finish.

If you have an idea for a company, you are encouraged to contact the Ventures@UI group at UIRF (see website). These people will be able to provide initial feedback and general direction on how to proceed. Such a discussion can be very useful in identifying critical issues and early preparation.

Where to Start

New Ventures at the University of Iowa

The University of Iowa has four organizations that support the development of new ventures. They are:

- The University of Iowa Research Foundation (UIRF)
- The John Pappajohn Entrepreneurial Center (JPEC)
- The Small Business Development Center (SBDC)
- University of Iowa Research Park (UIRP)

Each of these organizations is part of the IOWA Centers for Enterprise, the larger University of Iowa organization charged with economic development. The UIRF, JPEC, and SBDC are responsible for three discreet types of new ventures. The focus of each is outlined the table below.

| WHO | CONTACT |
|--|----------------------|
| UI Faculty, Staff and Students with business concepts based on intellectual property, university, management, and financial resource needs, and potential market size. | UIRF |
| UI Faculty, Staff and Students with business concepts unrelated to intellectual property | JPEC |
| External community members | SBDC |
| Provide space and incubation for new and established companies | UIRP |

The balance of this Guide will describe the Ventures@UI services that are provided by the UIRF for new venture formation.

University of Iowa Research Foundation

The UIRF - a 501C3 corporation - commercializes University of Iowa developed technologies and inventions through licensing and new venture formation, and manage the subsequent revenue stream.

The UIRF's primary functions are:

[New Ventures](#) - Identifying and developing new high growth UI technology spinout companies suitable for venture capital financing;

[Licensing](#) - Finding suitable partners for commercializing UI technologies and inventions; and

[Intellectual Property Services](#) – Managing and protecting UI inventions through patents and copyrights, advising on intellectual property terms for Clinical Trials and Sponsored Research, and executing out-going material transfers.

UIRF's Mission

- Champion the commercialization of selected UI inventions for public benefit and for return on investment
- Catalyze economic development and an entrepreneurial culture in Iowa
- Build the vitality and sustainability of the University and the community through technology commercialization
- Serve the research mission for continued innovation

UIRF's Vision

- The UIRF aspires to maximize public benefit through commercial use of UI technologies, excellence in commercialization, and long term sustainability.

UIRF's Goal

- To apply unbiased and tested IP review and New Ventures Evaluation Processes to maximize the potential success rate of each new venture.
- To offer assistance, expertise and guidance as needed and available to overcome barriers to new venture success in the early stages of development.

The Path of an Invention

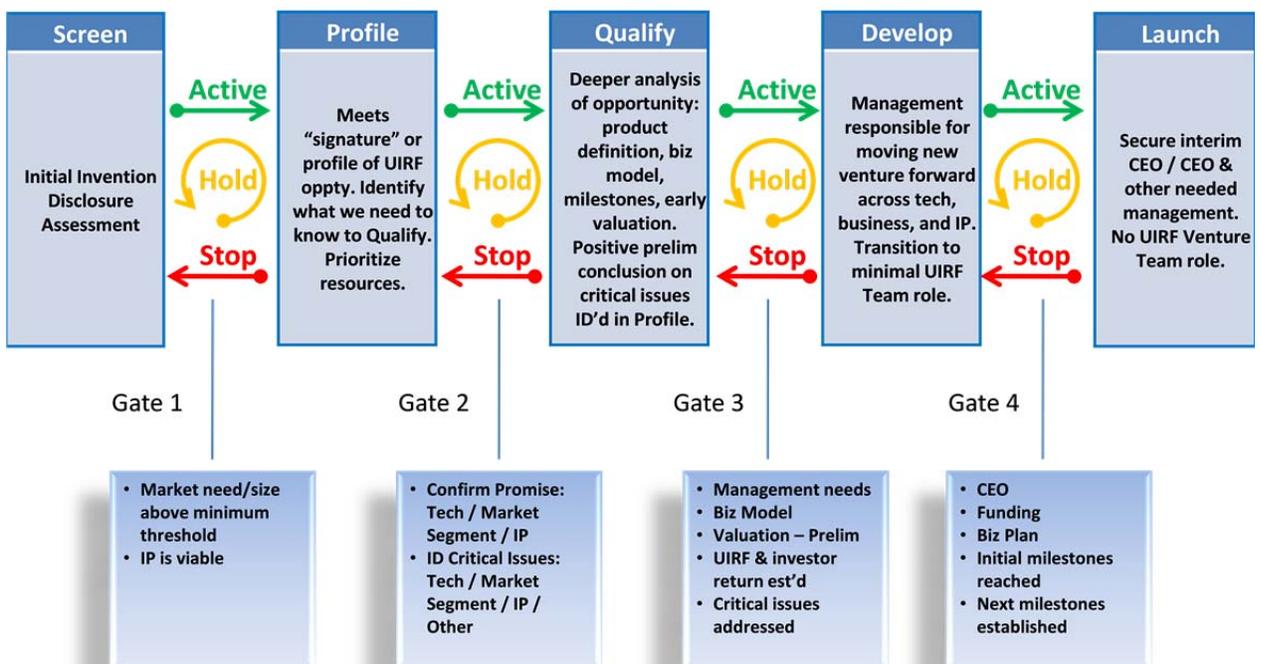
The flowchart below depicts how an invention, beginning with an invention disclosure (ID), the document filed by an inventor to begin the formal process of reviewing, protecting, and commercializing an innovation, moves through UIRF. Following a simple administrative process of filing and logging the ID, the technology is evaluated for merit. Technology, business, and intellectual property components are all assessed. External expertise is frequently utilized. This process is described elsewhere and will not be covered in detail here. If sufficient merit exists, the innovation is put on either a licensing or new venture track. Characteristics of a strong new venture are described later in this document.

Once targeted for either licensing or a new venture, the innovation is evaluated with greater rigor and given a general priority in the new venture portfolio of opportunities. This evaluation also frequently relies on external expertise. Those continuing to have merit will have a development strategy created and implemented. This strategy will move the opportunity, whether licensing or new venture, forward to commercialization.

All innovations with merit will be reviewed, but it must be understood that some will not have sufficient promise and UIRF will decline to pursue them.

The overall process entails a number of specific decision gates through which all innovations must pass. If they do not pass, the reasons will be clearly communicated to the inventor. In many cases, it may be possible to address some of the issues. In others, it is unlikely that the concern can be remedied.

New Venture Development Stages



Ventures @UI

UIRF is primarily responsible for startup companies that are founded on University of Iowa inventions that are protected by intellectual property (IP) owned by the University of Iowa. IP includes patents, software, copyrights, trademarks, and trade secrets. UIRF also assists venture formation by university faculty, staff, and students on case by case basis depending on university, management, and financial resource needs, potential market size, and availability of UIRF resources.

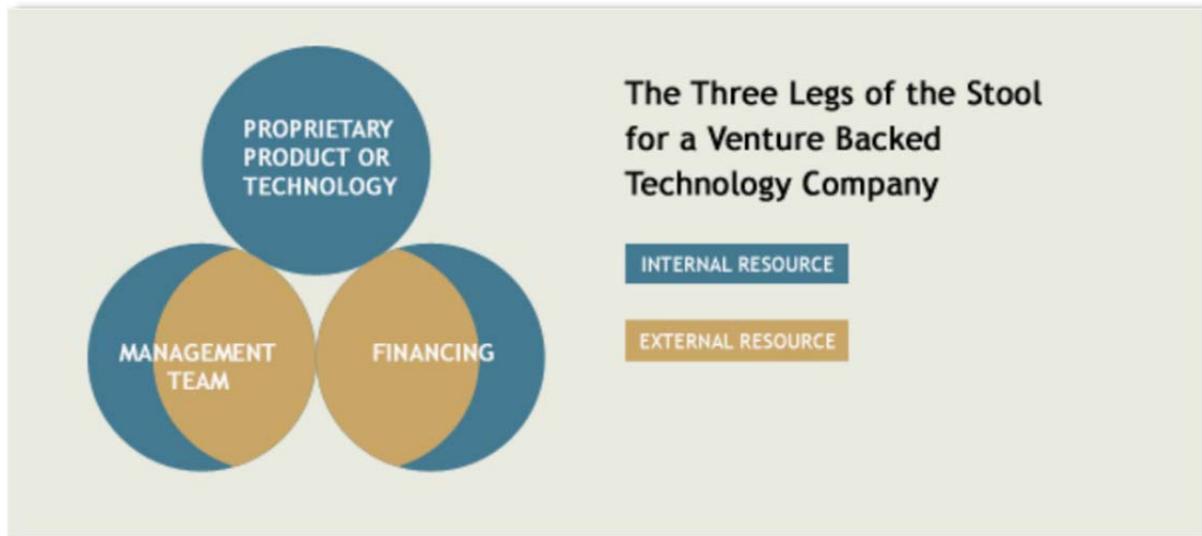
The Ventures@UI group is staffed with the expertise to develop successful new ventures. Members of the staff have successfully founded, funded, developed, and sold startup firms in life sciences, high tech, and engineering. They have the ability to evaluate and hire management teams. There is extensive expertise in the commercial assessment of technology and product concepts.

In addition, UIRF has access to external resources. The organization relies on a network of entrepreneurs to both assist in the evaluation of inventions and, should the opportunity progress, provide interim management and leadership until the new venture progresses and has the need for a fulltime CEO. In addition to these entrepreneurs, UIRF relies heavily on external sources of technology-specific expertise for evaluation and development of inventions. These individuals can be scientific or business experts and are engaged to assist with specific inventions. Through its Venture Advisors Board, UIRF is able to draw on experienced venture capitalists and industry veterans in evaluating and developing new ventures.

The UIRF may commit University of Iowa resources – both staff support and [Gap Funding](#) - to the development of selected potential new UI technology spinout companies. These opportunities may begin simply as a new technology, concept, or class assignment which is then screened as described under the [IP Review Process](#) . The formation of a company requires additional criteria beyond what is required for licensing to an existing company.

Broadly, three essential ingredients must exist or be formed to achieve a successful venture:

- Highly competitive and proprietary product or technology
- Experienced entrepreneurial management team, advisors and/or board.
- Company financing



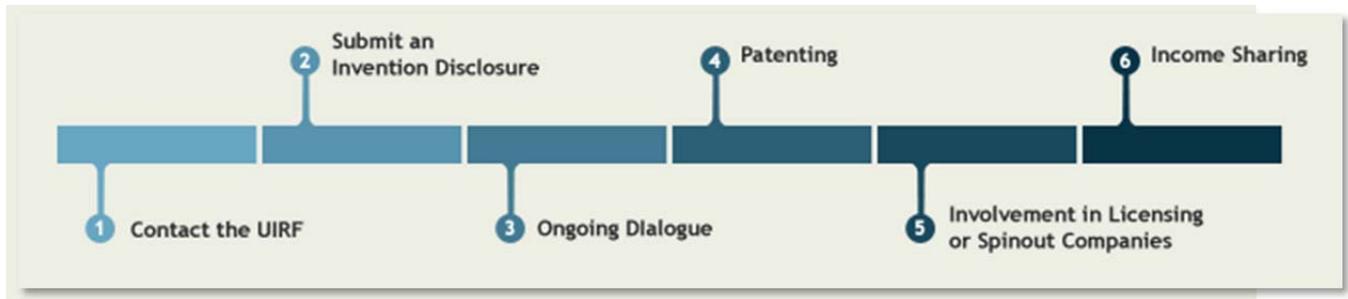
The IP Review and New Ventures Evaluation Processes will typically reveal if the potential for a new high growth company exists. If so, and if no other qualified partners have expressed interest in advancing the technology, the missing critical pieces may be assembled by Ventures@UI. This new ventures team may include IOWA Centers for Enterprise staff, researchers, graduate students, external consultants, early stage investors, Entrepreneurs-in-Residence at the UI, corporate partners, or existing or interim new company employees. The intention is to quickly build the value proposition such that private sector resources are attracted to the opportunity, and take on the major task of forming and building the company.

Formation

Foundation in Intellectual Property

If the new venture is based on University of Iowa intellectual property, the faculty, staff member, or student will have submitted an invention disclosure that has entered the UIRF's IP Review Process. If the new venture is not based directly on university intellectual property (i.e. no disclosure required), UIRF may still be able to work with the New Venture and provide an IP Review.

The general IP process is outlined below. For further information, please refer to UIRF's website (<http://research.uiowa.edu/uirf/index.html>).



The IP Review process is designed to evaluate the invention for commercial opportunity and viability of IP protection. Both must be deemed sufficient in order to proceed. If one or both is not present, UIRF may decline to engage the opportunity as a new venture.

The IP Review Process is the same for both Licensing and New Venture opportunities. See the diagram below for an illustration of the process by which University of Iowa IP moves forward.

If you have an idea for a company, you are encouraged to contact the Ventures@UI group at UIRF (see website). These people in collaboration with others at the IOWA Centers for Enterprise will be able to provide initial feedback and general direction on how to proceed. Such a discussion can be very useful in identifying critical issues and early preparation. In order for the opportunity to move forward concretely, an invention disclosure must be submitted. This enables more formal evaluation of the commercial opportunity and viability of IP protection. Without the invention disclosure and the specific information it provides, it is very difficult or impossible to assess the merit of the invention.

There are two methods to initiate consideration of a new venture.

- Inventor as Founder: The inventor is motivated to start a new company and asks UIRF to consider it.
- Working with UIRF and others to find entrepreneurs to help start a new company: In the absence of an inventor who wishes to start a company, UIRF will initiate an evaluation and, in some limited circumstances, may help find others to launch and develop the new venture.

Both methods will parallel or immediately follow the IP Review Process. Note again that UIRF pursues only opportunities based on University of Iowa intellectual property. In most cases, if there is no University IP, the opportunity will fall outside of UIRF's charter. Therefore, only those opportunities that the IP Review Process deems viable will be formally assessed for a new venture. In an exception, UIRF may in-license external technology to form a new venture if the University has critical core competence, but has not yet established our own IP.

University IP for the New Venture?

Note that a new venture requires a license from the UIRF to use the IP to make and sell related products. This license will generally begin in the form of an option to the IP. Rather than immediately grant a license, it is important that the new venture demonstrate its ability to be successful. UIRF will avoid placing IP into unproven entities. To protect the entrepreneurs, the option gives them the right to the IP through a license at specific terms in the event that mutually agreed milestones are satisfied.

License or New Venture?

There are no fixed criteria to determine whether an invention is more suitable for licensing or a new venture. Generally, the following variables are considered:

- *Level of Technological Development:* Very early stage technologies are only very seldom suitable for licensing as they are deemed very high risk by potential licensees. If development requires considerable resources and time, the ability to license falls further. In instances where the invention looks promising, a new venture may be the only way to move the opportunity forward.
- *Level of Technological Disruption:* As the level of disruption caused by an invention increases, often times it is more difficult to license the technology as it does not fit neatly into existing product categories and value chains. In these instances, it is often necessary for the startup to champion adoption of the disruptive technology.
- *Single Product or Platform Technology:* If the invention enables only a single product that fits well into an existing firm's product portfolio, it may be better-suited for licensing. It is generally difficult for a new venture to penetrate an industry with a single product. This effort requires all of the resources of a larger product portfolio – marketing, sales force, production, and administration – but have only a single product over which to spread these costs. An established firm, on the other hand, can fold a single new product into an existing portfolio at very low incremental cost.
- *Inventor Interest:* Very frequently, desire and commitment by the inventor is the deciding factor in preferring a new venture over a license.
- *Prior Contractual Commitment:* Many inventions are covered under existing University of Iowa contractual commitments. If an invention is already committed through an exclusive license in the target field, it cannot be considered for a new venture.
- *Financial Considerations:* At times, specific financial circumstances may lend themselves to either a license or new venture. For example, a potential licensee may

immediately become available and offer attractive terms. If these terms are deemed to include a superior commercialization path and financial opportunity at considerably lower risk, a license may be preferred. On the other hand, if UIRF has access to well-qualified technological, commercial, and funding expertise, a new venture may be more attractive. UIRF will seek to diversify risk across its licensing and new venture portfolios whenever appropriate.

The New Venture Evaluation Process

The objective of the evaluation is to assess the potential and probability of new venture success. UIRF will conduct the evaluation based on best commercial practices. Much of the assessment requires an open discussion with the inventor and, often times, external domain experts.

While this section discusses IP, numerous other factors are also considered, especially if the new venture is not based a strong patentable IP position (ex: software and internet sites). These factors can include: copyrights, trade secrets, first to market timing, social impact, and more.

Structure of Evaluation

There are three main components of new venture value:

- *Technology*: The invention and, more importantly for commercial purposes, the products that it enables.
- *Business*: The market segment, customers, business model, team, and funding.
- *Intellectual Property*: The level of sustainable competitive advantage provided by patents or other IP.

Each of these components is assessed on two dimensions:

- *Potential Value*: Assuming the invention is successful, what exactly is the commercial opportunity?
- *Value Realization*: Given the current level of development, what actions are required to be successful? How difficult are these actions?

The table below summarizes these three components and two dimensions.

| | Potential Value | Value Realization |
|------------------------------|--|---|
| | (What We Have) | (To Be Accomplished) |
| Technology | Improvement Over Existing Solution (Assume Successful) | Amount and Difficulty of Remaining Development |
| Business | Market Segment Size | Requirements and Difficulty of Capturing Market Segment Share |
| Intellectual Property | Intellectual Property Strength | Intellectual Property: Issued or Not? |

Technology

Potential Value

Some preparatory work is required before the technology evaluation can be made. The evaluation requires a very clear statement of:

1. The unmet or underserved market need that the University invention is proposing to address;
2. The ideal solution to this unmet or underserved market need;
3. The level of need addressed by products already being sold; and
4. The level of need addressed by the proposed solution (assuming it develops successfully).

The ideal and proposed solutions are then compared to the existing solution. Ultimately, the most important question is, **“How much better does the proposed solution satisfy the ideal in direct comparison to the existing solution?”** If possible, this answer is determined scientifically and quantitatively.

In some instances, the ease of use of the product is a major variable in customers' decisions to purchase a product. When this is the case, ease of use must be assessed in comparison to existing products.

Finally, it is helpful to consider that the process of assessing technology and products for commercial value is significantly different from that used to determine outstanding academic research and publication. Not all excellent research and publications are suitable for commercialization.

Value Realization

In achieving the proposed solution, a great deal of work presumably remains. The time, resources, and difficulty of this work must be assessed. The objective is to assess the probability that the proposed solution will in fact be achieved. Generally, this requires a product development and financial plan.

Business

Potential Value

The proposed product or service must be directed at a specific customer and market segment. The value of this market in terms of current and projected industry revenue can be determined. This information provides an estimate of the maximum value the product could achieve. In all probability, the entire segment cannot be captured and value will be a percentage of the entire segment.

Value Realization

The requirements and difficulty of capturing some of the targeted market segment are assessed here. These include familiar business variables:

- *Business Model:* This component includes business strategy and economics. What products are possible? What specific product will be launched first? What customers does it target? What is the perception of value by customers? How will they be reached? How much will they pay? How many will they buy? How much will it cost to produce the product? What partners are required? What is the second product and when will it be launched?
- *Team:* The success of the venture requires a large number and broad range of tasks. These tasks must be performed by employees, consultants, or owners. Their track record in prior efforts will be of critical importance. For many ventures, the CEO must be an individual recognized by the industry as an accomplished leader capable of realizing success. This is particularly important if the venture requires venture capital.
- *Funding:* Many ventures will require a large amount of capital to fund development. The venture must have a realistic path that secures required funding all the way through development. It is insufficient to have considered funding only through the next phase of research. This does not mean all funding must be in hand, but it does mean there must be a credible path to securing it when it is required.

Intellectual Property

Potential Value

A number of variables are assessed in this component of value:

- How closely do the patent claims match the product and market?

- What is the strength and breadth of the claims?
- Are there any constraints from other intellectual property on freedom to operate?
- What geographical territories are available?
- What is the remaining patent life?

Value Realization

Most of the value of the intellectual property will be determined by the application and the existing patent landscape in the industry. These variables are assessed as potential value above. However, the value of any patent will still have a serious constraint until it becomes an issued patent. The US Patent and Trademark Office is revising patent rules that may have a serious impact on value. Prosecution is never a fixed path with a certain outcome. Even when issued, the patent may be challenged by others in the industry.

Product Development and Financial Plan

As mentioned under the section on technology value realization, a rough, preliminary product development, marketing plan, and financial plan (i.e. Business Plan) can be very useful in concretely assessing the road ahead. This plan is created if the New Venture Evaluation determines there is sufficient opportunity to move forward. It will include major milestones, an estimate of the resources required to achieve them, and target dates for achievement. The difficulty in reaching the milestones should be considered and discussed. In addition, a rough, preliminary financial model of product revenues, costs, and profits will be made. These plans will be required in order to secure funding, whether that funding comes in the form of grants, angel investment, or venture capital.

. While the actual course of development will inevitably be different from these plans, there is great benefit in setting benchmarks and expectations in terms of driving constructive strategic discussion.

The Business Plan is in part an *exercise* for the management team to think through all the required steps, and identify potential pitfalls. When done well, these plans demonstrate to investors an understanding of what is required to be successful. They include clear command of the contingencies to mitigate risk.

These plans are not static documents. As better information becomes available, the plans will be revised and the course updated or corrected.

Importantly, these plans are critical to UIRF's continued engagement. The plans are made with the new venture team, including any faculty, staff, and students. Milestones with responsible party are mutually agreed. If the new venture does not move forward, hitting

milestones on a timely basis, and UIRF is unsatisfied with the team's collective ability to execute, it will be unable to continue support. If the license has been granted, the new venture may continue independently if it is able to meet the terms of its license. If it has not yet been granted a license, the invention may be considered for licensing to an alternative firm.

Valuation

With the assessments of the technology, business, and intellectual property, together with the product development plan, a rough assessment of financial valuation can be made. This entails a standard assessment of cash flows over time. **This is the best single variable upon which to assess the merit of the new venture.**

The *value* of a company changes over time. Success at each milestone increases the perceived value of the company. Failures decrease the value. Investors invest in the perceived value (as seen by them, not the new venture's management team).

Next Steps: Moving the New Venture Forward

Company Formation

Legal Entity

The new venture must be given legal standing by establishing a legal entity. These include sole proprietorship, partnership, S-corp, and C-corp. In almost all instances, UIRF ventures will elect to take corporate form. There are a number of advantages, including the separation of corporate and personal liability. The business will usually be incorporated in Iowa. In some instances, a corporation-friendly state may be considered, such as Delaware.

LLCs are a popular company structure because of their ease of setup and maintenance. Note that the four company structures above apply to both their corporate "structure" and their IRS filing status. An LLC structure does not have an IRS filing status. So, an LLC must be categorized *for IRS tax purposes* as one of the other four. This can be confusing to investors, who prefer the traditional C-corp structure. The saving grace: a venture can be formed as an LLC in either of the four structures and be converted to a C-corp later. Seek a lawyer for specific advice.

As part of forming a legal entity, documents governing the venture must be adopted. These typically include by-laws and articles of incorporation. Many standard versions exist as starting points which are then modified to reflect the particular objectives of the venture at hand.

Ownership Division and Valuation

Ownership is a function of contribution. To be successful, the venture requires an idea, human resources, and financial capital. In the case of UIRF ventures, there will be intellectual property. All of these contributions are assessed for relative merit. Regarding human resources, it is

useful to identify key skill sets and contributions. A number of these are outlined in the table below.

| Technical Roles | Joint Roles | Business Roles |
|-----------------------------|----------------------------------|-------------------------|
| • Product Development | • Product Definition | • Overall Leadership |
| • Testing and Validation | • Customer Collaboration | • Biz Models & Strategy |
| • Develop Technical Team | • Future Product Strategy | • Market Definition |
| • Scientific Advisory Board | • Recruit Key Management | • Investors / Funding |
| • User Manuals | • Development Partners | • Board of Directors |
| • Documentation | • Develop Management Team | • Attorneys: Corp & IP |
| | • Intellectual Property Strategy | • Accounting, HR, IT |
| | • Manage Intellectual Property | • Contracts, Licensing |
| | • Technology Access | • Financial Models |

There is no scientific method for establishing ownership. It requires the potential founders to come together, discuss and negotiate in good faith, and reach agreement on a complex subject.

Valuation is difficult for very early stage ventures. There is simply too much uncertainty to establish value with any consensus. Contrast the new venture to the public corporation, where there is a share price established by the market. Multiplied by the number of outstanding shares provides a readily available, transparent, and universally accepted valuation. The new venture, on the other hand, does not have a market-ready product, much less predictable sales volumes, product cost, and profit margins. Financial calculations are all based on assumptions and projections.

This is not to say a valuation cannot be established. There are well-established methods that can be employed to generate estimates. Using a number of them allows a rough triangulation and average value to be established.

Ownership and valuation are typically reflected in a capitalization table (typically abbreviated “cap table”). This table generally shows number of shares and ownership percentage for all shareholders. With share price, valuation is then easily established. When the company is founded, there will be a division of shares. If at some later stage the company secures an investment, further shares will be issued to investors. Vesting and option agreements should also be considered to “tie” critical human assets to the company.

Option to License

With formation of the legal entity and division of ownership, an option to the license of interest is generally granted. This is an agreement between UIRF and the new venture that, should the

venture hit mutually agreed milestones and timing, the venture will be granted a license at pre-negotiated terms. These milestones will typically be reflected in the product development plan.

Launch and Development

Based on the product development plan, the new venture team will focus on the most important variables for success. They will include technical, business, and intellectual property objectives.

License

When the milestones are satisfied, the license is granted. See Appendix D for an overview of licensing terms.

Funding and Investment

Acquiring needed capital is the most complicated and time consuming task for a new venture. The IP is un-proven, the management team is new, and the probability of success is low.

| Investment Opportunities | | |
|---|--|--|
| Stage of IP/venture | Source | Notes |
| Ideation | Research Grants | |
| Disclosure Provisional patent applied for per-proof of concept started pre-venture | Business Plan Competitions Entrepreneurial Competitions Friends, Family Univ Translational Grants | Test the waters. Acquire enough pre-seed capital to develop alpha, business plan, test market interest in the idea and form the venture. |
| Venture formed pre-prototype pre-IND | Univ Translational Grants Friends, Family SBIRs, STTRs Private Angels | Funds are very limited at this stage – IP still un-proven. SBIR's take months. Too early for Professional angels and VCs. |
| Management team in place BP completed prototype tested strategic partner(s) interested IND application ready or filed Beta started? | SBIR stage II Angel Groups Strategic Partners | Still too early for Large Venture Fund investors. A strategic partner may step up. |
| 1 st customer site installed Paying customers Production in place Phase I trial completed Phase II looks promising | Late stage Angels SBIR stage III Venture Capital Buyer | Your strategic partner may be your buyer. |
| Successful rollout Substantiated growth pattern | Sell, merge | Angels and VC's will pressure management to sell to recoup investment. |

Dilution of Equity

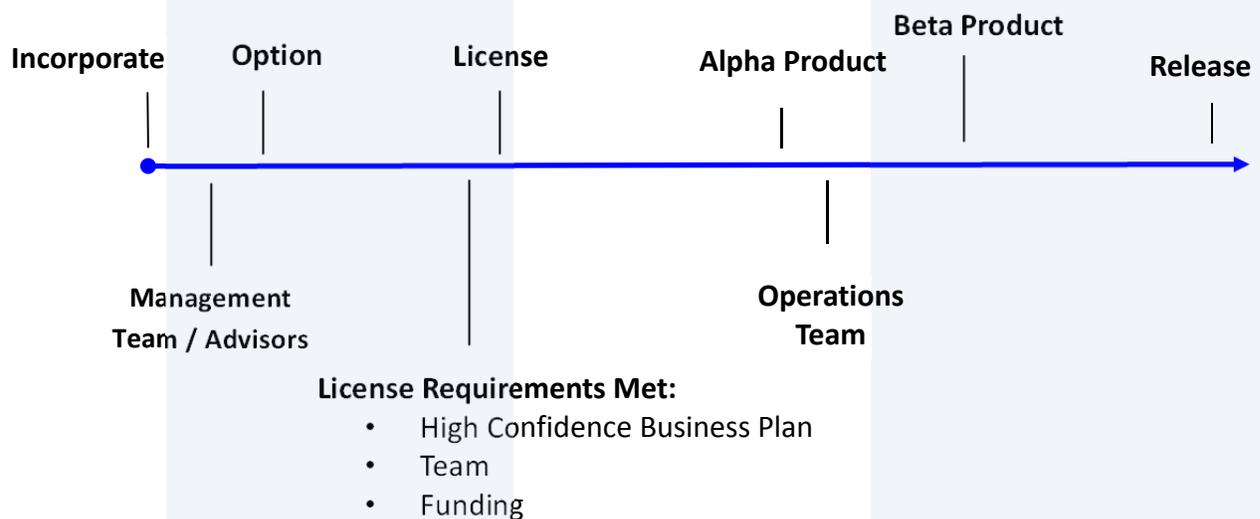
Would you rather own 100% of nothing or 5% of a \$1 million lottery prize? For an investment of cash or “in-kind” services, equity is often given up in exchange. If equity dilution is inevitable here are several suggestions:

- Be realistic; over valuing your company will drive away investors.
- Investors will cut your valuation in half.
- The company’s value is based on “pre-money” (i.e. before investment).
- The owners’ new equity is set at “post-money” percentages
- Accepting a smaller piece of a bigger pie can be a good thing if it gets the IP to market.

Execution and Independence

As the company progresses and demonstrates success, it will attract longer-term funding and permanent management. As these resources are added, the role of UIRF will diminish, eventually being reduced to one of monitoring and ensuring compliance with contractual obligations.

| | Phase I | Phase II | Phase III |
|----------------|--|---|--|
| Content | Formation & Planning | Launch | Execution |
| Focus | <ul style="list-style-type: none"> • Product Definition • Business Model • Staffing Needs • Milestone Definition | <ul style="list-style-type: none"> • Begin Operations • First Hires • Product Def / Dev • Funding | <ul style="list-style-type: none"> • Product Development • Milestones • Funding • On-Going Staffing • Course Correction |
| Timing | Months 0-6 | Months 3-12 | Months 9-24 |



The graphic above illustrates, in very rough terms, the phases of *product* development for a new venture. The indicated time frames may vary considerably; depending on the type of new venture (human therapeutic startups typically take significantly longer than does a software venture).

Conflict of Interest

During the formation of a start-up company with a University employee there is the potential for conflict of interest. The Conflict of Interest policy is governed by the owner of the IP. University employees should review this policy (<https://research.uiowa.edu/coi/>) to make sure their involvement with the start-up company does not interfere with their primary duties to the University.

Compensation and Income Distribution

Inventor

As an inventor, individuals are entitled to a specific portion of any royalties earned on the invention. In some instances, equity ownership in the new venture will be part of the license terms. Should this be the case, inventors will also receive a portion of this equity or the proceeds of the liquidation of that equity. See the University of Iowa's policy on the division of income from licensing of IP. Royalties are generally not earned until a product reaches the market and begins to earn revenue. The value of equity depends on the performance of the company and the ability to attract investors. Equity is generally not a liquid asset until the company is sold or goes public.

Founder

A founder's compensation is separate from an inventor's compensation. If an inventor is also a founder, he or she will also be entitled to equity in the new venture in addition to compensation to which he or she is entitled as an inventor. The amount of equity allocated to founders is a function of the value they bring to the new venture. Generally, this value is distinct from the value of the invention addressed by the license, is largely determined by market forces, and involves moving the technology forward and closer to market. The value of equity depends on the performance of the company and the ability to attract investors. Equity is generally not a liquid asset until the company is sold or goes public.

Policy

Conditions of Support from UIRF – Gated Decisions

UIRF strives to support new ventures that have merit. The opportunities with the most compelling combination of public benefit, economic development, commercial potential, and overall viability will receive top priority. **Merit is established according to the New Venture Evaluation discussed earlier and the ability to execute on the Product Development Plan.**

It should be understood that support comes at the sole discretion of UIRF.

Gated Support Process

Merit and initial support, and whether or not it continues, is determined by a gated decision process. **In order to move to the next stage, and continued support, the innovation must pass through a series of “Go” or “No Go” evaluations.** These gates are designed to rigorously assess and re-assess merit on an on-going basis, objectively recognizing technological, intellectual property, and business obstacles.

Stages

The stages of support provided by UIRF are outlined below. Top priorities will receive support through all stages, should it be necessary.

1. *IP Review:* All invention disclosures are reviewed for commercial merit. If they pass this review, a patent application will be pursued, perhaps subject to satisfaction of some follow-up items. This IP review is also called the Tech Screen (see the flowchart in the earlier section describing UIRF).
2. *License or New Venture:* Some inventions will be better-suited to a new venture rather than a license. The variables that are assessed in addressing this question are discussed earlier in the Guide. If the invention appears well-suited to a startup, a New Venture Evaluation will be conducted.
3. *New Venture Evaluation:* If an invention looks promising as a new venture, it will be reviewed specifically for attributes as a startup. This process includes an evaluation of the technology and products the technology enables, business characteristics, and further review of IP. This process is described in more detail earlier in the Guide.
4. *Product Development and Financial Plan:* These plans further assess merit and, most importantly, establish a project plan for prioritizing and organizing efforts.

5. *Formation, Launch, Development, Execution*: According to the milestones established in the Product Development and Financial Plans, the new venture must now undertake operations. Based on new information and understanding, these plans may be modified, but they establish the prioritized actions critical to new venture success.

These stages are discussed in more detail earlier in this Guide.

Discontinued Support

It is important to understand that **support may be suspended or withdrawn at any stage.**

Support Declined

- *IP Review*: In evaluating an invention disclosure, UIRF may determine the invention does not have sufficient commercial merit to warrant pursuit.
- *License or New Venture*: UIRF may determine an invention is better suited for license to an existing business rather than creation of a new venture.
- *New Venture Evaluation*: It is possible that the New Venture Evaluation process will identify a significant business or management problem that cannot be resolved with a reasonable amount of effort or at all. If the new venture's success is rendered improbable by this issue, further support may be declined.
- *Product Development and Financial Plan*: It is possible that developing these plans will identify a significant problem that cannot be resolved. If the new venture's success is rendered improbable by this issue, further support may be declined.

Support Suspended

- *Formation, Launch, Development, Execution*: Should the new venture fail to meet mutually agreed milestones, or if issues arise that render the opportunity less viable, support may be temporarily suspended until those matters are resolved.

Support Withdrawn

- *Formation, Launch, Development, Execution*: At times, the venture will fail to meet a milestone and the problem cannot be corrected. For some scientific and technical milestones, the results may be negative or below the threshold required to maintain merit. In these cases, after discussion the results with the venture team, UIRF will decide if there is an advisable path forward or if the support should be suspended.

Collaborative and Transparent

It is UIRF's position that the best information and conclusions result from an open discourse on the invention's strengths and weaknesses against the criteria outlined in the New Venture Evaluation Process.

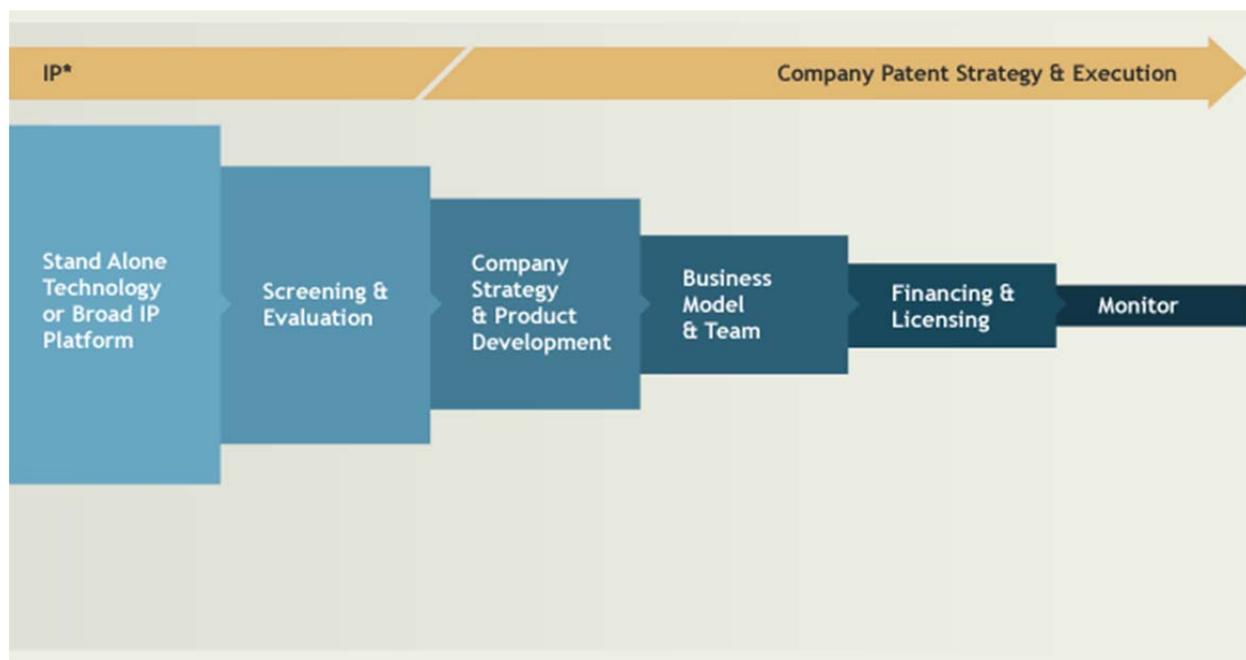
If an invention is determined to have lesser commercial merit or support is declined, suspended, or withdrawn, the components of this decision will be explicit. If information has been omitted or missed in making the determination, UIRF is open to revisiting that determination. After considering any new information, the decision will UIRF's to make.

UIRF will make every effort to ensure that the Evaluation Process is collaborative and transparent. The objective is to understand the invention and its potential through discussion with the inventors and external information sources. These external sources, wherever possible, will be shared with the inventors.

Resources

In cases where the new venture is favorably reviewed, UIRF will actively work with the founders to maximize the probability of realizing success. There are a number of resources available.

The demands of a new venture will vary by company and stage of development. UIRF will seek to ensure that each new venture has the appropriate resources at each stage. These stages are outlined below. Generally, UIRF's role will be more active in the early stages of development. As the venture moves forward, the permanent team will be assembled and, moving through an appropriate transition, become responsible for the company's success.



UIRF New Ventures Group

Skills and resources available from UIRF include:

- Education and Advice on all Aspects of New Ventures
- Market Research
- Product Definition and Development
- Strategy
- Business Model
- Advice on New Company Creation
- Ownership and Capitalization Structure
- SBIR Application Assistance
- Interim Project Management
- Identification of Potential Partners
- Identification of Potential Investors
- Negotiation Assistance
- Letters of Support for Grants and Other Funding

Gap Funding

The Iowa Centers for Enterprise (ICE) and the UIRF occasionally funds available that are designed to expand the commercialization of UI technology. **Purpose and Focus**

The resources are to support the development of UI innovations with commercial potential, with the result that more UI technology provides benefit to society. The funding is intended to support a wide-range of stages in technology and business development, from initial concept (prior to intellectual property disclosure), to proof of concept, to licensing and commercialization. Existing industry connections are not a prerequisite for funding; however, all projects should have a clear commercial benefit or potential for the state of Iowa. Interdisciplinary proposals are encouraged.

New ventures that secure funding demonstrate a high potential to lead to one or more of the following:

- UI technology licensed to an existing Iowa company
- UI technology resulting in the formation of a new Iowa startup company
- A growth in the Iowa employment base resulting from UI technology.
- Increased sales and/or profitability of Iowa companies developed from or utilizing UI technology.
- Improvements in the products and/or practices in an Iowa business

- Collaborative development projects with Iowa companies

Evaluation Criteria

Proposals will be evaluated for their potential to grow and enhance Iowa's economy with University of Iowa technology. There are three fundamental evaluation criteria:

- UIRF New Venture Evaluation: Refer to the Evaluation described earlier. New ventures that have greater strength based on the Evaluation will receive priority.
- Iowa Impact: Refer to the bullet points under "Purpose and Focus". New ventures that provide greater benefit to the State of Iowa will receive priority.
- University Impact: New ventures that provide greater benefit to the University of Iowa will receive priority.
 - Educational
 - Stronger Research Capacity
 - Enhanced Student Learning Opportunities

Invitation and Project Proposal

The best-suited new ventures will be invited to submit a proposal. Proposals will be developed jointly by the faculty team and UIRF's Ventures@UI group. Each project must have a plan that addresses the following:

- Definition of Product / Service (Long-Term End goal)
- Definition of Project (Immediate Use of Funds)
- Objectives
 - Specific to Project
 - Relationship to Product / Service
- Milestones
 - Specific to Project
 - Relationship to Product / Service
- Use of Funds

Matching Funds

Projects may be required to secure **one-to-one matching funds**. Most sources of funding can be used as matches. Examples include:

- The university general fund, including faculty and staff salaries (even if from multiple sources), start-up funds and recruitment packages
- Indirect cost distribution funds
- Industry funds
- Third-party in-kind support (time, equipment, etc.)
- Private gifts and endowments
- John Pappajohn Center donor support

Interim Management

At the discretion of UIRF, interim management may be staffed on the new venture to fill needed roles and experience. These individuals are generally very well-qualified business executives that are able to step into a role and make an immediate contribution. They may be asked to do a variety of tasks, from general project management, to interim CEO, to a specific business development task. Their availability is limited.

Typical Experience

- Senior management in an early stage high technology startup;
- Management in a company that specializes in spinout companies;
- Experience in a seed stage venture capital firm;
- Served in a business development role in a high performing university business development organization that successfully formed new ventures;
- Served in a business development role, product development role, or other capacities for high technology products or services that enable substantial knowledge of the earliest stages of development for a new technology spinout company;
- Experience in diagnostics, therapeutics, medical devices, instrumentation, materials science, and software; and/or
- Experience of identifying early stage high technology opportunities, and translating them into businesses, products, services or contracts.

Potential Responsibilities

- Work closely with founders on top priorities to drive opportunity, strategies, development, and connect with permanent management, industry, and financing contacts;
- Project Management
- Business Development
- Communicate developments and work with internal team to coordinate the allocation of other resources (IP, marketing, contracts); and/or
- Work closely with internal team and external contacts to evaluate opportunities.

Mentors and Advisors with Domain-Specific Expertise

In many instances, a new venture can benefit greatly from external domain experts. These individuals may have relevant scientific, business, legal, or regulatory expertise specific to the new venture. UIRF will assess the need and potential benefit and, if an appropriate resource can be secured, retain this expertise to address specific questions.

For example, many new ventures pursuing a product that requires FDA approval benefit greatly from early engagement of a regulatory expert that can assist in understanding agency requirements and planning both pre-clinical and early stage human trials. In other instances, industry experts can provide critical understanding of how best to approach a market and product.

Candidates with expertise in specific areas are usually needed. These may include:

- Scientific or technical expertise outside the inventor's or to replace it if the inventor is not involved.
- Business management
- Financial
- Fund raising
- Market experience and knowledge of the specific industry
- FDA or certification
- Sales
- Production/manufacturing
- Project management

Advisors and Mentors

Even before a venture is incorporated, resources need to be identified and introduced to the venture proposition. Advisors and mentors can provide limited but valuable expertise. Advisors and mentors most often give assist for free. A Board of Advisors adds credibility to the commercialization plan. Advisors have no financial interest in the venture. Advisors can also fill in missing experience or expertise of company management.

Board Members

Boards are formed after a company is incorporated. They have a legal fiduciary responsibility to assure the viability of the company and the financial wellbeing of the investors. The board may give limited guidance to the management, but their responsibility is primarily financial. Board members often expect equity and/or payment for their involvement.

Consultants and Contractors

Consultants and contractors are often cost effective when used to supply specific services, access, or expertise for a limited period of time.

Appendix A: Licensing Terms Overview

Structural Terms

| Term | Description |
|-------------------------|--|
| Technologies | UI Invention List |
| Patents and/or Software | IP List (Appendix) |
| Fields and Territories | Areas of Use. A license may be limited to a specific market or use that matches the company's needs or abilities. Can reduce license fees. |
| Exclusivity | Types of license. Exclusive, non-exclusive, etc. Can reduce license fees. |
| Term | Duration of License |

Financial Terms

| Term | Description | Range |
|--------------------------|--|---|
| Royalty Rate | Often tied to Product Sales and/or Services. | Varies by technology type and level of development |
| Annual Minimum Royalties | Guaranteed payment. Rate payments may be in addition to, or subtracted from the Annual Min. | Percent (~25%) of projected royalties on sales |
| License Fees | A venture based on UI IP must license the IP from the UI. Equity may often be included as well as actual licensing fees. | Value tech or event brings to company, i.e., at time of license (x% of tech value) |
| Equity | Ownership interest | Equity may be given in return for personal effort (sweat equity), cash (investment), or in-kind services (facilities, time, etc.) |
| IP Costs | Direct costs of prosecution paid by UIRF to outside counsel. | Reimbursement |

| | | |
|---------------------------|----------------------------------|--|
| Product Milestones | Timeframe noted for tech product | Dates match goals, i.e., product complete or sale, dist/avail of product, partners. Milestones help partners determine if the venture is on track or in trouble. |
| Company Milestones | Timeframe for spinout | Dates match goals, i.e., company financing, mgmt hire, etc. |
| Sublicensing Royalty Rate | Partner pays on Product Sales | Same (flow-through), or percentage of the higher amount garnered by New Venture. |
| Sublicensing Fees | Payment for entering agreement | Percent (20-50%) of new agreement fees |
| Source Code Licenses | Code-based agreement | Percent (20-50%) of new agreement fees |

Other Terms

| Term | Description |
|-------------|---|
| Termination | Conditions to end Contract. May include penalties for early termination. |
| Reports | Annual report, Qrtly Royalty reports. Reports assist interested parties in monitoring venture progress. |
| Board Seat | Element of Control. Investors often require a board position (one or more). |
| Assignment | How License may be transferred to others. Transferrable or non-transferrable. |