



**Research & Economic Development**

**TENNESSEE TECH**

# Intellectual Property & Commercialization

**Michael Aikens, PhD**

Acting Vice President for Research and Economic Development

**Mark Lynam, MBA, CRA, CFRA, CPRA**

Director, Office of Sponsored Programs

9-25-25

# Agenda

- Commercialization overview
- IP and commercialization resources (TTAC)
- Intellectual property



**WHAT DOES “COMMERCIALIZATION”  
MEAN TO YOU?**



# Commercialization Overview

- Can take many forms
  - Business startups/spin-offs
  - Licensing innovations to industry / technology transfer
  - Consulting arrangements
  - Sponsored research agreements
- Defined
  - The process of translating research, innovation, and/or intellectual property (IP) into products, services, or solutions that create societal or economic impact.
- Record breaking year(s) for innovation at Tech
  - Invention disclosures are up
  - Awarded patents are up



# Commercialization Overview (cont.)

- Why it matters
  - Expands the reach and relevance of academic research
  - Opens new funding and collaboration opportunities
  - Drives innovation and regional economic development
  - Enhances faculty (and institutional) reputation and visibility
  - It is for ALL colleges and disciplines
- Faculty Role in Commercialization
  - Inventing or co-developing IP
  - Student engagement
  - Engaging with industry partners
  - Participating in startups or licensing deals
  - Advising or consulting on technology application



# Resources at Tennessee Tech

- LaunchTN Tennessee Technology Advancement Consortium
- Sponsored program at Tech, funding that supports
  - TreMonti commercialization feasibility reviews
  - Graduate Assistant to assist faculty with invention disclosure form development
  - Legal advice and resources
  - Faculty workshops
  - Faculty Innovator Showcase
    - \$1,000 to participants
    - Showcase your innovation
    - Connect with business, industry, and government
  - Coming soon: “Commercialization Counselor” – full time TTU employee specializing in technology transfer, commercialization, and more







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# Disclaimer

- The information being presented is for educational purposes only and is not legal advice.



# Ownership of Intellectual Property (TTU)

Intellectual Property (IP) developed by persons to whom applies shall be the sole and exclusive property of Tennessee Tech if the IP is:

- Developed within the Scope of Employment, except Scholarly Work; or
- Developed in the course of a project sponsored by Tennessee Tech; or
- Developed with Significant Use of Tennessee Tech resources; or
- Developed in the course of a project arranged, administered, or controlled by Tennessee Tech and sponsored by persons, agencies, or organizations external to Tennessee Tech, absent prior written agreement to the contrary.

# Ownership of Intellectual Property (TTU)(cont.)

- “Scholarly Works” include articles written for publication in academic journals, textbooks, Works of fine art, musical compositions, and literary Works such as novels, short stories, and poems.

# Ownership of Intellectual Property (TTU)(cont. 2)

- “Significant Use” is the utilization of Tennessee Tech funds, personnel, (including overload compensation), facilities, equipment, materials, or other resources resulting in a direct, indirect, or depreciative cost to Tennessee Tech of more than \$3,553 (in constant 2018 dollars\*); excludes Tennessee Tech office space, Tennessee Tech libraries, and computers provided by Tennessee Tech. Students’ use of resources or facilities typically available to students in their educational activities does not constitute significant use.

**\* \$4,560 in 2025 dollars**

# Ownership of Intellectual Property (TTU)(cont. 3)

- Tennessee Technological University Policy 732 provides additional details

# What's common among university IP Policies?

- Encourage inventions and the production of copyrightable works
- Facilitate the utilization of such inventions and works to the benefit of the citizenry
- Provide equitable sharing of any proceeds derived from the commercialization of inventions and copyrightable works
- Protect the interests of all concerned parties

# How did we get here? The Bayh-Dole Act

- Governs the rights to inventions conceived or first reduced to practice during research conducted under federal grants, contracts and cooperative agreements
- Provides a uniform patent policy for federally funded inventions
- Allows universities to elect to retain title to inventions arising from federally funded research and development
- Provides incentives to investigators by sharing licensing revenues
- Promotes use of the subject inventions and encourages technology transfer

# Four Major Categories of Intellectual Property

- **Patent**
  - Protects: new embodiments of useful ideas, plants, and designs
  - Term: ~20 years from earliest filing
- **Copyright**
  - Protects: original works of authorship embodied in a tangible medium of expression
  - Term: (normally) life of the author +70 years if the work is a Work-for-Hire, the term is 95 years from first Publication or 120 years from creation, whichever expires first.
- **Trademark/Service mark**
  - Protects: marks that identify the source of goods or services
  - Term: as long as the mark is used in commerce
- **Trade Secret**
  - Protects: commercially valuable, protected information
  - Term: as long as it remains secret and valuable in fact



# It Starts with an Idea

- **Idea** – conception reflecting a specific approach to a problem
- **Invention** – any new discovery, use, application, process, composition of matter, article of manufacture, know-how, design, model, technological development, or biological material
- **Intellectual Asset** – economic usefulness of the invention (reduction to practice)
- **Intellectual Property** – proactive acts are taken to convert the asset into property and, thus, protect others from using it without authorization – for TTU, it's defined as 'Inventions and Works'

# Invention

USPTO | Something that is new, did not exist before, is not known to others who have the same ordinary skill in the art to which the invention pertains, and is created by independent investigation and experiment (35 USC 103)

TTU | Any new discovery, use, application, process, composition of matter, article of manufacture, know-how, design, model, technological development, or biological material

# What an invention is not

- A mere discovery
- An idea or suggestion
- An abstraction (abstract idea)
- Law of nature
- A physical phenomena

# Inventor

- TTU | Person or persons responsible for the conception of an essential element of the invention.
- USPTO | Person or persons in the U.S. patent law, who conceived or contributed to the essential elements or claims of a patentable invention.
  - The individual with intellectual domination over the inventive process, and not merely the one who assists in its reduction to practice. Conception and intellectual domination are important, and reduction to practice is irrelevant.

# Why Protect Intellectual Property?

- Ability to protect core ideas
- Limited term monopoly
- Provides a protected competitive advantage
- Opportunity to recoup costs on necessary R&D
- Defend one's ideas from infringement
- Commercialize your invention successfully

# IP Protection at TTU

- File an invention disclosure
- Conduct a prior-art search
- Conduct a technical evaluation and assessment of the invention
- Conduct a commercial assessment of the invention
- Explore opportunities to license the invention
- File a provisional application or non-provisional application for a patent

# How do we Protect Intellectual Property?

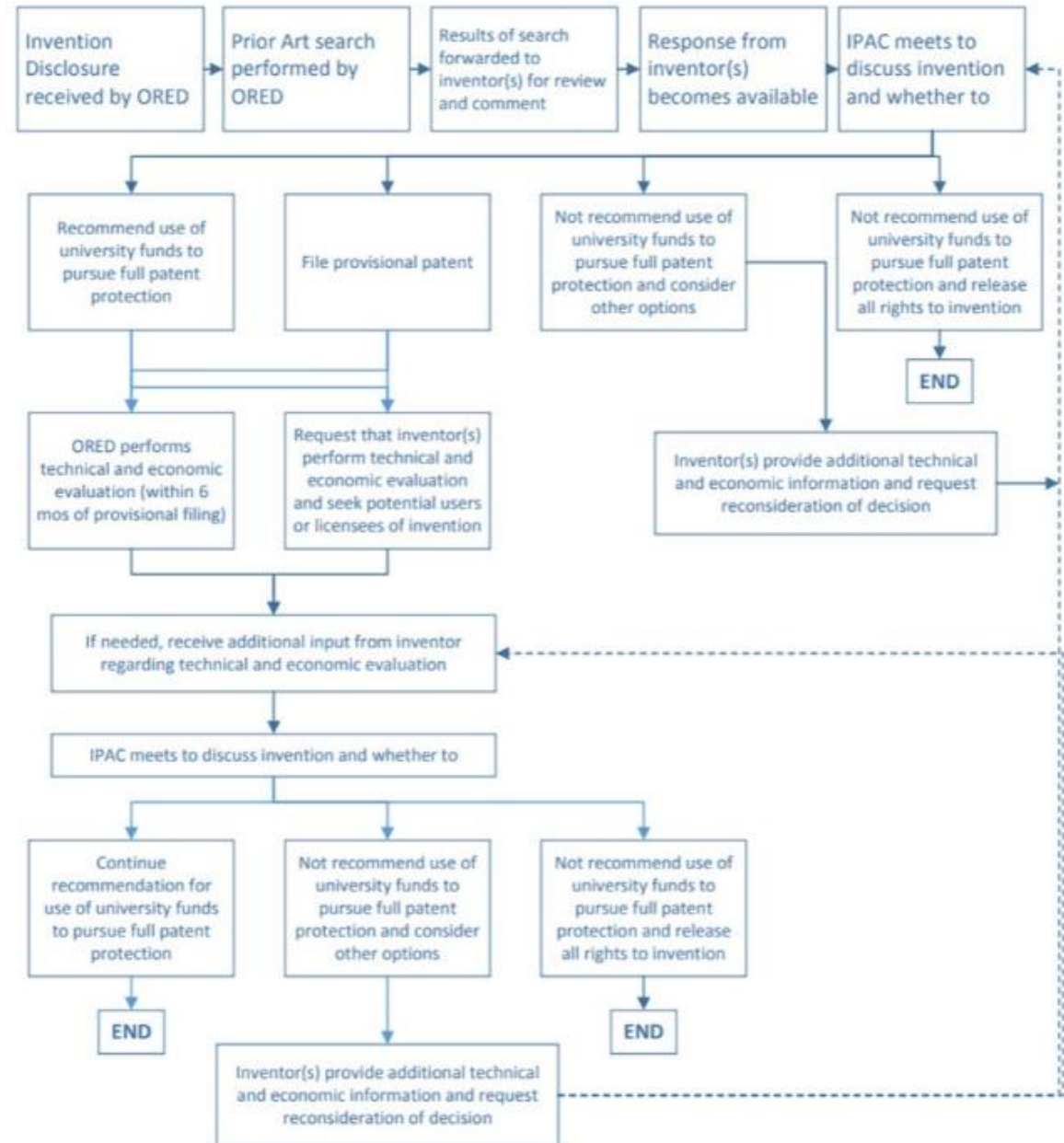
## Invention Disclosure Form:

- Title of invention
- Contributors with % share, contact info
- Sponsor, grant number, PI, if funded
- Events: idea, 1st demo, 1st publication, 1<sup>st</sup> oral disclosure, anticipated disclosure dates
- Prior art in the area – patents/applications, publications, publicly available knowledge, etc.
- Commercial interest/companies, with comm'l potential
- Detailed description of invention
- Outside activities/consulting
- Signatures



# Patent Process at TTU

## Invention Disclosure & Intellectual Property Protection Process





# Patents

- It's “the grant of a property right to the inventor, issued by the United States Patent and Trademark Office”.

## Patents (cont.)

- A grant of legal monopoly right to the inventor issued by the U.S. Patent and Trademark Office (USPTO) of the U. S. Department of Commerce.
- The right to exclude others from making, using, offering for sale, or selling the invention in the U.S. or importing the invention into the U.S.
- Term of new patent is 20 years from the date of application or from the date earlier related application was filed.

# Types of Patents

- Utility Patent
  - Any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvements thereof (35 U.S.C. §101).
  - *Note:* A “Utility Patent” in Europe means something else and is a lesser type of patent.
- Plant Patent
  - Any new and distinct, invented, or discovered asexually reproduced plants (35 U.S.C. §161).
- Design Patent
  - Any new, original, and ornamental design for an article of manufacture (35 U.S.C. §171).

# Requirements for a Patent

- Utility

Provides an identifiable benefit  
Is capable of use

- Novelty

Not described in a printed publication before the applicant filed for patent protection; or

Not described in a published patent application or issued patent that was filed before the applicant filed for patent protection (except for the inventor's provisional application – 10/12 months to file non-provisional)

# Requirements to Obtain a Patent

## ○ Non-obviousness

- The invention must not be obvious to a person having ordinary skill in the art.
- ...which means a patent for a claimed invention may not be obtained if the differences between the claimed invention and the prior art are such that the claimed invention as a whole would have been obvious before the effective filing date of the claimed invention to a person having ordinary skill in the art to which the claimed invention pertains

## ○ Disclosure

# Matters Not Subject to Patent Protection

- Laws of nature
- Physical phenomena
- Abstract ideas
- Inventions solely used for nuclear or atomic weapons
- Perpetual Motion Machines Can't be Patented!



# Filing for IP protection

- US
- Other individual countries
- Worldwide
- The more options, the more expensive.
- What makes sense from a commercialization standpoint?

## Filing for IP protection (cont.)

- Provisional Application – provides 12 months to finalize before filing non-provisional application; relatively not expensive – few hundred-few thousand \$ \*10 months under revised Bayh-Dole
- Should have a plan to commercialize before proceeding to non-provisional
- Non-provisional application – can be very expensive – many thousands of \$
- Goes to patent examiner – may require more information, clarifications; may reject some claims. The more you have to revise, explain, the more your costs increase.

# Provisional Application for Patents

- A provisional application for patents provides the means to establish an effective filing date in a patent application.
- The 12-month pendency for a provisional patent is not counted toward the 20-year term of a patent granted on a subsequently filed non-provisional application.

# Provisional Application for Patents (cont.)

- A provisional application for a patent will be abandoned by the operation of law 12 months from the filing date if not converted to a full patent.
- If Federally-funded (falls under Bayh-Dole) deadline to provide notice to convert a provisional patent application to a non-provisional patent application is 10 months from priority in order to give the government 60 days' notice prior to expiration of the application.



## Closing

Patenting can get expensive

Don't equate patents with innovation

We're here to help

# THANKS

Questions?

