

INTELLECTUAL PROPERTY INTRODUCTORY SEMINAR

ELECTRICAL ENGINEERING DEPARTMENT
CENTER FOR INNOVATION AND ENTREPRENEURSHIP (CIE)
ROWAN UNIVERSITY
SEPTEMBER 2011
KIMBLE BYRD

PART I

UNDERSTANDING INTELLECTUAL PROPERTY: CREATING, DEFINING, PROTECTING

<http://www.youtube.com/watch?v=2ASVKxM5JKY>

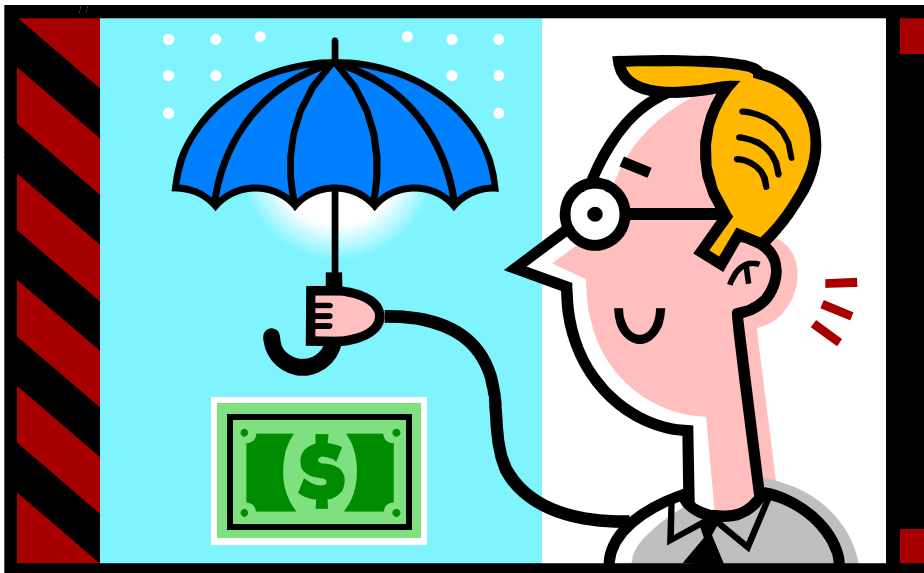
<http://www.youtube.com/watch?v=5EkkMfjetEY&feature=related>

INTELLECTUAL PROPERTY

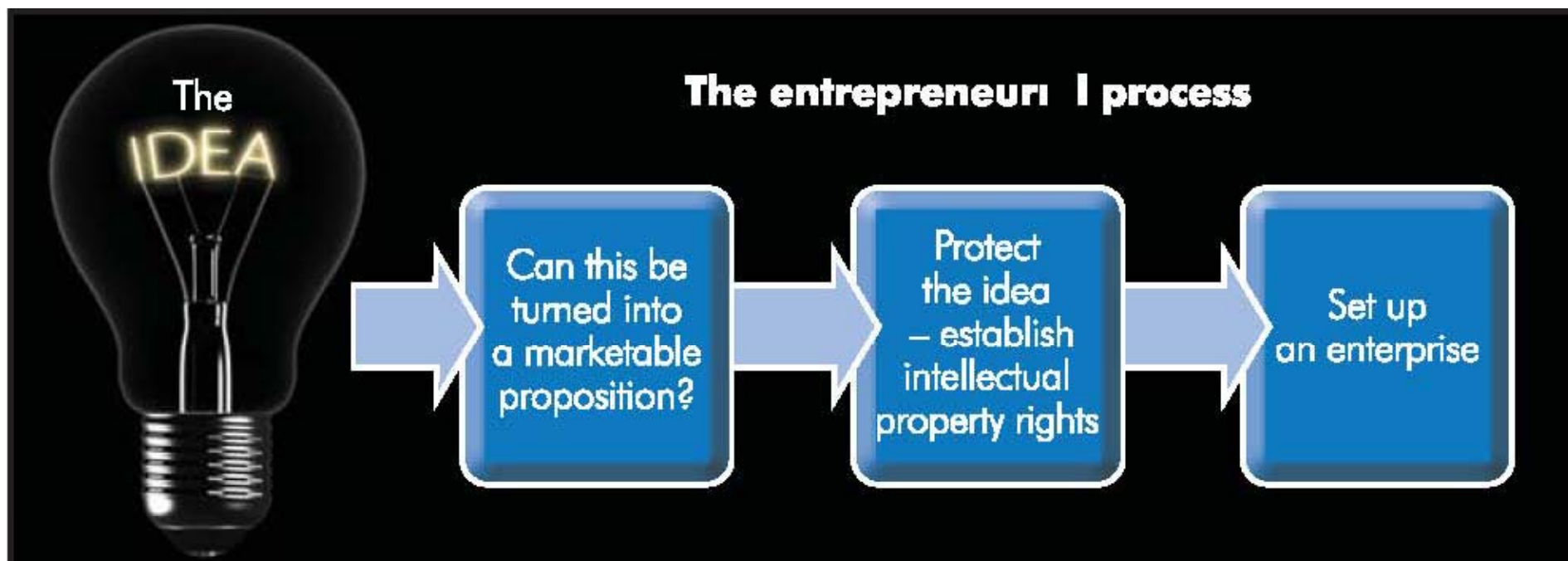


- **TRADE SECRETS**
- **TRADEMARKS**
- **COPYRIGHTS**
- **PATENTS**

IMPORTANCE OF IP



- OBTAIN/MAINTAIN COMPETITIVE ADVANTAGE(PHARMA)
- CREATE REVENUE STREAM(HARLEY)
- CREATE AND PRESERVE VALUABLE BUSINESS ASSETS(COCA-COLA)



COMMON IP MISTAKES



Not properly identifying
all of their
intellectual property.

Not fully recognizing
the value of their
intellectual property.

Not legally protecting the
intellectual property
that needs protecting.

Not using their
intellectual property as
part of their overall
plan for success.

Intellectual Property Business Issues



- IDENTIFYING IP = What is “created” in a new intellectual property concept?
- PROTECTING, MONITORING, MAINTAINING AND POLICING IP = What steps can be taken to “protect” a new intellectual property concept?
- USING IP = What can be done to “commercialize” a new intellectual property concept?

Trade Secrets

- Information such as formulas, patterns, devices, etc. that derive value from not being known and are not readily ascertainable.
- Any information commonly known or in common use cannot be a trade secret
- Conveys the right to prevent others from copying, using, and benefiting from the secret.

<http://www.theglobalipcenter.com/videos/profiles-ip-modumental>

TRADE SECRET TYPES

- ❑ **FORMULAS**
- ❑ **CUSTOMER LISTS**
- ❑ **STRATEGIC PLANS**
- ❑ **PRODUCTION TECHNIQUES**
- ❑ **INSTRUCTIONAL METHODS**
- ❑ **DOCUMENT-TRACKING PROCESSES**
- ❑ **R&D**
- ❑ **MARKETING CAMPAIGNS**



PROTECTION



- **IDENTIFYING TRADE SECRETS**
SOFTWARE COMPANY: SOURCE CODE; SENSITIVE COMPUTER FILES; DOCUMENTATION

- **INTERNALLY: SECURING EMPLOYEE COMMITMENT**
 - **PREEMPLOYMENT CLEARANCE**
 - **NONDISCLOSURE AGREEMENT**
 - **NONCOMPETITION AGREEMENTS**
 - **EMPLOYEE EDUCATION**
 - **EXIT INTERVIEW/AGREEMENT**

- **EXTERNALLY: OUTSIDERS**
 - **NONDISCLOSURE AGREEMENTS**
 - **NONSOLICITATION AGREEMENTS**
 - **FACILITY AND ELECTRONIC SECURITY**

Trademarks

- Symbol, logo, word, sound, color, design, or other device used to identify a business or product
- Holder has right to exclude others from using confusingly similar marks
 - Counterfeiting and misappropriation
 - Infringement, when a mark can cause confusion
 - Dilution, when use dilutes the value of the mark to the owner
- For valid trademark, must show intent-to-use or that the mark is in use in interstate commerce.

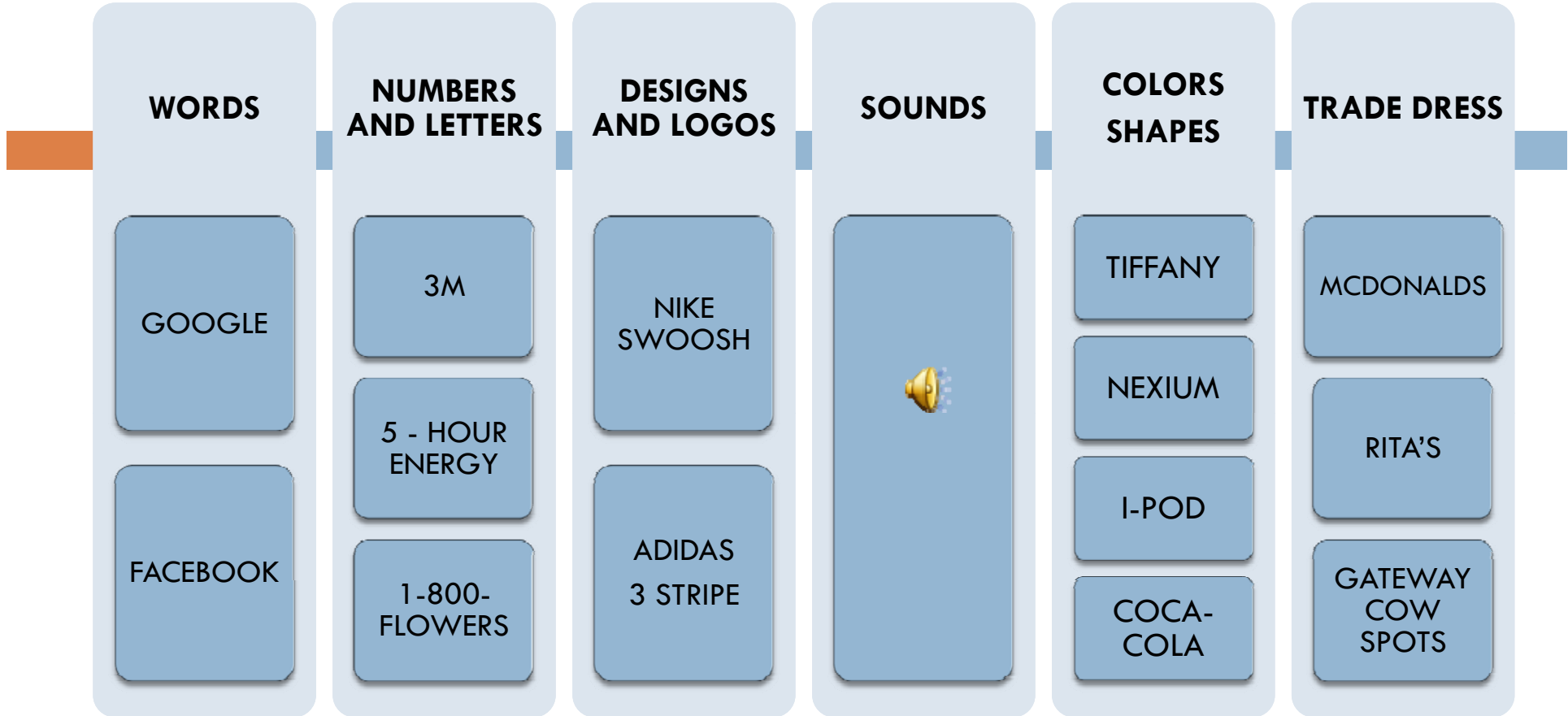
TRADEMARK SCOPE



Name is trademarked

Symbol is trademarked

Slogan is trademarked



PROTECTIONS UNDER TRADEMARK LAW

TRADEMARK

- **IDENTIFIES COMPANY OR PRODUCT**
- DELL, NOKIA, NETFLIX

SERVICE MARK

- **IDENTIFIES ACTIVITIES OF BUSINESS**
- HOLIDAY INNS, USAIRWAYS

COLLECTIVE MARK

- **IDENTIFIES COLLECTIVE GROUP**
- YMCA, IFA,

CERTIFICATION MARK

- **IDENTIFIES QUALITY OR ORIGIN**
- FLORIDA ORANGES, ISO 9000

TYPES OF TRADEMARKS

TRADEMARK BASICS

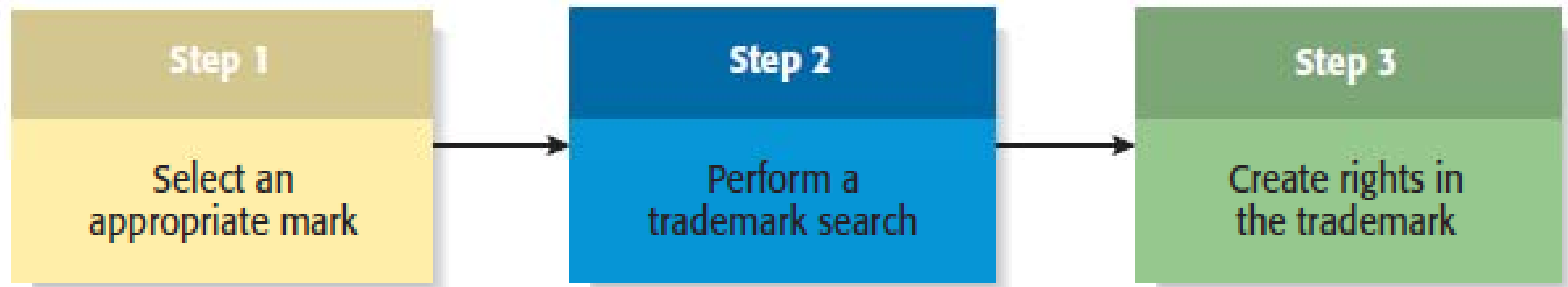


- LANHAM ACT

- CLASSIFICATIONS OF “DISTINCTIVENESS”
 - ARBITRARY OR FANCIFUL
 - SUGGESTIVE
 - DESCRIPTIVE
 - SECONDARY MEANING

- ACQUIRING RIGHTS
 - FIRST TO USE IN COMMERCE
 - FIRST TO REGISTER

TRADEMARKING PROCESS



WHAT IS PROTECTED?

- <http://cyberlaw.stanford.edu/documentary-film-program/film/a-fair-y-use-tale>
- LITERARY WORKS
- MUSICAL COMPOSITIONS
- COMPUTER SOFTWARE
CSCA
- DRAMATIC WORKS
- CHOREOGRAPHIC WORKS
- PICTORIAL, GRAPHIC AND
SCULPTURAL WORKS



COPY-RIGHTS?



- ▣ **REPRODUCE**
- ▣ **DERIVE**
- ▣ **DISTRIBUTE**
- ▣ **PERFORM AND DISPLAY**

PATENT REQUIREMENTS



Useful

It must have utility.

Novel

It must be different from what has come before (i.e., not in the "prior art").

Not Obvious

It must be not obvious to a person of ordinary skill in the field.

IS IT PATENTABLE?

FIVE CLASSES OF PATENTS

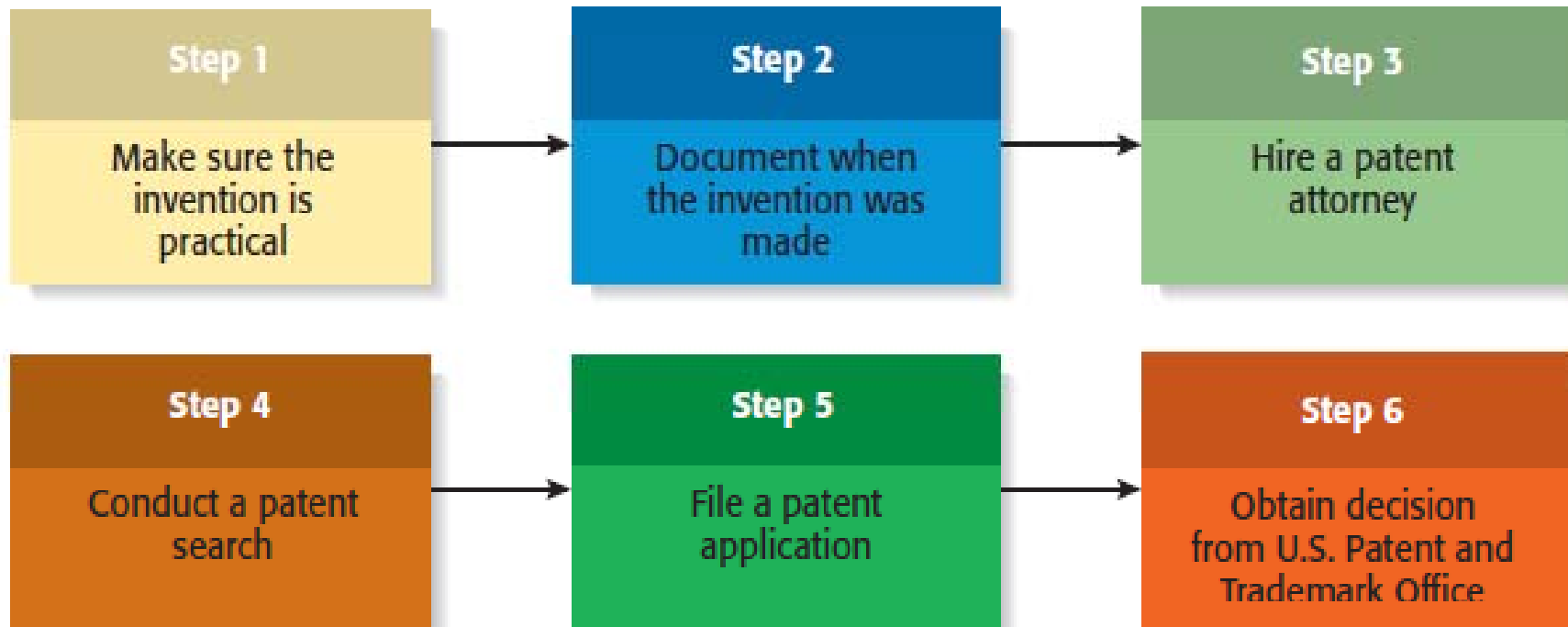


1. MACHINE OR SOMETHING WITH MOVING PARTS OR CIRCUITRY (E.G., FAX, ROCKET, PHOTOCOPIER, LASER, ELECTRONIC CIRCUIT).
2. PROCESS OR METHOD FOR PRODUCING A USEFUL AND TANGIBLE RESULT (E.G., CHEMICAL REACTION, METHOD FOR PRODUCING PRODUCTS, BUSINESS MODEL).
3. ARTICLE OF MANUFACTURE (E.G., FURNITURE, TRANSISTOR, DISKETTE, TOY).
4. COMPOSITION OF MATTER (E.G., GASOLINE, FOOD ADDITIVE, DRUG, GENETICALLY ALTERED LIFE-FORM).
5. A NEW USE OR IMPROVEMENT OF SOMETHING FROM THE FIRST FOUR CATEGORIES.

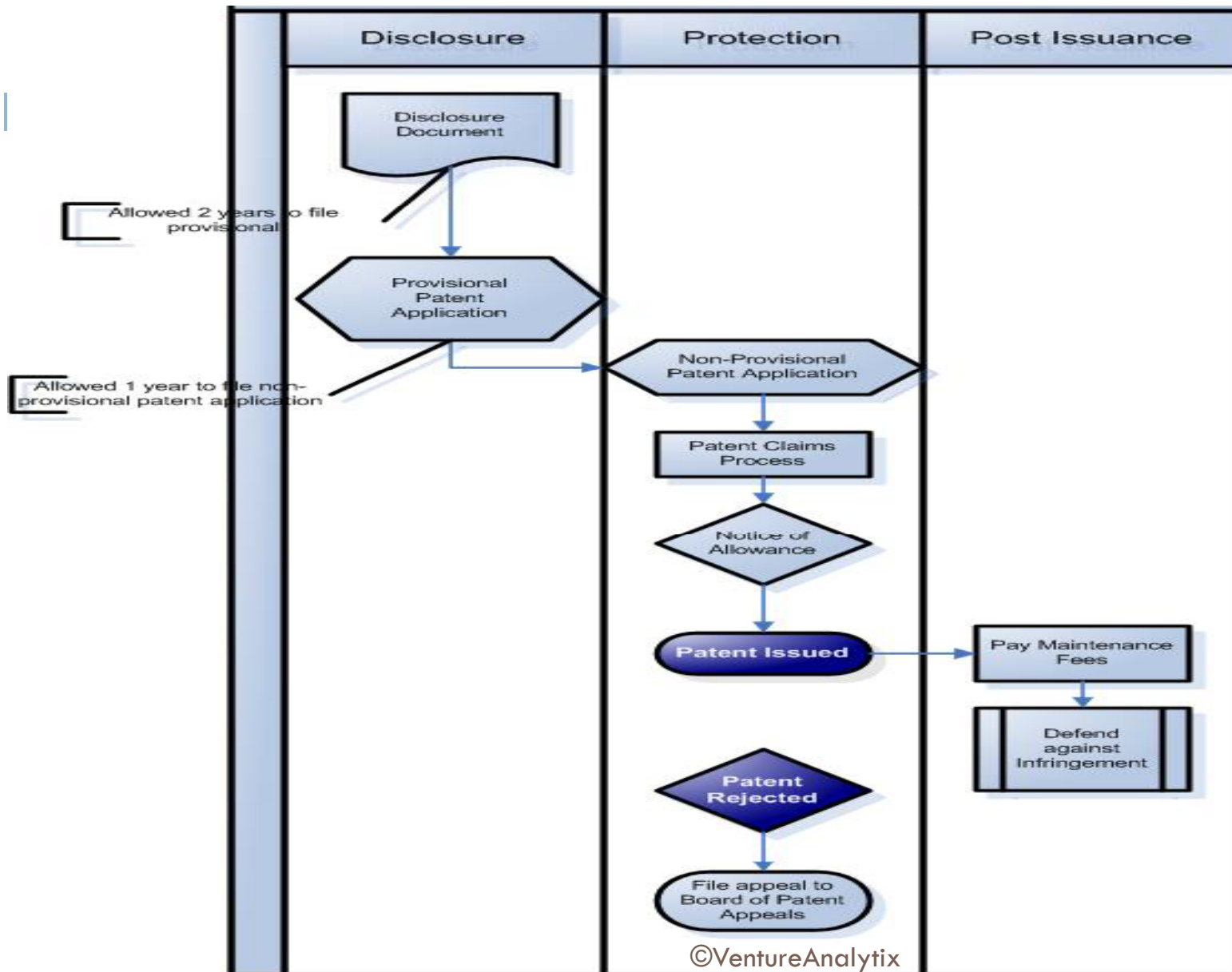
Types of Patents

- **Utility patents**
 - ▣ Functional part of a machine or process
 - ▣ Endure for 20 years from date of application
- **Business method patents**
 - ▣ A form of utility patent under the classification of process
 - ▣ Amazon “one-click”
- **Design patent**
 - ▣ Visual ornamental characteristics of an article of manufacture
 - ▣ Endures for 14 years from date of application
- **Plant Patent**
 - ▣ New and distinct varieties of asexually reproducing plants
 - ▣ Endures for 20 years from date of application

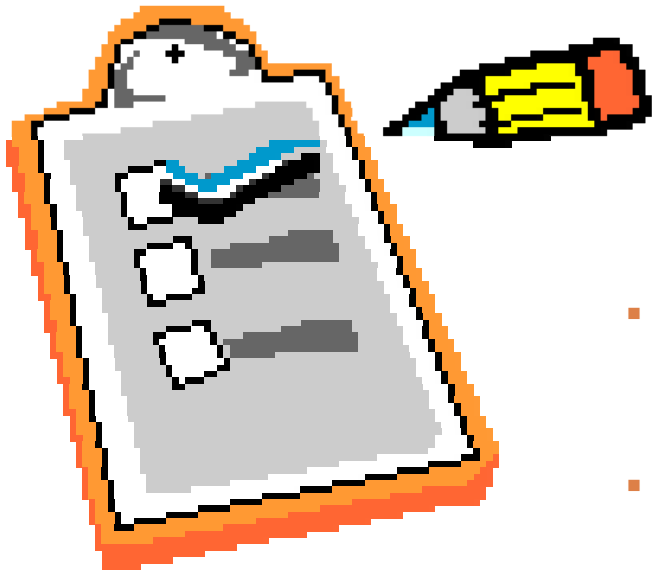
PATENTING PROCESS



Patent Filing



PATENT APPLICATION



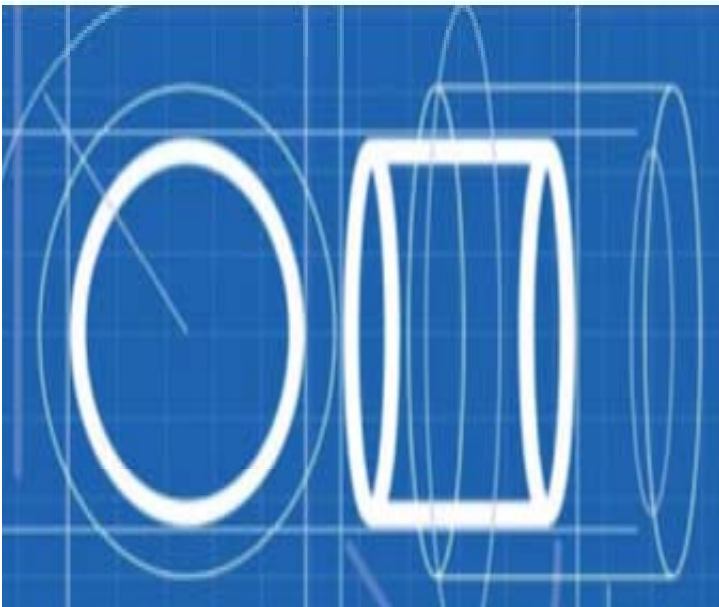
- **WHO MAY FILE**
 - INVENTOR
 - EMPLOYER/EMPLOYEE
 - EMPLOYEE IS INVENTOR WHO MUST FILE
 - CONTRACT CLAUSES ASSIGN RIGHTS TO EMPLOYER
 - SHOP RIGHTS PROVIDE NON-EXCLUSIVE LICENSE TO EMPLOYER
- **WHEN TO APPLY**
 - RECORD EVENTS PROVING CONCEPTION AND DILIGENT REDUCTION TO PRACTICE
- **WHAT**
 - SUMMARY OF THE INVENTION
 - ENABLEMENT, SUFFICIENT DISCLOSURE FOR ONE SKILLED IN THE ART CAN MAKE
 - BEST MODE
 - CLAIMS
 - INFORMATION DISCLOSURE

EXERCISE #2 THE PATENT SEARCH

□ USPTO - WWW.USPTO.GOV

□ DELPHION - WWW.DELPHION.COM/GALLERY

□ GOOGLE PATENTS – WWW.GOOGLE.COM/PATENTS



SEARCHING

USPTO PATENT FULL-TEXT AND IMAGE DATABASE

[Home](#)[Quick](#)[Advanced](#)[Pat Num](#)[Help](#)[View Cart](#)

Data current through 04/19/2005

Query [\[Help\]](#)

Examples:
ttl/(tennis and (1
isd/1/8/2002 an
in/newmar-julie

Select Years [\[Help\]](#)

1790 to present [entire database]
1976 to present [full-text]
1790 to present [entire database]
1790 to 1975 [PN and CCL only]

Searchable only by Patent Number and Current US

Field Code	Field Name	Field Code	Field Name
PN	Patent Number	IN	Inventor
ISD	Issue Date	IC	Inventor
TTL	Title	IS	Inventor
Δ PRT	Δ Abstract	ICN	Inventor

Get yourself a pen or pencil and paper. Think of all the words that you can use to describe an invention and write them down. Try to think of words that uniquely describe a certain invention and not words that could describe anything. Try for one word, two words or more to describe an invention. The words you come up with are the "**keywords**" that you will be using to patent search for the invention you want to research.

Foreign Patents

□ European Patent Convention

- Patent rights to first to file
- Publication or availability for sale before filing bars the right to file

□ United States

- Patent rights to first to invent
- Invention can be available for sale up to one year prior to filing

- Patent Cooperation Treat permits inventor to file a blanket application in home country

- 30 months to file in individual countries

- <https://uspto.connectsolutions.com/gipaipenforcementenglish/>

-

PATENTS VS. TRADE SECRETS



TRADE SECRETS

- PROS
 - ▣ INDEFINITE PROTECTION
 - ▣ IMPLEMENTED INTERNALLY
- CONS
 - ▣ NO REVERSE ENGINEERING PROTECTION
 - ▣ RECAPTURE DIFFICULT

PATENTS

- PROS
 - ▣ OWNER PREVENTION
 - ▣ LICENSING LEVERAGE
 - ▣ PROVISIONAL INEXPENSIVE
- CONS
 - ▣ INFO PUBLICLY DISCLOSED
 - ▣ PROTECTION HAS A FINITE TERM

An Effective Patent Strategy

- Establishes a temporary monopoly
 - ▣ First-mover advantage
- Improves financial performance
 - ▣ Majority of assets reside in IP – use as revenue generators
 - ▣ Save money by using as bargaining chips
- Increases competitiveness
 - ▣ First mover advantage
 - ▣ Can be licensed
 - ▣ Patents of competitors yield important intelligence

Competitive Strategies

- **Create a patent wall**
 - **Barrier of multiple, interlocking patents**
 - **Bracketing – when derivative inventions that surround the original patent lock a competitor out of the market.**
- **Run**
 - **Introducing a constant stream of patented innovation to stay ahead of competitors**
- **Build a coalition – invite competitors to use**
 - **To increase likelihood that the technology becomes the dominant design**
 - **Increase demand from distributors and end users**
 - **Enhance the company's current capabilities**
 - **Take advantage of network effects**
 - **Enter markets previously unattainable**

INFRINGEMENT



- When a party other than the inventor or legal licensee makes and sells a product that contain every one of the elements of a claim in the patent.
- Successful prosecution of an infringer will result in a reasonable royalty and an injunction to prevent further use.
- Defendants bear the burden of proving the patent is invalid.
- Courts tend to favor inventors

PART II

MEMORIALIZING INTELLECTUAL PROPERTY

First to Invent –Scenarios

- Party 1 was first to conceive and reduce to practice, regardless of diligence. Party 1 prevails.
- Party 1 was the first to conceive but Party 2 was the first to reduce to practice. Party 1 failed to show diligence. Party 2 prevails.
- Party 1 was the first to conceive and was diligent to reduce the invention to practice, although Party 2 was the first to reduce to practice. Party 1 will prevail.

Why are Lab Notebooks Important?



- It is good scientific practice
- Benefit you in preparing a manuscript, thesis or presentation
- Best sources of evidence for establishing a date of invention
- Lab Notebooks may be only way of recalling actual events which occurred at a particular time

BASICS



Maintain as Confidential Documents

- Use Permanently Bound Notebooks
 - –Consecutively numbered pages
 - –Good paper quality
 - –Used by a single researcher
 - –Used for a single project
- Notebooks should be used as a diary of researcher's daily activities, not as a data repository
 - –Sufficient detail to enable duplication
 - –Factually Complete

BASICS

Entries

- Enter data as work is performed
- Legible
- Black permanent ink, no highlighters or markers
- Do not use abbreviations, slang, code names or product codes without defining them clearly
- Be consistent with nomenclature
- Do not skip pages or leave empty spaces at bottom of page
- Never tear out or remove page from notebook

Researcher Signature

- Sign and date each page
- Do not change entry after signature has been added, additional information or correction should be with new entry

CONTENT

- Ideas, in particular -how to a solve problem
- Descriptions of Experiments
 - –Purpose
 - –Materials, Equipment (Calibration)
 - –Experimental Procedure
 - –Data, observations
 - –Results, data reduction, graphs
 - –Conclusions
- All activities should be accounted for, even if it is only to note that you were waiting for sample analysis that resulted in delay in progress
- State reasons for not working on a project for any period of time.
- It is just as important to record failures as it is to record successes. A list of failed experiments may even be powerful evidence of unobviousness.

LAB NOTEBOOK EXAMPLE

DATE → **SUBJECT** → **PAGE NUMBER** → **ATTACHMENT WITH SIGNATURE AND DATE** → **EMPTY SPACE WITH INITIALS** → **RESEARCHER SIGNATURE AND DATE** → **WITNESS SIGNATURE AND DATE**

Page 8: Date: May 11, 1999. Subject: Preparation of 4-ethyl-5-substituted benzimidazole using Nitrogen Oxide. Includes chemical structures, NMR data, and a ChemNMR Prediction Result plot.

Page 9: Date: May 11, 1999. Subject: Preparation of 4-ethyl-5-substituted benzimidazole using Nitrogen Oxide. Includes calculations, a note about a sample, and a large diagonal line with initials. Includes a signature and date at the bottom.

STORAGE AND RETENTION



- Takes from 2-6 years for a US patent application to issue
- In addition, a patent may be litigated at any time during the life of the patent (either 17 years from the date of issue or 20 years from the patent application date, depending on the patent)
- Therefore, store notebooks in a cool, dry place away from potentially damaging light, corrosive agents and organic fumes

WITNESS



- –University non-inventor/non-collaborator
 - –Has read and understands work
 - –Preferably witnesses work in entirely different lab
 - –Signs each page of notebook
- Time:
- –Obtain signature of witness within 1 week
 - –Witnessed immediately for significant research advances, results and potential inventions

PART III

COMMERCIALIZING INTELLECTUAL PROPERTY

Licensing Intellectual Property

- Licensing: a grant to another party that permits development, manufacture, distribution, and use of the licensor's IP.
- Advantages of licensing
 - ▣ Platform technologies have too many applications for one company to handle
 - ▣ Inventor company does not have the resources to develop applications
 - ▣ May be more profitable
 - ▣ Reach multiple markets without the expense of distribution channels
 - ▣ In-licensing can help build capability

CREATING REVENUE STREAMS



1. **DIRECT USE AND APPLICATION IN COMPANY'S CORE BUSINESS**
 2. **LICENSED FOR LIMITED USE**
 3. **LICENSED FOR LIMITED GEOGRAPHICAL USE**
 4. **LICENSED FOR NONEXCLUSIVE USE**
 5. **LICENSED FOR R&D**
 6. **LICENSED FOR AFTERMARKET SERVICE PROVIDER**
- (AJ SHERMAN 2002)

LICENSING



- **OUTWARD LICENSING**
 - **SOURCE OF INCOME**
 - **MARKET ENTRY - ABILITY TO EXPLOIT UNFAMILIAR MARKETS**
 - **OTHER GROWTH OPTIONS NOT AVAILABLE**
- **INWARD LICENSING**
 - **SOURCE OF TECHNOLOGY – SUPPLEMENT PRODUCT LINE**
 - **ENHANCE CAPABILITY - ABILITY TO EXPAND FASTER WITHIN YOUR MARKET**
 - **DIVERSIFICATION**

Licensor's Perspective

- Decide what will be licensed
- Define the benefits to the licensee
- Determine the value of the license
 - ▣ The economic life of the IP
 - ▣ Potential for direct competition
 - ▣ Potential for negative government legislation or regulation
 - ▣ Changes in market conditions that might obsolete the technology
- Conduct market research
- Screen candidates
- Manage the license

Licensee's Perspective

- Search for the right technology
 - ▣ Does the technology work in the way the licensor claims?
 - ▣ On what measures are the performance data calculated?
 - ▣ Will the licensor provide any guarantees of the technology's performance?
 - ▣ Is the technology completely owned by the licensor or does the licensee also have to be concerned about another party and their role in the process?
- Prepare a business plan
- Negotiate the type of license
 - ▣ Exclusive
 - ▣ Non-exclusive

LICENSING



ADVANTAGES

- **USEFUL TOOL TO REACH A MARKET**
- **MEANS TO GAIN RIGHTS IN IMPROVEMENTS**
- **URNS A COMPETITOR INTO AN ALLY**
- **SYNERGY SOLUTION**
- **DIRECT EVOLUTION OF TECHNOLOGIES**

DISADVANTAGES

- **SELF-USE MORE LUCRATIVE**
- **CANNIBALIZATION**
- **DEPENDENCE**

AREAS OF INNOVATION



**PRODUCT
INNOVATION**

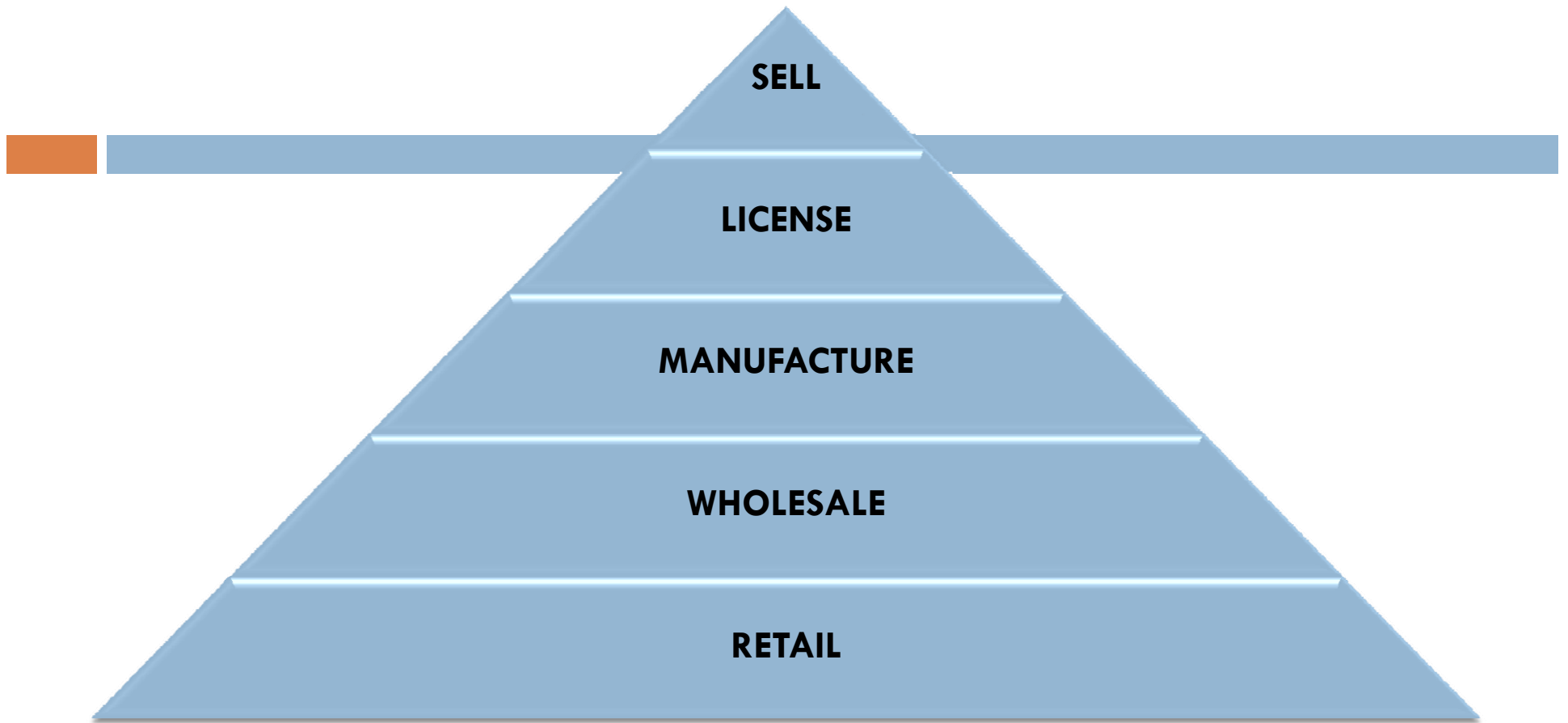


**PROCESS
INNOVATION**



**SERVICE
INNOVATION**





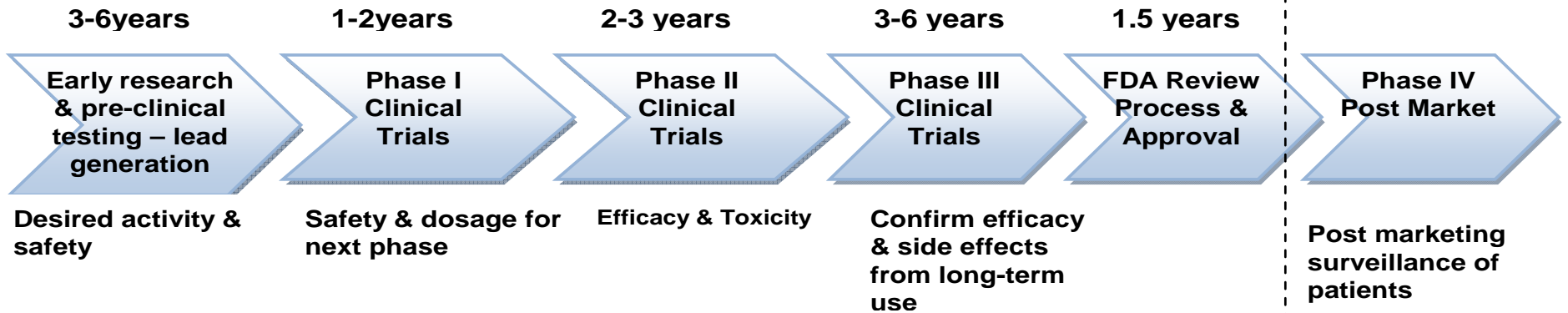
“COMMITTMENT PYRAMID”

A Regulatory Strategy

7-51

PHARMA BIOTECH

11-16 YEARS



RESEARCH

DEVELOPMENT

COMMERCIALIZATION

AG BIOTECH

8-14 YEARS

