# Technology Transfer Research Paper

# Objective

The purpose of this Technology Transfer Research Paper is to gather and summarize authoritative information about how technologies are transitioned from the Research & Development (R&D) lab to the product development organizations which incorporate leading and emerging technologies into new products and services.

# Overview

Your task is to research, analyze, and discuss the processes involved in helping technologies emerge (“transition”) from the R&D environment to product development organizations so that the technologies can be incorporated into products and services which meet the needs of the consumers, businesses, and government agencies. Your research should include technology transfer processes and initiatives along with funding sources, i.e. venture capital, government grants, etc. You should also address the technology development lifecycle and the role of funding availability at each of the lifecycle stages (See NIST GCR 02-841). Address what happens when adequate funding is not readily available and what impacts that deficiency has upon the development and transitioning of technologies from labs to products.

To begin, review the following documents and resources about technology transfer processes and initiatives. Continue your research by investigating the availability (or lack) of federal funding for innovations in the cybersecurity area.

* *What is a technology?*<http://www.esa.int/Our_Activities/Space_Engineering_Technology/What_is_technology>
* *Between Invention and Innovation: An Analysis of Funding for Early-Stage Technology Development (NIST GCR 02–841)*  
  <https://www.nist.gov/system/files/documents/2017/05/09/gcr02-841.pdf> (you must use this exact version)
* *What is technology transfer?* <https://www.doi.gov/techtransfer>
* *Technology Transfer @ DHS*
  + <http://www.dhs.gov/technology-transfer-program>
  + <https://www.dhs.gov/science-and-technology/technology-transfer-mechanisms>

Next, research the role that private funding (venture capital) plays in providing money and resources to innovators who are developing cybersecurity technologies and products. How does the availability of venture capital impact the development of technology? How do venture capitalists influence the emergence or death of technology developments? Provide specific examples from your research.

The following information needs must be met by the deliverable for this assignment.

1. Introduction and Overview
   1. Technology Transfer Processes
   2. Technology Development Life Cycle (per NIST GRC 02-841)
   3. Funding Sources & Issues
2. Explanation of the Phases of the Technology Development Life Cycle (per NIST GRC 02-841) with examples of activities in each phase
3. Explanation of Technology Transfer Processes
   1. Identify and Discuss Key Players, i.e. inventors, universities, companies, and investors
   2. Examples of Technology Transfer in two or more phases of the technology lifecycle
4. Explanation of Funding Sources & Issues
   1. What role does funding play in the technology transfer process? (Encourage? Discourage? Shape decision making?)
   2. Who are the key players involved in funding decisions?
   3. Examples of funding sources supporting two or more phases of the technology lifecycle
5. Summary and Conclusions
   1. Why do inventors and others need to understand Technology Transfer
   2. Why do inventors and others need to understand the role of funding in encouraging and/or discouraging technology R&D

Your research is to be incorporated into a 4 to 6 page written summary of the technology transfer process and associated funding issues. (Follow the outline above and review the explanations provided in the rubric.) Your report is to be submitted as an MS Word attachment to the *Technology Transfer Research Paper* entry in your assignments folder.

## Additional Information

1. Consult the grading rubric for specific content and formatting requirements for this assignment.
2. Your 4 - 6 page research paper should be professional in appearance with consistent use of fonts, font sizes, margins, etc. You should use headings and page breaks to organize your paper.
3. Your paper should use standard terms and definitions for cybersecurity.
4. The CSIA program recommends that you follow standard APA formatting since this will give you a document that meets the “professional appearance” requirements. APA formatting guidelines and examples are found under Course Resources. An APA template file (MS Word format) has also been provided for your use. The file name is: CSIA\_Paper\_Template(TOC+TOF,2021).docx
5. You must include a cover page with the assignment title, your name, and the due date. Your reference list must be on a separate page at the end of your file. These pages do not count towards the assignment’s page count.
6. You are expected to write grammatically correct English in every assignment that you submit for grading. Do not turn in any work without (a) using spell check, (b) using grammar check, (c) verifying that your punctuation is correct and (d) reviewing your work for correct word usage and correctly structured sentences and paragraphs.
7. You are expected to credit your sources using in-text citations and reference list entries. Both your citations and your reference list entries must follow a consistent and professional citation style (APA, MLA, etc.).