

# *Innovation Ecosystem Module 1*

## ***IP & Tech Transfer in an ERC***

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Industry & Innovation Director,  
CISTAR

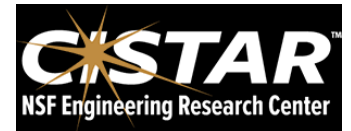


AstraZeneca 

syngenta 



ExSeed



# IP is a key component of Innovation

## NSF

### ILO - Industrial Liaison Officer (Gen 1, 2, 3 ERCs)

*Gen-3 ERCs ILOs are titled Industry & Innovation Director, Innovation Ecosystem Director, Innovation Director. Rarely use ILO.*

### SPI – Strategic Partner & Innovation Director (Gen 4 ERCs)

*Gen-4 ERCs ILOs are sometimes titled Innovation Director. By including multiple stakeholders this is a broader role than Gen-3. Rarely use SPI.*

## ERC

Gen-3	Gen-4
<i>Industry and Innovation Director Industry and Innovation Director Innovation Ecosystem Leader Innovation Ecosystem Leader Innovation Ecosystem Director Innovation Director Industrial Liaison Officer</i>	<i>Strategic Partners &amp; Innovation (SPI) Director Senior Director of Strategic Partnerships ILO &amp; Co-Director, Strategic Partnerships Industry &amp; Ecosystem Engagement Director Vice President, Innovation Ecosystem Innovation Ecosystem Director Innovation Ecosystem Lead Industry Liaison Officer</i>

# Creativity, Invention, Innovation

new, original ideas

novel product or process

successful implementation

# Protecting Ideas

- **Patents:** exclude others from making, using, selling, offering for sale or importing
- **Copyright:** right to and allow other to reproduce, distribute, create derivatives, perform & display
- **Trademark:** sole right to use in commerce for designated product/service
- **Trade Secret:** keeping information from others
- **Publicity:** right to control use of your persona

## Conception

- Formation of a definite idea

## Novel

- New - Not known before

## Non-Obvious

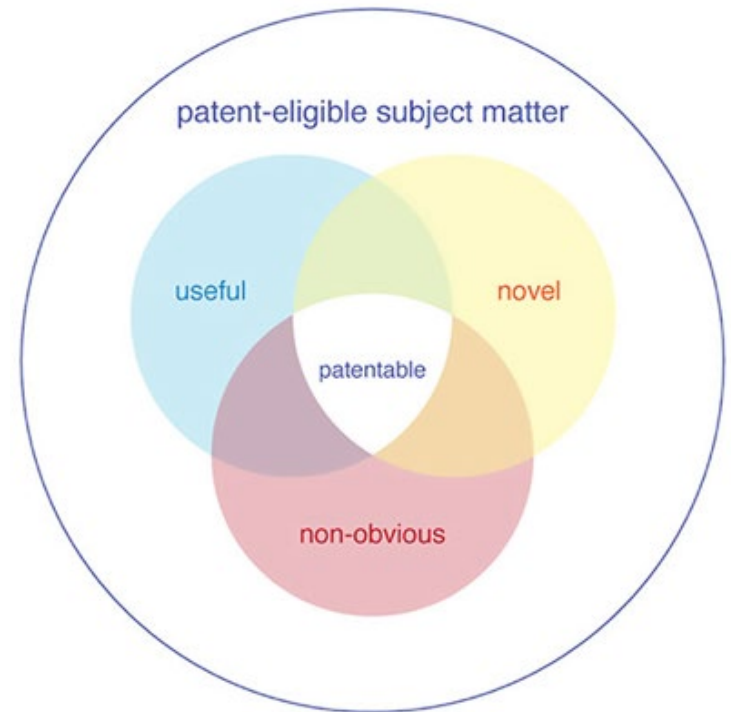
- Must be sufficiently inventive as determined by the Prior Art (publicly available information at time of filing).

## Useful

- Must be operable

## Reduced to Practice

- Embody the concept of the invention



# Bayh Dole Act (1980)

## 35 U.S.C. 200-212

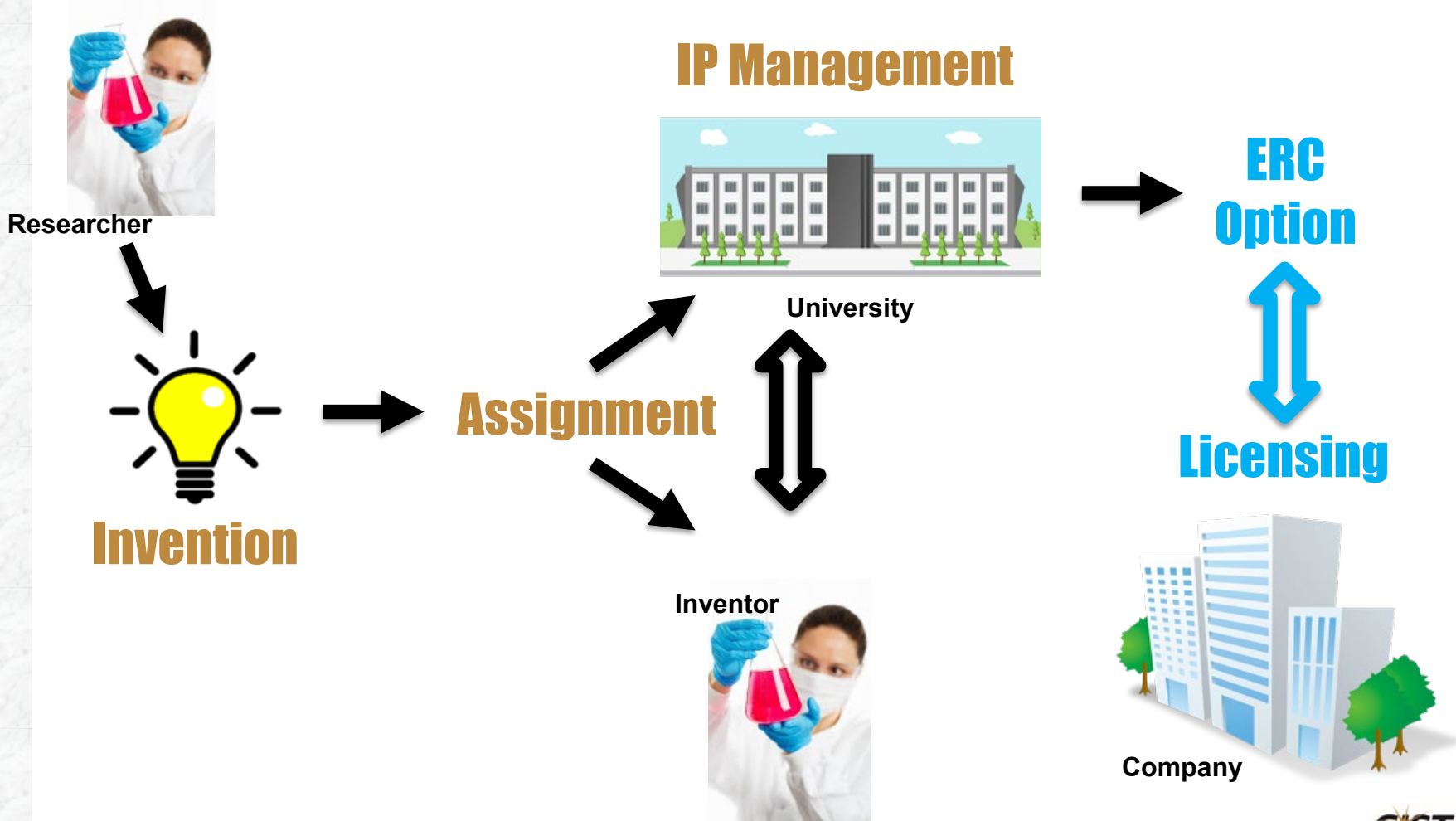
- Prior to 1980 inventions made by Federal funding recipients were owned by the Government
- The Bayh-Dole Act allows recipients of Federal funding to elect the right and title to inventions.

**Fueled tech transfer and enabled universities to create Tech Transfer Offices.**

# Spurred Massive Growth & Economic Value

Source: <https://olv.duke.edu/news/bayh-dole-38-years/>

# Inventorship, Management & Licensing



# MEMBERSHIP

## All Members:

- **Industry Advisory Board (IAB)**
- **Sponsor Research (Outside Core)**
- **Privileged Information**
  - One-Way NDA Protection
  - Annual Meetings & Webinars
  - Reports & Posters
  - Intranet, Newsletters & Emails
  - Listen, Evolve & Build Relationships
- **Privileged Access**
  - Faculty & Students,
  - Research & Innovations
  - Other members
  - Workforce & Diversity
  - Mentoring & Internships

## Gold Members:

- **IP Rights**
  - 1<sup>st</sup> Rights to IP (240-day Option)
  - 2<sup>nd</sup> Option to IP
  - Most favored licensee

## Cash or In-Kind Payments:

- **Cash is Preferred**
- **In-Kind is negotiable**
  - Must be at a discount rate of 30% to 50% of retail value. Furthermore, the aggregate amount of dues collected as discounted in-kind payments should not exceed 25% of the cash dues collected

## Description

**Large Entities** (500 or more employees)

**Medium Entities** (10 or more employees, but less than 500)

**Small Entities** (less than 10 employees)

Silver Members	Gold Members
USD \$30,000	USD \$60,000
USD \$15,000	USD \$30,000
USD \$5,000	USD \$10,000



**CISTAR**  
NSF Engineering Research Center  
Center for Innovative and Strategic Transformation of Alkane Resources



A National Science Foundation  
Engineering Research Center  
ESTABLISHED 2017

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## Industrial Membership Program

**Partners in revitalizing the U.S. petrochemical and fuels industries:**

Basic research aimed at sustainable development of America's light hydrocarbon resources

[www.cistar.us](http://www.cistar.us)

### Membership Benefits

	Silver Members	Gold Members
<b>Intellectual Property (IP):</b> Access to CISTAR novel catalytic and separation breakthroughs and innovations in chemical reactor designs with right to recommend IP filings.	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<b>Licensing:</b> Priority notification of IP filings. Exclusive rights to review claims. First option to negotiate a commercial use license. Final rights as "most favored licensee."	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<b>Confidential Information:</b> Right to request confidential information (requires NDA) on CISTAR research, technology, and inventions for internal research and evaluation purposes.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<b>Advisory Board:</b> Exclusive seat on the CISTAR Industrial Practitioner Advisory Board (IPAB) and invitation to attend biennial meetings and interact with CISTAR leadership team, as well as NSF representatives.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<b>Research Sponsorship:</b> Sponsor individual research programs outside the CISTAR Core, in areas related but not overlapping with the research funded by NSF, university cost-share, and industry membership fees. Submit joint proposals to other federal sponsors.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<b>Research Findings:</b> Exclusive access to CISTAR research findings, insider knowledge, and industry trends for R&D technology transfer, policy, and environmental aspects through biennial meetings, webinars, and quarterly newsletters.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<b>Networking:</b> Access to CISTAR experts in catalysis, separations, reactor design, and engineering economic analysis; professional interactions with a wide range of academia and industry leaders, and companies from the entire alkane transformation value chain.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<b>Recruiting:</b> Preferential access to talented, diverse, and highly trained undergraduates, graduate students, and post-doctoral researchers.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<b>Promoting:</b> High visibility branding with all CISTAR university partners, NSF, and other affiliated professional organizations.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<b>Education:</b> Contribute to the education programs and workforce development of new generations of engineers through internships, seminars, speakers, and mentorship.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>



PURDUE UNIVERSITY



THE UNIVERSITY OF NEW MEXICO



Northwestern University

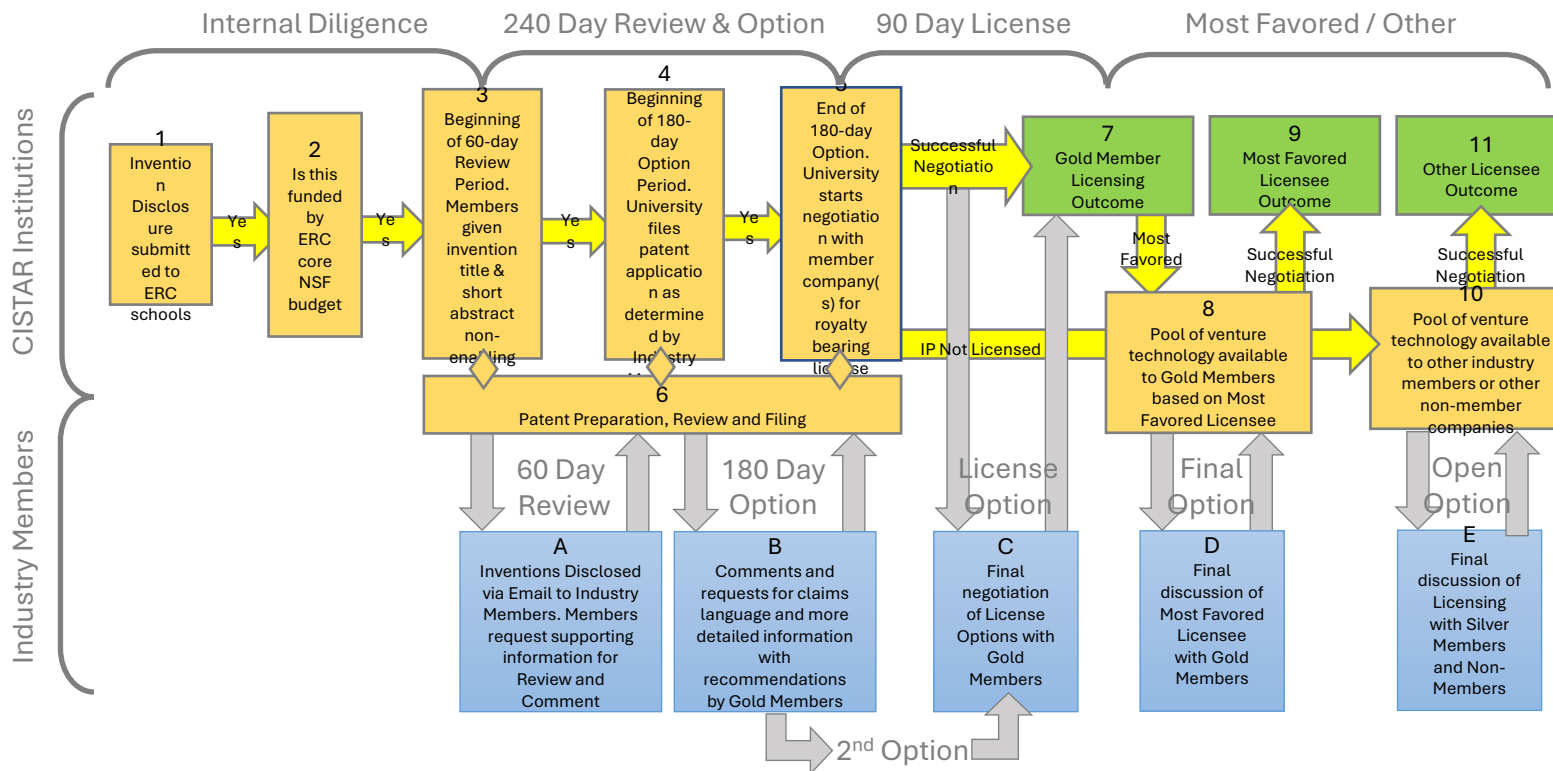


UNIVERSITY OF NOTRE DAME



THE UNIVERSITY OF TEXAS

## CISTAR IP & Licensing Timeline



# CISTAR – IP Option & Key Contacts List



**Identify Key IP Contacts at each Institution and make sure they understand disclosure requirement to you as the ILO and prime contact for industry membership rights.**

## University of Notre Dame – IDEA Center

<https://ideacenter.nd.edu/commercialization-engine/for-researchers/disclose-an-invention/>

## University of Texas – Office of Technology Commercialization

<https://research.utexas.edu/otc/for-inventors/forms-for-inventors/#disclosures>

## Northwestern University – INVO – Invention and New Ventures

<https://www.invo.northwestern.edu/about/index.html>

## Purdue University – Office of Technology Commercialization

<https://www.prf.org/otc/index.php>

## University of New Mexico – STC.UNM

<https://stc.unm.edu/inventors/commercializationprocess/>

# IP Disclosure & Privileged Information

Dear CISTAR Members,

Below you will note the title of a new Invention Disclosure from CISTAR. Per our previously agreed protocols, I have removed the attachment that contains the Confidential Information. Please note that this is the "official notification" and therefore I respectfully remind you that you should contact me if you would like to review the more detailed information. You should also note that your Review period is 60 days and your Option period is an additional 180 days. Thus, your option to express an interest in this technology will expire 240 days from today (Expiration Date: October 22, 2021).

Please note that this FIRST option to CISTAR IP is only available to Gold Members of the Center. If your organization is a Silver Member, the IP may become available after the expiration date provided it has been taken by Gold Members. The IP is not available to your organization if your Gold Membership started after the University notification date or if your membership has terminated or lapsed due to non-payment of annual fees. In the future, an opportunity to discuss this invention may arise if it is not first taken by any of the existing CISTAR Members.

At this time, I would also like to remind you that beyond these Membership Options to IP there is also an "Internal Use License" which is defined in the Membership Agreement as a "non-exclusive, royalty-free, non-transferrable, non-sublicensable license to such IP for only non-commercial, internal research use". This Internal Use License would permit a more detailed evaluation of the innovations that contributed to this IP. Thus, if you are interested in learning more about any CISTAR IP, you have a right to seek more information from the inventors (of course some of this may be Confidential Information). Typically, this might be done during in-person meetings during our Annual Meetings, but of course we are currently operating virtually. I recommend routing your requests through me so that if there are common interests, then perhaps a WebEx meeting would be the most appropriate way to proceed. Of course, we would understand a request for privacy, in which case I can introduce you to the relevant experts at the inventing institution.

**NOTE:** Please additionally note that ALL CISTAR INVENTION DISCLOSURES & KEY DATES are listed in the [CISTAR Industry Intranet Site](#). The password is the same as previously sent to you.

**TITLE:** "Selective and Hydrogen-stable Solid Polymer Electrolyte Membranes for Olefin-Paraffin Separation" (UTA-7705-FRE).

**KEY DATES:** Notification Date, February 24, 2021. Expiration of First Option Date, October 22, 2021.

**INVENTORS:** Dr. Freeman, Dr. Brennecke, and Matt Davenport (February 2021).

**SUMMARY:** The membrane is chemically stable to hydrogen, contains chemical species which specifically bind to olefin compounds, and is rapidly manufacturable. In an ongoing experiment, after over 40 total days of pure H<sub>2</sub> permeation, pure gas olefin-paraffin selectivity remains constant. Other membranes for olefin-paraffin separation have been reported in the scientific literature but were not commercialized due, at least in part, to lack of stability in the presence of hydrogen. To the selectivity aspect, selectivity increases exponentially with additive concentration and linearly with olefin partial pressure.

# CISTAR Inventions – Industry Portal

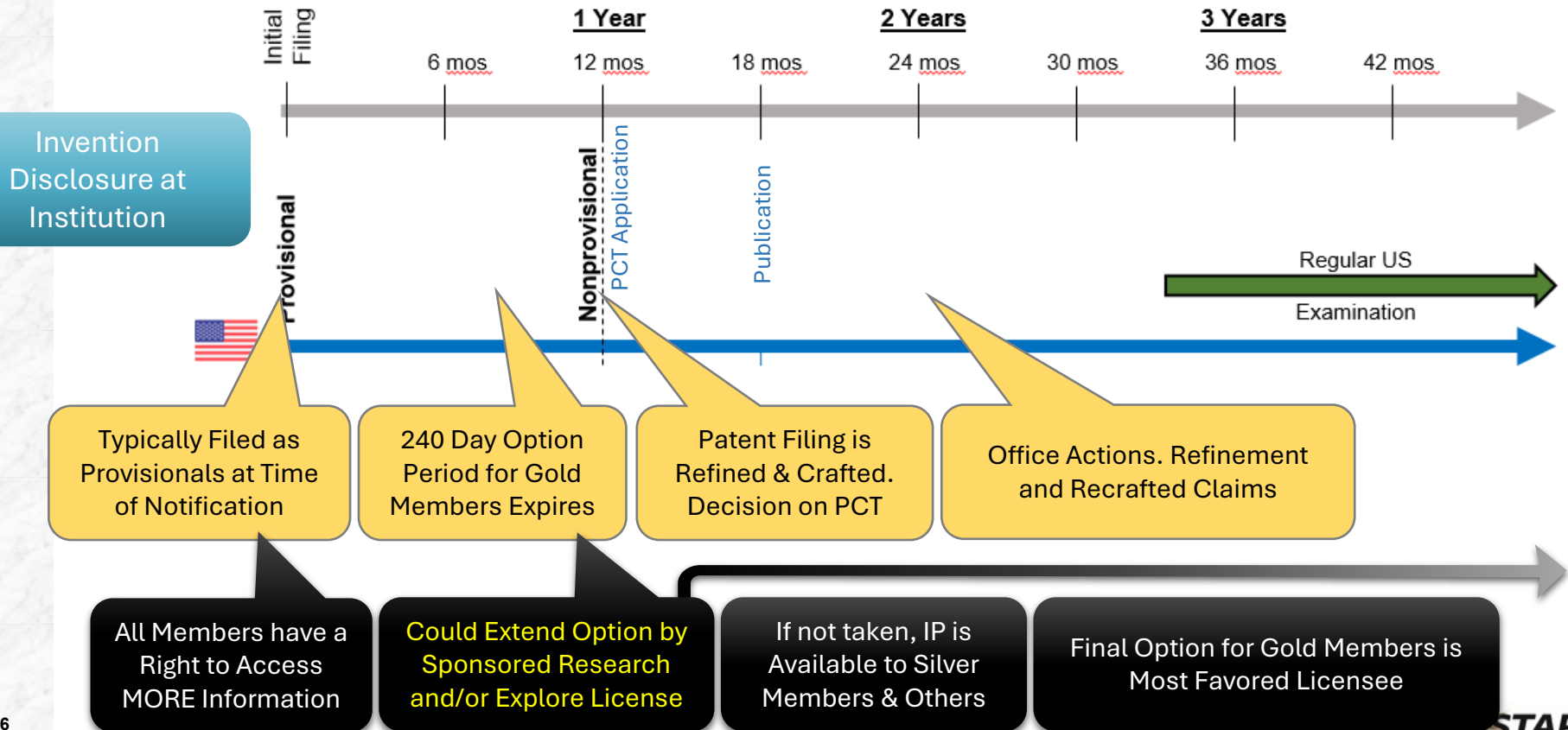
# Costs

# Inventions & Licensing

Year	Allowed us USPTO	Pending	Discontinued
2018			NU-2018-089 (Thrust 3 NU)
2019	2019-AGRA-68561 (Thrust 4 PU) us 2019-AGRA-68561 (Thrust 4 PU) us 2019-MILL-68538 (Thrust 2 PU) us		UNMRI-2020-019 (Thrust 6 UNM)
2020	2020-AGRA-68814 (Thrust 4 PU) us 2020-AGRA-69108 (Thrust 4 PU) us 2020-AGRA-69109 (Thrust 4 PU) us		UND-20-035 (Thrust 1 UND) UND-20-051 (Thrust 6 UND) UND-20-052 (Thrust 6 UND) NU-2020-057 (Thrust 1 NU)
2021	UTA-7705-FRE (Thrust 6 UTA) us 2021-GOUN-69167 (Thrust 2 PU) us		NU-2020-254 (Thrust3 NU) UNMRI-2021-057 (Thrust 3 UNM)
2022		2021-MILL-69319 (Thrust 1 PU) 2021-MILL-69587 (Thrust 1 PU)	UND 22-061 (Thrust 1 UND) UND 22-065 (Thrust 1 UND)
2023		2023-GOUN-70038 (Thrust 2 PU) 2022-AGRA-69826 (Thrust 4 PU) 2023-GOUN-70195 (Thrust 3 PU) 2023-GOUN-70213 (Thrust 3 PU) 2023-GOUN-70214 (Thrust 3 PU)	
2024		2024-AGRA-70601 (Thrust4_PU) 2024-AGRA-70615 (Thrust 4_PU) 2025-GOUN-70875 (Thrust 2_PU)	

# Inventions & IP

## US PROVISIONAL + NONPROVISIONAL



# Closing Comment

IP is a key Value Proposition