



# INTELLECTUAL PROPERTY: How to Build, Protect and Create IP Value for Your Federal Award

by

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# What is Intellectual Property (IP)?

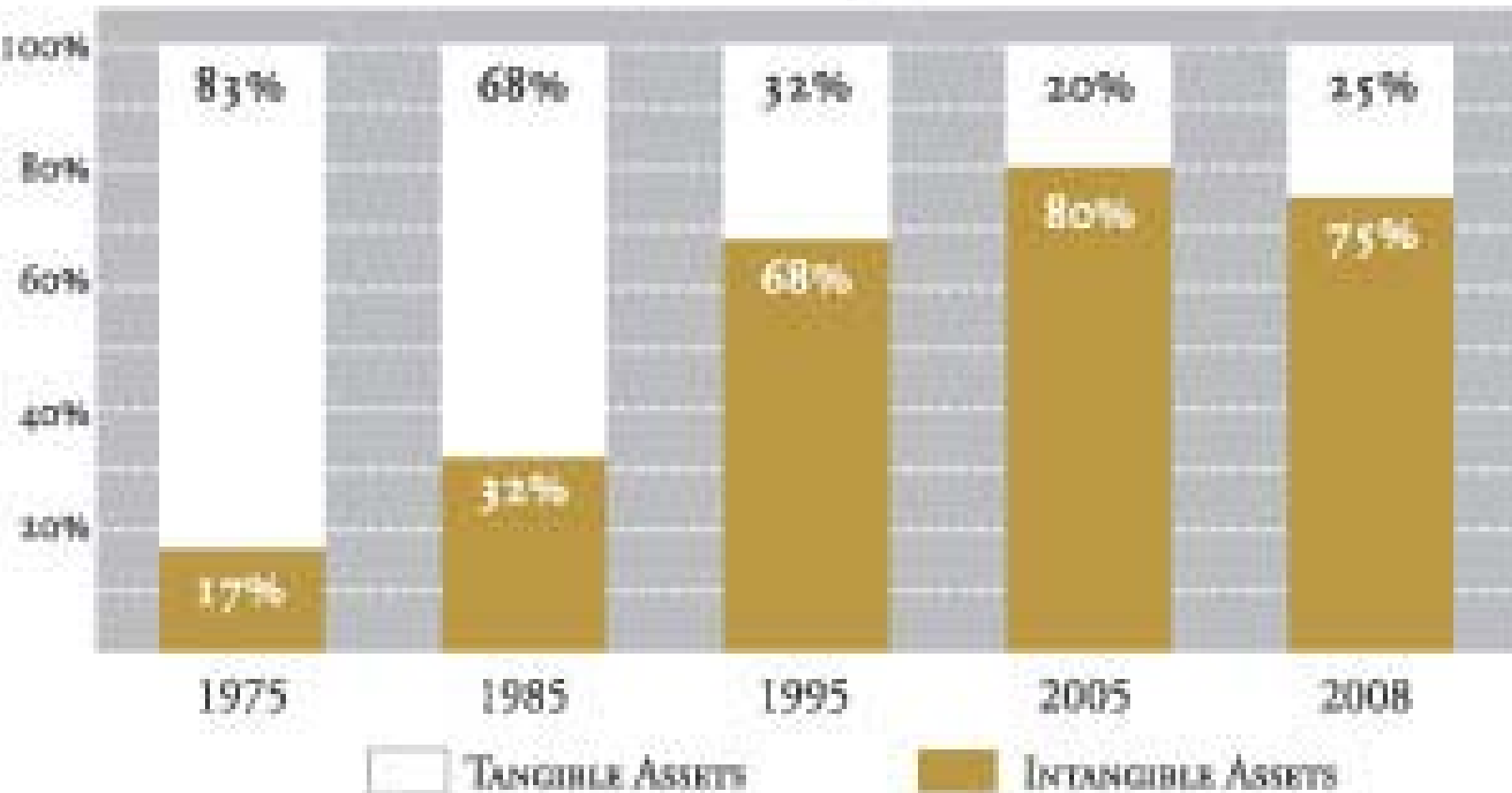
- An intangible product of the intellect
- Free for anyone to use unless protected
- Must be placed in a “vessel”
- Can be sold, rented, licensed, etc.
- Some rights allocated by regulation in SBIR/STTR/university grant projects
  - technical data
  - subject inventions

# WHY SHOULD YOU CARE?

INTELLECTUAL PROPERTY RIGHTS  
MAY BE THE ONLY ASSET REMAINING  
AFTER THE RESEARCH PROJECT ENDS

INTELLECTUAL PROPERTY RIGHTS  
CAN SIGNIFICANTLY INCREASE  
THE VALUE OF YOUR COMPANY

# COMPONENTS OF S&P 500 MARKET VALUE



Source: Credit Times

# Types of Intellectual Property

- Patents – 12 month priority period
  - Utility (technology), design and plant
- Plant variety
- Trade secret
- Copyright
- Semiconductor mask work
- Trademark/service mark – 6 month priority period
- Trade dress

# Trade Secret

- Any formula, pattern, device or information used in one's business that has commercial value or that provides its owner with a competitive advantage
- Sufficiently secret that use of improper means is necessary to acquire it
- A competitor may use legal means (e.g., reverse engineering) to independently discover the secret
- Term: until the subject matter enters the public domain
- If you don't act like it's a trade secret, it isn't.

# Technical Data in SBIR/STTR

- Any recorded technical information developed in performance of award
  - reports, invention disclosures
  - software documentation
  - probably does not include prototypes/samples
- Rights retained by small business for four (or five) years after each phase of project, but only if properly marked before delivery
- After those periods, Government may release or disclose to others, or permit others to use the data!!

# Rule No. 1

Practice (but do not rely on) trade secret protection of intellectual property developed during SBIR or STTR projects (or grant-funded university projects).

Mark proprietary information in your proposals in accordance with the instructions in the solicitations.

Read your agreement. If you deliver technical data, mark it in accordance with your agreement to delay its potential release.

Do not voluntarily deliver prototypes or samples that disclose your trade secrets.

# Subject Inventions in SBIR/STTR

- What is included?
  - patentable technology, design or plant
  - protectable plant variety
- How does a discovery qualify?
  - invention conceived or first actually reduced to practice in performance of work
  - date of determination of plant variety within period of performance

# Rule No. 2

Make sure the members  
of your project team  
can identify a subject invention  
when they see one  
and understand their obligation  
to document it and disclose it to you  
(or risk breaching your contract)

# Examples of Patentable Technologies

- Mechanical, electrical, optical devices
- Isolated microbial cultures, DNA, RNA
- Plants, plant parts and seeds
- Genetically-engineered non-humans
- Ways of making or operating things
- Business methods, including techniques used in athletics, instruction, or personal skills
- Software systems, processes, user interfaces

Anything under the sun, made by Man,  
but not by Bilski

# Patentability Criteria

- **Legal**-(required to report? can patent?)
  - Appropriate subject matter
  - Useful, novel, would not have been obvious to an ordinary practitioner in the field
- **Practical**-(business reason to patent?)
  - Valuable
  - Long economic life
  - Enforceable
  - FUD-(Fear, Uncertainty, Doubt)

# Types of Utility Patent Applications

- Provisional U.S. patent application
  - Asserts priority of invention internationally
- Regular (nonprovisional) U.S. patent application
  - Contains claims; is examined; can issue
- International (PCT) patent application
  - Does not issue as a patent
  - Must be filed within 12 months of priority date
- Regional patent application (e.g., EPO)
- Non-U.S. patent application

# Bars to Patentability in U.S.

- More than one year before U.S. filing date
  - Offered for sale in the U.S. (not an experiment)
  - Used in public in the U.S. (not an experiment)
  - Enabled in a publication or patent anywhere
- Before date of invention
  - Publicly known in U.S.
  - Enabled in a publication or patent anywhere
  - Enabled in a U.S. patent application by another

# U.S. Inventorship Criteria

- An inventor must contribute to the conception (“thinking up”) of a claimed invention (he/she may not have built it)
- Joint inventors must be actual inventors
- Inventor(s) must be diligent in having the invention reduced to practice—by having it built and tested or by filing a patent application
- Inventorship can be lost by abandonment or concealment

# Absolute Novelty Requirement

- Almost all other countries follow “first to file” rule and require “absolute novelty”
- Under European Patent Office absolute novelty rules, the following can render an invention unpatentable:
  - Everything **made available to the public** by means of a written or oral description, by use, or in **any other way**, before the filing date.
  - The information given to a skilled person **must be sufficient to enable** him/her, at the relevant date, to practice the invention, taking into account also the general knowledge at that time in the field to be expected of him/her.

# Rule No. 3

Be sure to have your permanent written record of conception and diligence in reduction to practice witnessed contemporaneously.

File your patent applications before a bar to patentability arises.

# Allocation of Rights in SBIR

- Small business (or subcontractor) may retain title to a subject invention
  - depends on who thought up or discovered the invention
  - cannot require subcontractors to give up rights as a condition of hiring them
- Government receives a non-exclusive, nontransferable, irrevocable, paid-up, worldwide license for Government use

# Model Agreements with STTR Research Institutions

- **Warning:** these agreements allocate intellectual property rights; model agreements on agency websites are only examples; every clause is negotiable by the signing parties
- Consider deleting these clauses:
  - “In addition to the Government's rights under the Patent Rights clause of 37 CFR 401.14, the Parties agree that the Government shall have an irrevocable, royalty free, nonexclusive license for any governmental purpose in any Project Intellectual Property.”
  - “The Parties will indemnify and hold harmless the Government with regard to any claims arising in connection with commercialization of the results of this STTR project.”

# Rule No. 4

It is often a good idea for the “conception” and the “first actual reduction to practice” portions of a SBIR or STTR project to be performed by employees of the small business recipient of the award who have signed employment agreements assigning inventions to the business.

Have written research agreements that comply with the CREATE Act in place before inventing begins.

# SBIR/STTR Responsibilities

- Report invention to Government within two months of disclosure by inventor(s).
- Elect to retain title within two years of initial report.
- File a nonprovisional U.S. patent application within one year of election or before a bar arises.
- File non-U.S. patent applications within ten months of U.S. filing or before a bar.

# Federal Acquisition Regulation (FAR)

## SBIR Data Definitions

- “Data” means **recorded information** and includes technical data and computer software.
- “Technical data” means recorded information of a **scientific or technical nature** (including computer databases and computer software documentation).
- “Form, fit, and function data” means data relating to items, components, or processes that are sufficient to **enable physical and functional interchangeability**, and data identifying source, size, configuration, mating and attachment characteristics, functional characteristics, and performance requirements.
- “SBIR data” means data **first produced by an Awardee in performance of a SBIR or STTR award**, which data are **not generally known**, and which data (without obligation as to its confidentiality) have **not been made available to others** by the Awardee or are not already available to the Government.

# More FAR SBIR Data Definitions

- “Computer software” means (i) **computer programs**; and recorded information comprising source code listings, design details, algorithms, processes, flow charts, formulas, and related **material that would enable the computer program to be produced, created, or compiled.**
- “Limited rights data” means data (other than computer software) **developed at private expense that embody trade secrets** or are commercial or financial and confidential or privileged.
- “Restricted computer software” means **computer software developed at private expense and that is a trade secret**, is commercial or financial and confidential or privileged, or is **copyrighted computer software**, including minor modifications of the computer software.

# FAR Allocation of Data Rights

- Government has unlimited rights in:
  - Data to be delivered without restriction
  - Form, fit and function data
  - Manuals or instructional and training material needed for operation and maintenance of delivered items
- Awardee has the right to:
  - Assert copyright in data first produced in performance of contract
  - Protect data with SBIR Data Rights Notice
  - Withhold from delivery limited rights data or restricted computer software

# FAR SBIR Rights Notice

SBIR Rights Notice (Dec 2007)

These SBIR data are furnished with SBIR rights under Contract No. \_\_\_\_\_ (and subcontract \_\_\_\_\_, if appropriate). **For a period of 4 years**, unless extended in accordance with FAR 27.409(h), after acceptance of all items to be delivered under this contract, the Government will use these data for Government purposes only, and they **shall not be disclosed outside the Government** (including disclosure for procurement purposes) during such period without permission of the Contractor, except that, subject to the foregoing use and disclosure prohibitions, these data may be disclosed for use by support Contractors. **After the protection period, the Government has a paid-up license to use, and to authorize others to use on its behalf, these data for Government purposes**, but is relieved of all disclosure prohibitions and assumes no liability for unauthorized use of these data by third parties. This notice shall be affixed to any reproductions of these data, in whole or in part.

(End of notice)

# FAR Copyrights

- Affix required copyright notice and acknowledgement of support to published data first produced in performance of contract
  - © + year first published + name of owner
- For other than computer software:
  - Government has paid-up, nonexclusive, irrevocable, worldwide license to reproduce, prepare derivative works, distribute to the public and perform or display publicly, by or on its behalf
- For computer software:
  - Government has same rights, except no right to distribute to the public

# DFARS SBIR Data Rights Notice

## SBIR DATA RIGHTS

Contract No.

Contractor Name

Contractor Address

Expiration of SBIR Data Rights Period

The Government's rights to use, modify, reproduce, release, perform, display, or disclose technical data or computer software marked with this legend are restricted during the period shown as provided in paragraph (b)(4) of the Rights in Noncommercial Technical Data and Computer Software--Small Business Innovative Research (SBIR) Program clause contained in the above identified contract. **No restrictions apply after the expiration date shown above.** Any reproduction of technical data, computer software, or portions thereof marked with this legend must also reproduce the markings.

(End of legend)

# Rights in Data - SBIR Program

- SBIR awardees may assert copyright without prior approval of the Contracting Officer
  - unless there is specific contract language to the contrary.
- If claim to copyright is made
  - Government gets same license as it receives under the FAR general data rights clause.
- Additional restrictions on use of “SBIR Data” may apply
  - SBIR data are:
    - data first produced in performance of an SBIR contract,
    - not generally known,
    - not already available to the Government, and
    - not made available to others without an obligation of confidentiality.

# Rights in Data - SBIR Program

- When SBIR Data are delivered to the Government with “SBIR Data Rights Notice” affixed:
  - Government may use SBIR data for government purposes only
  - Government cannot disclose the data outside the Government for a specified period of time (usually 4 or 5 years)  
(restriction intended to provide incentives for development or commercialization of technology by the Awardee)
- If **not marked** with SBIR Data Rights Notice:
  - Government has unlimited rights in data

# Rule No. 5

- Keep accounting records to prove which of your data and/or software was developed at private expense.
- Mark proprietary data in proposals.
- Request removal of award requirements calling for data to be delivered without restriction.
- Include data rights clauses in subcontracts.
- Keep different types of data separate.
- Place copyright notice on works of authorship before delivery, publication or registration.
- Affix SBIR Rights Notice to SBIR data.
- Rather than delivering limited rights data and restricted computer software, instead deliver form, fit, and function data if contract allows.

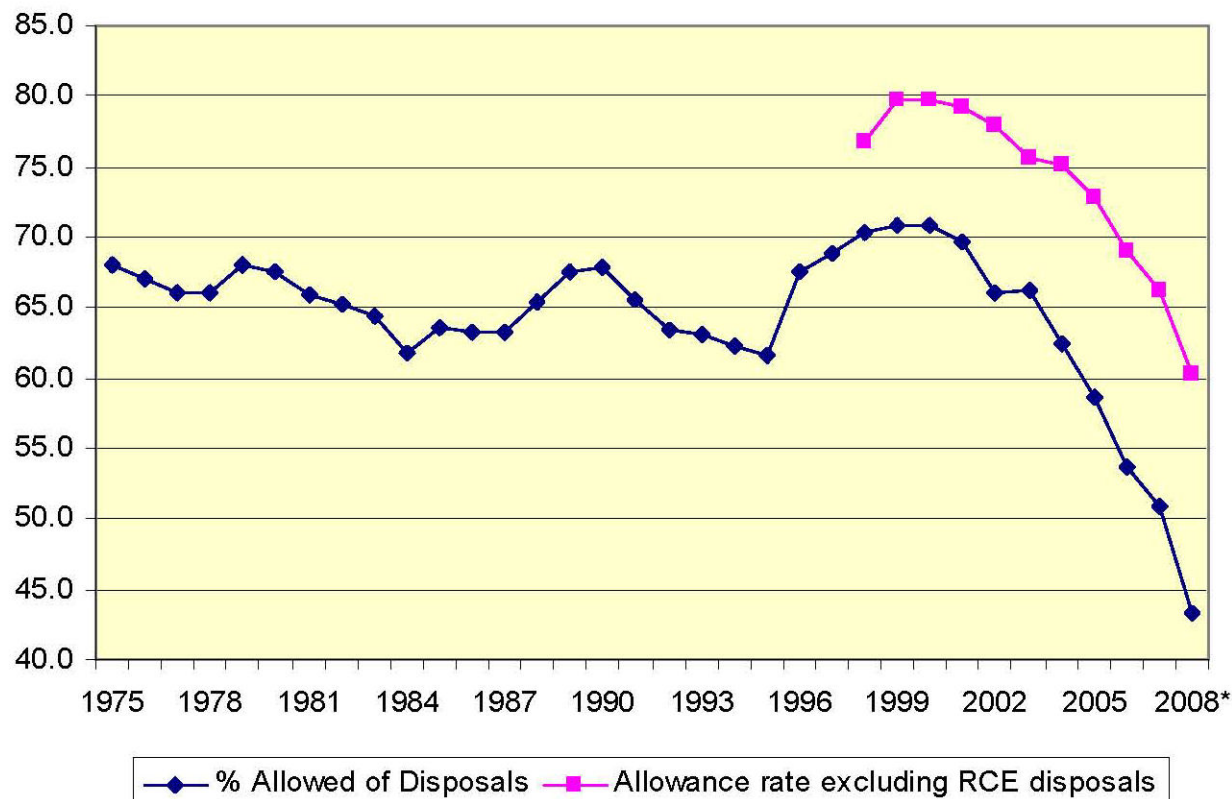
# Non-DoD Data Rights Links

- FAR Subpart 27.4 – Rights in Data and Copyrights
  - [https://www.acquisition.gov/Far/05-34a/html/Subpart%2027\\_4.html](https://www.acquisition.gov/Far/05-34a/html/Subpart%2027_4.html)
- FAR SBIR Contract Clauses
  - [https://www.acquisition.gov/Far/05-34a/html/52\\_227.html#wp1139511](https://www.acquisition.gov/Far/05-34a/html/52_227.html#wp1139511)
- If unmarked data have not been disclosed without restriction outside the Government within six months of delivery, an inadvertently omitted SBIR Rights Notice may be placed on SBIR data with the agreement of the Contracting Officer

# DoD DFARS Data Rights Links

- DFARS Subpart 227.71- Rights in Technical Data
  - [http://www.acq.osd.mil/dpap/dars/dfars/html/current/227\\_71.htm](http://www.acq.osd.mil/dpap/dars/dfars/html/current/227_71.htm)
- DFARS Contract Clauses - 252.227-7018
  - <http://www.acq.osd.mil/dpap/dars/dfars/html/current/252227.htm#252.227-7018>
- DFARS also requires Limited Rights and Restricted Rights notices.

# US Patent Allowance Rate over Time



Data is through the 3<sup>rd</sup> Quarter of 2008.

# 2007 Supreme Court KRS Int'l Decision

- Good old days (before my cheese was moved)
  - Motivation or suggestion to combine teachings found in prior art, nature of problem or knowledge of person with ordinary skill.
  - Obvious to try test, hindsight not allowed.
- Situation today
  - Combination of familiar elements according to known methods that yields predictable results.
  - Predictable use of prior art elements according to their established functions.
  - Was there a design need or market pressure to solve a problem with a finite number of predictable solutions.
  - Can teachings be fit together like pieces of a puzzle.
  - Obvious to try.

# Objective Evidence of Nonobviousness

- Commercial success (due to inventive elements)
- Unexpected results
- Long-felt but unsolved need
- Failure of others
- Skepticism of experts
- Copying
- Inoperability of prior art

# 2008 CAFC Bilski Decision

- Changes how process claims are examined by USPTO
- For now, a claimed process must:
  - Be tied to a particular machine or apparatus OR
  - Result in the transformation of a particular article to different state or thing.
  - Transformed articles must be physical objects or substances or representative of physical objects or substances.
- Stay tuned - under Supreme Court review

# Patent Valuation

An aerial photograph of a surfer riding a large, curling wave. The water is a vibrant blue-green, and the white foam of the wave's crest is prominent. The surfer is a small figure in the lower center, leaving a white wake behind them.

“Patents are like lotteries, in which there are a few prizes and a great many blanks.”

The Economist, 1851

# Valuation Approaches

- Market approach
  - Observable prices for comparable assets
- Income approach
  - Discounted present worth
- Cost approach
  - Reproduction or replacement cost

# Valuation Tools

- Free software
  - IPScore® available from the EPO
- Patented methodologies
  - Ocean Tomo's PatentRatings system
- Rip off websites and services
- Do It Yourself
  - Discounted present worth

# Venture Capital Pitch Must-Have Factors

- An experienced team
- A problem-solving product or service
- Assets, e.g., patents
- Customers
- Metrics
- A demo
- A plan

An aerial photograph of a surfer riding a wave. The surfer is positioned at the base of the wave's face, leaving a white wake. The water is a deep blue-green color, and the wave's crest is white with foam. The text "Pop Quiz" is overlaid in the center of the image.

# Pop Quiz

# Pop Quiz-Question No. 1

- Who owns an invention thought up or first built and tested in performance of a SBIR or STTR project?
  - A. the small business recipient of the award
  - B. the consultant hired by the small business
  - C. the Government
  - D. it depends

# Pop Quiz-Question No. 2

- How long after an employee-inventor discloses an invention to a SBIR or STTR company does the company have to report the invention to the Government?
  - A. one year
  - B. two years
  - C. one month
  - D. two months

# Pop Quiz- Question No. 3

- How long after a subcontractor to a SBIR or STTR company reports an invention to the Government does the subcontractor have to elect title to the invention?
  - A. one year
  - B. two years
  - C. one month
  - D. two months

# Pop Quiz-Question No. 4

- How long after a consultant to a SBIR or STTR company has elected title to an invention does the consultant have to file an initial nonprovisional U.S. patent application on the invention?
  - A. one year
  - B. two years
  - C. three years
  - D. it depends

# Pop Quiz-Question No. 5

- Under what conditions can the Government obtain title to an SBIR or STTR invention?
  - A. the entity whose employee(s) “made” the invention fails to report or elect title to the invention on time
  - B. the entity fails to file a patent application on time
  - C. the entity fails to commercialize the invention and the Government exercises its march-in rights
  - D. either A or B

# Pop Quiz-Question No. 6

- How can a company lose the right to patent an invention in the U.S.?
  - A. using the invention in public in the U.S. more than one year before filing a U.S. patent application
  - B. offering a prototype of the invention for sale in the U.S. more than one year before filing
  - C. publishing a description of how to make and how to use the invention more than one year before filing
  - D. any of the above

# Pop Quiz-Question No. 7

- Which patent rights outcomes are possible under SBIR and STTR rules?
  - A. A subject invention is patented by an SBIR or STTR company or its a subcontractor prior to the award and the Government obtains a royalty-free license to practice the invention
  - B. Patentability of an improved version of an invention is barred because of the inventors' obligations to assign rights to different entities
  - C. The Government cannot practice an SBIR or STTR invention in which it has a license
  - D. all of the above

# Websites

- Learn about invention reporting rules:
  - [www.iedison.gov](http://www.iedison.gov)
- Perform preliminary patent searches:
  - [www.uspto.gov/patft/index.html](http://www.uspto.gov/patft/index.html)
- Learn about patents and licensing:
  - [www.WebPatent.com](http://www.WebPatent.com)

Quiz answers: 1-D, 2-D, 3-B, 4-D, 5-A, 6-D, 7-D