



Working With Industry Boot Camp

Session 5: Developing and Managing the Outputs of Your Project

April 9, 2015

KANSAS STATE
UNIVERSITY | Institute of Commercialization

KANSAS STATE
UNIVERSITY | Office of Research
Sponsored Programs

KANSAS STATE
UNIVERSITY | Office of Corporate Engagement

KANSAS STATE UNIVERSITY
FOUNDATION

DEVELOPING & MANAGING PROJECT OUTPUTS

- **Dr. Jim Guikema**, Associate Vice President for Research, Kansas State University, and President of the Kansas State University Research Foundation
- **Tresa Landis**, Business Manager, Kansas State University Research Foundation
- **Ken Williams**, Director of Licensing, Kansas State University Institute for Commercialization

JOIN THE CONVERSATION

Email spexarth@ksu.edu

Twitter [#ksuindustrybc](https://twitter.com/ksuindustrybc)



One last hurrah before wine and cheese or Developing and Managing the Outputs of Your Project

What do we expect today?



Jim – tell them more about F&A, SRO, IDC, and all of the other alphabet soup we administrators care about.

Only kidding – Let's finish on the upside

- 1. Jim Guikema with guiding principles**
- 2. Tresa Landis with the truth**
- 3. Ken Williams with reality**
- 4. Wine and cheese**

Guiding Principles? Or Principals?



Principle 1 – keep your promises.

Guiding Principles



Principle 1 – keep your promises.

Promises are like babies: easy to make, hard to deliver.

~Author Unknown

Guiding Principles



Principle 1 – keep your promises.

By signing, I agree

- (1) that the information submitted within the attached document is **true**, complete and accurate to the best of my knowledge;
- (2) that any false, fictitious, or fraudulent statements or claims may subject me to criminal, civil, or administrative **penalties**;
- (3) to accept **responsibility for the scientific conduct** of the project and to provide the required progress reports if a grant is awarded as a result of an application;

Guiding Principles



Principle 1 – keep your promises.

[4] to abide with university policies and regulations, including, but not limited to, those defining responsibilities, conditions of employment, outside financial interests, and all other **research compliance** matters.

Guiding Principles



Principle 1 – keep your promises.

I also agree to be bound by the terms and conditions of the outside grant or contract which supports this proposed activity. I certify that I have not been debarred, suspended, or declared ineligible to receive federal funds, that I have disclosed all Significant Financial Interests in the annual KSU Declaration of Conflict of Interest and Time Commitment, and that no un-managed conflict(s) exist that relate to my institutional responsibilities and the activities to be funded hereunder and that, to the best of my knowledge, no appropriated funds have been expended that would influence award of this grant or contract. I also agree to disclose promptly each subject invention made under this sponsored program and do hereby grant and assign to KSU or its designee my entire right, title and interest in and to ideas, inventions and improvements created under this sponsored research program, together with any and all domestic and foreign patent rights in such ideas, inventions and improvements and to execute all papers necessary to file patent applications by the University or its designee.

Guiding Principles



Principle 1 – keep your promises.

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Enough on Principle #1



Principle 2 – Partners last a lifetime.

All promise outruns performance.

~***Ralph Waldo Emerson*** – oops – not the quote I wanted here:

Principle #2



Principle 2 – Partners last a lifetime.

Friendship is essentially a partnership.

Aristotle

Principle #2



Principle 2 – Partners last a lifetime.

Friendship is essentially a partnership.

[Aristotle](#)

Friends do not:

- Get out in front of friends for publicity – care with news releases

Principle #2



Principle 2 – Partners last a lifetime.

Friendship is essentially a partnership.

[Aristotle](#)

Friends do not:

- Share data in publications before our partners agree

Principle #2



Principle 2 – Partners last a lifetime.

Friendship is essentially a partnership.

[Aristotle](#)

Friends do not:

- Allow students to take projects with them unless the colleagues agree

Principle #2



Principle 2 – Partners last a lifetime.

Friendship is essentially a partnership.

[Aristotle](#)

Friends do not:

- Fail to protect data by relinquishing University ownership or bad data management

Principle #3



Principle 3 – Excellence is a habit

Excellence is an art won by training and habituation.

We do not act rightly because we have virtue or excellence, but we rather have those because we have acted rightly.

We are what we repeatedly do. Excellence, then, is not an act but a habit.

[Aristotle](#)

Principle #3



Principle 3 – Excellence is a habit

- Work for hire / a grant proposal for intellectual input / a contract
- Use of students in this environment and their professional success
- Protecting the professional development of non-tenured faculty members.
- Submitting timely reports and meeting our industry client's expectations

DEVELOPING & MANAGING PROJECT OUTPUTS

- What is KSURF and what do we do?
- What is intellectual property (IP) and how do we protect it?
- The K-State process
- How publications affect patents
- More than you wanted to know about patenting
- What's your role as a faculty member?

DEVELOPING & MANAGING PROJECT OUTPUTS

- Kansas State University Research Foundation founded in 1942 to serve the University
- Non-profit corporation accountable to a board of directors
- Mission is to identify and develop new technologies with commercial potential resulting from University research
- Self-funded from successful commercialization of IP; receive no University support

DEVELOPING & MANAGING PROJECT OUTPUTS

- Intellectual Property Rights
 - Are the legally recognized exclusive rights to creations of the mind. Under intellectual property law, owners are granted certain exclusive rights to a variety of intangible assets, such as musical, literary, and artistic works; discoveries and inventions; and words, phrases, symbols, and designs.
 - Source: Wikipedia, the free encyclopedia

DEVELOPING & MANAGING PROJECT OUTPUTS

- Patents

- Inventions:

- Processes / Methods
 - Machines / Devices
 - Plants

- Trade Secrets

- Confidential information with economic value:

- Formulas
 - Manufacturing processes
 - Germplasm, cell lines



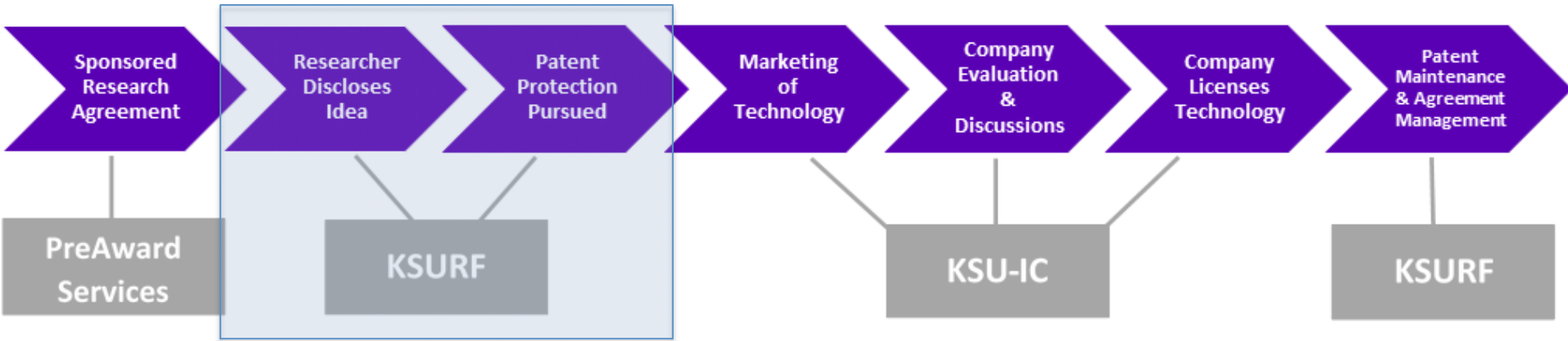
DEVELOPING & MANAGING PROJECT OUTPUTS

- Trademarks
 - Source indicators
- Copyrights
 - Original Expressions of Ideas:
 - Writings
 - Music
 - Art Works



DEVELOPING & MANAGING PROJECT OUTPUTS

Simplified Commercialization Process Flow



Breaking Down the Process

- Discovery performed by KSU faculty, staff, students
- Pre-disclosure meetings with KSURF – KSU-IC
- Send IP Disclosures to Tresa Landis at tlandis@ksu.edu or call 2-3917
- Assessment of IP done by IPAC
- Assignment of IP made to KSURF; protection managed by KSURF through patent counsel

Why Do We File Patent Applications?

- Protect a valuable discovery and enable it to realize an economic return on investment
- At the request of the funding sponsor
- In support of funding initiatives
- Service to faculty members
 - To enhance faculty grant applications
 - To expose new faculty members to the patenting and marketing process

Who is an Inventor?

- Inventorship is a legal determination
- In order to be an inventor, the person must make a material contribution to at least one claim of the patent
- Inventorship cannot be definitively determined until the final patent claims are allowed



Why Does Correct Inventorship Matter?

- A patent is a property right that is owned by the inventors
- In the U.S., joint inventors may each practice and sell the invention without the other inventors' permission
- If proper inventors are not included, the patent can be invalidated

Substantive Requirements

- Under U.S. patent law, an invention requires:
 - Conception (the idea); and
 - Reduction to practice
- In order to be patentable, the invention must be:
 - Novel;
 - Useful; and
 - Non-obvious to one skilled in the art



Publish or Patent? You CAN do both!

- Publishing before a patent application is filed limits your coverage to only the U.S.
All international rights are lost.
- U.S. application can still be filed within one year of publication.

U.S. follows first to file convention vs first to invent.



More on Publications

- Publications can include abstracts, poster presentations, published grant applications, other non-confidential disclosures and even a YouTube™ video
- Submitting a manuscript does not create a bar to patenting unless it is published prior to filing a patent application

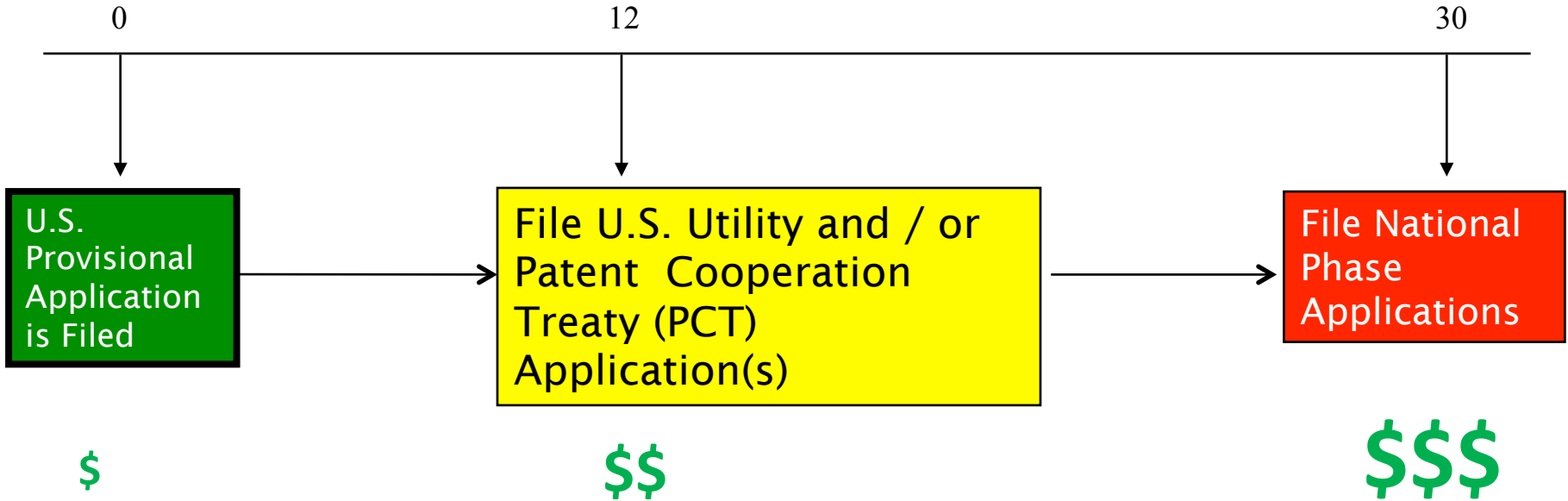
DEVELOPING & MANAGING PROJECT OUTPUTS



- A disclosure to KSURF \neq patent
- If you're a US citizen, you **MUST** file in the US first
- Call us **immediately** if your industry partner asks you to sign any type of patent document (2-5720)

DEVELOPING & MANAGING PROJECT OUTPUTS

Time in months





What to Expect Along the Way

Provisional – Relatively low cost; Expires in 12 months

Conversion – Higher costs; U.S. prosecution takes between 27 months to 5 years to get an issued patent

International Filings – Significant cost; KSURF will not file without a commercial partner. Can take several years to get an issued patent.



Restriction Requirements/Office Actions/RCE's – Oh My!!!

First Office Action - expect in 15-19 months

Response due in 1-6 months

Second Office Action – expect in 5 months

Response due in 3-6 months

Claims are reduced during this time

File an RCE to try again



Requirement of Unity of Invention

- Only one invention, or a group of inventions linked to form a single general inventive concept, can be covered in a patent
- A divisional application may be filed on secondary inventions

Responding to Office Actions

- Accomplished with guidance of patent counsel



Roadblocks to the Prize

Odds that your application will be allowed after the first office action: 13 out of 100

Don't take it personally!

This is not a reflection of your work and has no bearing on your research.

DEVELOPING & MANAGING PROJECT OUTPUTS

As of Feb 2015

8,471 patent examiners

598,284 unexamined patent application backlog

[http://www.uspto.gov/dashboards/patents
/main.dashxml](http://www.uspto.gov/dashboards/patents/main.dashxml)



The patent issued – Hurray!!!

But you still have to pay to keep it in force. Current escalating maintenance fees over the life of the patent.

3.5 years	\$400-\$1,600
7.5 years	\$900-\$3,600
11.5 years	\$1,850-\$7,400



Your Role as a Faculty Member

- Record keeping – bound, witnessed notebooks
- Prior art searches
- Ongoing cooperation and input throughout the patent prosecution process
- Marketing leads
- Review of material used for marketing
- Meeting with potential licensees

Contractual Obligations

- KSU may have a legal or contractual requirement to report inventions to the corporate sponsor or funding agency
- Disclosure of new inventions to KSURF is required under the KSU IP policy and is part of your employment contract
- KSURF and KSU (including faculty) have a responsibility to student inventors



More Reasons to Engage in the Process Aside From Your Contractual Obligations

- Opportunities for research funding
- Share in licensing revenue
 - Inventors personally receive at least 25%
 - Your department receives at least 10%
- Opportunities to form start-up companies
- Student mentoring



What You Can Expect from KSURF

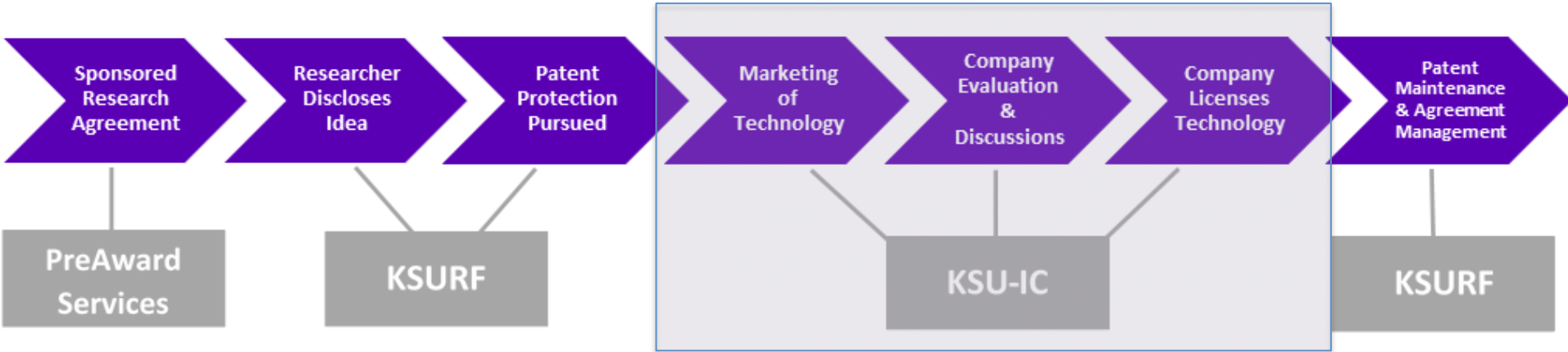
- Gladly receive your disclosure
- Work with industry sponsor and KSU-IC for best outcomes
- Maintain close contact during patent prosecution
- If your invention isn't licensed, we'll reach out to you when maintenance fees are due and cooperatively re-evaluate its value

KSU-IC Background

- Provide Licensing and Commercialization Services for K-State Developed Technologies via Contract with the Kansas State University Research Foundation
- Goal: To Facilitate Public Utilization of K-State Developed Technology while Generating Economic Returns for the Institution

DEVELOPING & MANAGING PROJECT OUTPUTS

Simplified Commercialization Process Flow





Licensing

- Most Likely Outcome for Corporate Sponsored IP
 - What exactly is a License?
 - What are we Licensing?
 - How does the Negotiation Process Work?
 - How are our Agreements Structured?
 - How are we doing as a University?



What is a License?

- A license is a contract between parties to allow for the “right to use” IP within certain fields and under certain conditions in exchange for money or other consideration
- Not a Sale! – KSURF Retains Ownership
- Typical Licenses – Patents, TM, Copyrights, Know-how, Trade Secrets, Software



What are we Licensing?

K-State MOA (Memorandum of Agreement) Identifies
Two Types of IP

- Background IP
- Project IP
 - Jointly Made or Generated
 - Solely Made or Generated

Background Intellectual Property

Property and the legal right therein of either or both parties developed before or independent of the Agreement including inventions, patent applications, patents, copyrights, trademarks, mask works, trade secrets and any information embodying proprietary data such as technical data and computer software.

- Both Parties Agree to Provide for Project --- However, No Rights Transferred

Project Intellectual Property

The legal rights relating to inventions including, patent applications, patents, copyrights, trademarks, mask works, trade secrets and any other legally protectable information, including computer software, first made or generated during the performance of the Agreement.

- Parties agree to disclose Project IP to each other within two months of disclosure to their Internal IP Managers



Project Intellectual Property Ownership

- Ownership Follows Inventorship –
Ownership vests in the party whose personnel conceived the subject matter and diligently pursued reducing the subject matter to practice
- Results in either Jointly or Solely Owned IP
- Classification of IP has material impact on University's and Sponsor's rights and what is available for License



Project Intellectual Property Licensing

- Jointly Developed/Owned IP
 - Sponsor and K-State both have Non-Exclusive Rights
- Solely Developed/Owned IP
 - The Sole Property of Inventing Party
- Sponsor Receives First Option to Negotiate for License to Project IP – (3 months post disclosure)



What are we Licensing?

- Project IP
 - Jointly Owned – Exclusive License
 - Solely Owned – Non-Exclusive or Exclusive
- Background IP
 - Sponsor may need as well
 - Must make sure no other strings attached

How does the Negotiation Process Work?

- Inventor Discloses to KSURF
- KSU-IC Staff Engages with Company to Determine Interest
- If Interested – IC Staff work with Company to Develop Scope of Agreement
- Scope is then Applied to Financial Model to Develop Terms which are presented to Company in Term Sheet
- If Terms are Agreeable – Incorporate in License
- Negotiate License Language and Close Deal

Valuation Analysis

Scope

- IP
- Exclusivity
- Field of Use
- Geography
- Duration



Market Data

- Time to Market
- Market Capture
- Volume
- Price

Terms

- Signing Fee
- Minimums
- Royalty on Net
- Patent Re-imbusement



How are the Agreements Structured?

- Link Diligence to Financial Terms
- Work Closely with Industry Partner to Develop Commercially Relevant Market Expectations → Terms
- Want to Insure that Technology is Utilized and/or that University is Compensated for Opportunity Cost
 - Minimums Become Key – Ramp/Roll or Return
- Deal Should be Fair for Both Parties
- Guiding Principle --- Know the Orange

DEVELOPING & MANAGING PROJECT OUTPUTS

How is the University Doing?

	2013 National AUTM Rank	Value
Sponsored Research Expenditure	$\frac{96^{\text{th}}}{159}$	\$137,786,527
IP Disclosures	$\frac{122^{\text{nd}}}{159}$	29
Patents Issued Per 100 Disclosures (2011-2013)	$\frac{106^{\text{th}}}{125}$	12
License/Options Per 100 Disclosures (2011-2013)	$\frac{36^{\text{th}}}{133}$	31
Total License Revenue	$\frac{65^{\text{th}}}{157}$	\$2,266,808
License Revenue Per Active License	$\frac{40^{\text{th}}}{146}$	\$35,981



Points of Note-

- Not all Corp. Sponsored Research will Result in Marketable IP
- Holding Back on C can Cause Problems
- Deviation from Research Plan can be Costly
- Large Industry Partners Often Understand
- Proper Agreements and Path to Research Matters (To Both Parties)
- If it is Broken it can Often be Fixed
- If you get Questions from Corporate Partners --- We Can Help!



Contact Info

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Phone: (785) 532-3906

JOIN THE CONVERSATION

Email spexarth@ksu.edu

Twitter [#ksuindustrybc](https://twitter.com/ksuindustrybc)

UPCOMING SESSION



Research Facilities & Resources Showcase May 13, 3-5pm, K-State Student Union Ballroom

- Promote your research facilities to the K-State community
- Learn about K-State facilities, equipment, and resources that can enhance your proposals for industry support
- Visit <http://www.k-state.edu/corporate/toolbox/> to learn more and to register