



IP Considerations for ILOs

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“Any product of the human intellect that the law protects from unauthorized use by others”



Cornell U. Law School, Legal Information Institute (https://www.law.cornell.edu/wex/intellectual_property)

Inventors, designers, developers and authors can protect the ideas they have developed, for instance by means of copyright or patents. The aim is to prevent others from wrongly profiting from their creations or inventions. It also gives them an opportunity to earn back the money they invested in developing a product.

- Patents
- Trade Secrets
- Copyrights
- Trademarks

- A Legal Document
 - the patent owner has the right to **exclude** others from making, using, selling, or importing the claimed invention into the patent jurisdiction for a period of time (20 years)
- Business Asset
- Types
 - Utility: processes, machines, composition of matter, or any new and useful improvements thereof
 - Design: Ornamental Designs
 - Plant: asexually reproduced plants

- Novel
 - Not already known to the public (patents, publications, public use)
 - Exception (In US, need to file within in 12 mons of public disclosure)
- Non-obvious
 - not considered an obvious improvement over the prior art “to one of ordinary skill in the art”
- Useful
 - Performs an intended function that is specific, substantial and credible
- NOT patentable:
 - Laws of nature (eg $E=MC^2$)
 - Natural phenomenon (unmodified gene)
 - Abstract ideas

What Constitutes a Public Disclosure?

- Providing ENABLING information in the form of”
 - Publications in a technical/scientific journal
 - Posting information on a website
 - Presentation at a conference (oral, poster, displays)
 - Submission of a proposal to a sponsor not under NDA
 - Talking to someone without a NDA
 - Final reports of sponsored projects
- NOT considered a public disclosure:
 - Submission to a peer review (not yet published)
 - Submission of a abstract or conference poster (not yet published)
 - Posting to a controlled website (access under confidentiality aggt)
 - Submission of a proposal to a Federal Sponsor (NSF, DOD, NIH etc)

- **United States Patent/National Patent**

- **Provisional** patent application used to establish priority date, are not examined, and must be converted within one year to Utility, PCT and/or other foreign patent applications

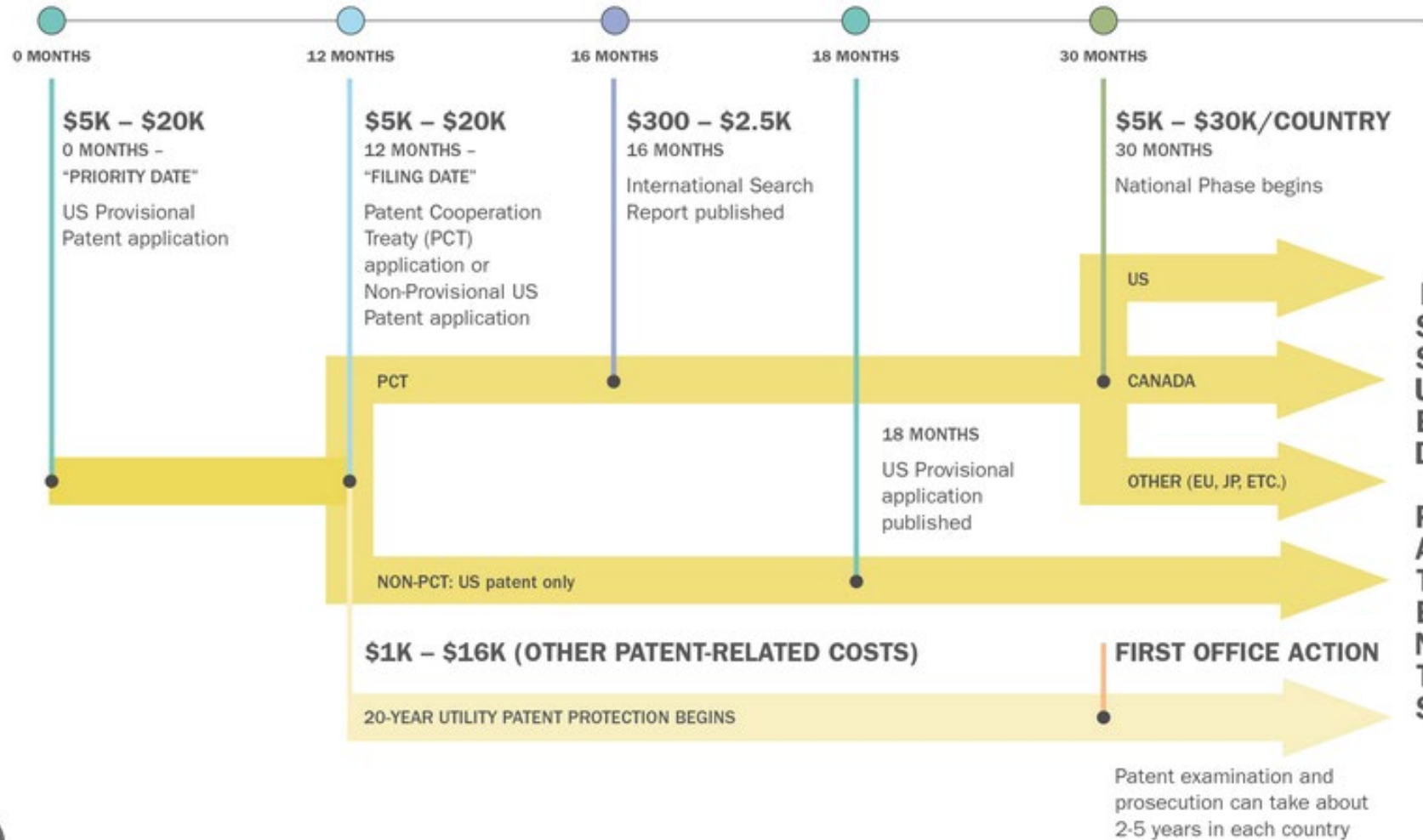
- **Patent Cooperative Treaty (PCT)**

- One year from the date of first filing to file a single international application
- Non-binding Prior Art Search and Written Opinion on patentability rendered 18 months from priority
- subsequently must be filed in the individual countries and regions in which protection is sought

- **European Patent Applications are a Regional Application**

- a single patent application that simultaneously covers many European states during the examination process.
- Granted patent validated and maintained in individual countries – Asserted in individual countries

- Specification
 - Detailed description of all parts of the invention
 - Must teach/enable a person with ordinary skill in the art how to make and use your invention
 - Should include one or more embodiments of your invention so competitors can not easily design around your invention
- Claims
 - A method, process, a system comprising....
 - Independent and dependent claims (minimum usually 3 indep and 17 dep claims)
 - Independent claims should be as broad as possible in view of prior art
 - Claims should refer to products that a licensee might plan to sell
- Abstract
- Drawings



- Prior art search – eg: US PTO, Google Patents, InnovationQ
- Invention disclosure gets filed by Researcher's university
 - What is it you are protecting?
 - Expand to cover what you hope a “partner/licensee” can market
 - Why would the market care?
 - What is faster, cheaper, better about your invention
 - Who are the inventors?
 - Contributed to the conception of the claims
 - Working solely at the direction of a PI – not an inventor
 - A patent with overly inclusive inventorship is invalid
- Assignment and Ownership
 - University, Collaborator, Undergraduate, etc

- University reports the invention to iEdison
 - **an online, relational database designed around the reporting requirements of the Bayh-Dole Act and its implementing regulations.** It allows recipients of federal research funding to report subject inventions and patents to the federal funding agency that issued the funding award.
- The Bayh-Dole Act
 - Formerly known as the Patent and Trademark Act Amendments, is a federal law enacted in 1980 that enables universities, nonprofit research institutions and small businesses to own, patent and commercialize inventions developed under federally funded research programs within their organizations.

- First step – invention disclosure – gets the process going DOES NOT set the priority date
- A **provisional application** must be filed with your university before publically disclosing enabling information - **DON'T WAIT TILL THE LAST MINUTE!**
 - **US Rule: An inventor has one year to file for a patent following a public disclosure of the invention**
 - **Foreign Rule: (Most countries) Patent application must be filed before any public disclosure – “Absolute Novelty”**
- Provisional applications will be filed at the discretion of your university
- Meetings where all of the attendees are bound by a confidentiality agreement are NOT considered public disclosures

- Indicate that invention was funded by the ERC as well as any other funding sources with percentages on ID for proper routing by your Office of Tech Transfer
- Submit ID to your university's tech transfer office **AND** notify your ERC Director and ILO
- Execute a CDA/NDA when discussing **enabling** information with potential collaborators
- Material transfer agreements needed when exchanging patent-protected materials (prototypes, reagents, materials)

- University technology transfer offices customizing their invention intake systems to flag the NSF ERC agreement number to identify ERC core research inventions
- Report IDs to NSF (iEdison)
- Ensure that IDs are sent to Lead University *as soon as possible* for dissemination to industry members as per Center Bylaws
- Keep lead university updated on patent progress (provisional, nonprovisional, patent licenses, patent issuances)

- Best Practice: Opt-in to view full ID with enabling information
- Agree to keep all IDs confidential
- Let the Director or ILO know your intention to support a patent application

- Communicate regulatory with university tech transfer offices (monthly) to assure that ERC-funded IP subject to their Bylaws are timely identified
- Communicate regularly with ERC-funded researchers to see if any invention disclosures have been submitted or in preparation
- Provide basic IP education to ERC-funded faculty and students
- Track all IP products and report annually to NSF

- Non-confidential notice to **all members**;
 - Must **opt-in to review** confidential/enabling information
- **Tier 1 member(s)** have 30 days to express interest in supporting patent filing and securing non-commercial, non-exclusive, royalty-free (NERF) at minimum – **get 6 mon option period negotiate an exclusive/commercial license**
- After 30-day review by Tier 1 members, **Tier 2, 3 and 4 get successive 30-day review periods to review ID and** decide if they want to support filing, and request a non-commercial NERF;
- **Tier 2, 3 and 4 members have 5, 4, and 3 mon option period**, respectively to negotiate exclusive/commercial license IF no member in the next tier up exercises the option

- NSF ERC 360 Tables
 - IP Products
 - Provisional and Nonprovisional applications (date, title, inventors, brief description) NOT invention disclosures
 - Tech Transfer and Startups
 - List licensees, spinout company incorp date, size, description
- Annual Report Tables
 - IP Table:
 - List all inventions disclosed to iEdison with descriptions
 - Indicate if invention disclosures are under consideration, abandoned, or if they advance to PP or NPP applications
 - List all dates, titles and patent application numbers
 - TRL chart
 - Every ERC does this differently no right way to do this
 - Tech Transfer Table
 - List all licensees
 - Startup Table
 - List names of companies, dates of incorporation, product under development, customer segment/ market addressed

- Between Universities
- Between University and Company
- Between University/Company and individual
- Between University/Company and government (such as NIH)
- How do you protect against dissemination of your IP
 - A Non-disclosure Agreement (NDA) or Confidential Disclosure Agreement (CDA)
 - Material Transfer Agreement
- Ensure that all agreements with companies or contractors in different countries are drafted in conformity with applicable foreign intellectual property law.

- **When executed?**
 - two parties considering pursuing a relationship together and need to understand the other's processes, methods, or technology solely for the purpose of evaluating the potential for a future relationship
- **What is it?**
 - legal agreement between at least two parties
 - outlines information the parties wish to share, but wish to restrict from wider use and dissemination

Best Practice: initial conversations with a collaborator can be done without disclosing enabling information and don't require an NDA

VCs will not sign NDAs for initial meetings

- Prior to sending or receiving tangible research material, it's vital to both parties to have a Material Transfer Agreement that expressly states the purpose for which the material will be used, and the rights regarding any derivative discoveries
- Important Issues to address
 - publication rights
 - liability of both the sender and the recipient
 - who will own intellectual property developed from the materials
 - any limits on the use of the material

- Sponsored research with an industry partner can result in IP that is proprietary and not subject to the ERC's industry partner agreement
- A sponsored research agreement (SRA) will be executed with the researcher's university
- The SRA terms and conditions will cover:
 - Confidentiality (usually 3 years)
 - Publication prior review (usually 3 mons)
 - Agreement on IP ownership and assignment
 - Terms and Conditions around IP licensing
 - NERF and exclusive license option (usually 6 mons)
 - Payment of patent fees

- A patent is an important business asset
- Claims should reflect the product(s) you want to sell
- A spinout company based on ERC IP will need to license that IP from the university
- GT has a startup license –with no upfront cost – no negotiation- univ takes equity
 - Terms
 - Field of Use/ Territory
 - Assignment fee (cash or equity)
 - Upfront fee
 - License Maintenance fee
 - Earned Royalties
 - Sublicense Fees and Royalties
 - Prior patent expenses
 - Milestone fees (based on commercialization plan)

- A primary mission of ERCs is industrial collaboration and **technology transfer** to member firms enabled by a robust **innovation ecosystem**.
- Innovation Ecosystem
 - A community of entities that interact with each other to enable technology development and innovation
- Tech Transfer
 - The process by which inventions and innovations are turned into products and commercialized for business, government and societal benefit

- The national phase of a patent (~30 mons) can be very expensive and **spinouts need to be budget for this**– many commercialization grants will not cover patent costs.
- Costs can be up to \$30K per country (including necessary translations).
- Maintenance Fees:
 - Must be paid to the United States Patent and Trademark Office (“USPTO”) at certain time points after a patent issues in order to keep a utility patent in force
 - Due 3.5 years after grant, 7.5 years after grant, and 11.5 years after grant
 - Failure to pay- patent expires
 - Can be revived

- Important to develop an overall **strategy** for IP from the start.
- Consider **IP an asset** when looking for funding and a critical factor in obtaining funds for industry sponsors.
- Protect an area of research and potentially **block your competition**
- Stimulates innovation and economic growth
- Budget for patent costs

- Early access to Center IP is a major benefit to an ERC's industry partners
- Tech transfer in the form of licenses to corporations and spinout companies is the major route by which technologies get to the market for societal benefit
- It is the responsibility of the ERC-funded researcher to seek IP protection prior to a public disclosure
- Faculty and students need to be educated about the basics of IP protection
- Faculty and students need to have appropriate exchange agreements in place prior to collaborations with entities outside of the ERC
- Patents are important business assets, require an overall strategy aligned with business goals and spinouts need to budget for patent costs particularly as patents enter the national stage

Any Questions?

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