



Department of Defense Patent Marketing Guide

**Converting “rocket science” patent vernacular
into clear-cut, highly effective technology transfer data**

*Fully PROTECT, Effectively MARKET, and Successfully LICENSE
your incredible new technology*



NAVY



AIR FORCE



ARMY



NSA



NAWCWD TS 2019-009

DISTRIBUTION STATEMENT A. Approved for public release; distribution is unlimited. (PR 19-0202)

INTRODUCTION

Department of Defense (DoD) Patent Marketing Guide

Naval Air Warfare Center Weapons Division (NAWCWD) and TechLink Collaborative Effort
A Quick-Step Guide to help the DoD effectively market their patents to industry



About DoD Technology Transfer. The DoD is the largest U.S. Government research and development (R&D) agency. The nationwide network of DoD laboratories generates significant numbers of new inventions each year in virtually all major technology fields including advanced materials, aerospace, biomedicine, communications, electronics, environmental technology, photonics, sensors, and software. DoD researchers disclose well over 1,000 new inventions each year.

Legislation to facilitate federal technology transfer, combined with concerns about declining DoD R&D budgets and congressional prompting, led the DoD to embrace technology transfer in the early 1990s as a way to accomplish both its defense mission as well as its congressionally established technology transfer mandate. In 1993, the U.S. Congress established the Office of Technology Transition (OTT) within the Office of the Secretary of Defense. The OTT's purpose is to help ensure that technology developed for national security purposes transfers to the private sector to fulfill military needs, enhance the national industrial base, and contribute to U.S. global competitiveness.



How DoD Benefits. Much of the technology developed in DoD laboratories is in an early stage and has to be further developed and commercially produced before it can be of use to the U.S. warfighter. By transferring technology to the private sector, the DoD benefits in multiple ways.

- **Commercial-off-the-shelf (COTS).** Commercial profit-driven businesses generally are much more adept than government agencies at converting technology into products. Through technology transfer, the private sector undertakes the expense of technology conversion, saving the government money. In addition, once a new technology becomes a COTS product, the government can acquire it at a lower price than if it had been developed and procured for military use only.
- **Royalty sharing.** Another important feature of technology transfer legislation was the establishment of royalty sharing with laboratory inventors—to promote patenting and licensing—and the use of licensing fees to reward other innovators. Licensees must detail a U.S. based manufacturing plan and agree that the DoD laboratories retain rights to use the technology for government purposes.

TechLink's Mission. TechLink serves as a DoD partnership intermediary. TechLink's mission is to create high-value partnerships between the DoD and private industry to develop, transfer, and transition leading-edge technologies. TechLink's primary activity is promoting new inventions from DoD laboratories and facilitating license agreements with industry for these inventions since 2000. TechLink works nationwide and has helped to transfer more than **1,000** DoD inventions to industry for conversion into new products and services. Since 2000, TechLink-facilitated agreements have generated approximately **\$1.6 billion in sales** (per a study in 2015) and **\$4.4 billion in economic impact**.



Purpose of This Guide

Simplifies “Rocket Science.” Military patents, in particular, are frequently so complex that even the “Abstracts” (short, introductory executive summary statements) are often incomprehensible to most people (hieroglyphics). In many cases, “only the inventor knows for sure” what the technology is really about and what it really does. This new guide and process provides a logical methodology to help writers convert extremely high-tech “rocket science” vernacular into an easy-to-understand who / what / when / where / why / how format. Final data are presented in a one-page “Marketing Summary” that appears on the TechLink website.



FROM...

Official Patent Abstract

Poly (3,4-alkylenedioxythiophene)-based capacitors using ionic liquids as supporting electrolytes

A supercapacitor comprising a poly(3,4-ethylenedioxythiophene) (PEDOT) and poly(3,4-propylenedioxythiophene) (PProDOT) as electrode couples for the capacitor and a pair of gel electrolyte layers disposed between the electrodes. The gel electrolytes are separated by a battery paper and are selected from a group consisting of a lithium salt and an organic electrolyte.

TO...

New, Stronger, Longer-Lasting Batteries

40% Improvement! Solvent free. Recharges thousands of times at very high temperatures.

This new NAWCWD technology holds promise for dramatically improving today’s batteries by as much as 40%. These new enhancements create greater stability and improve energy storage. The new batteries have a long shelf life, work at low temperatures, can provide pulse / peak power for longer periods, and can handle high power for many cycles. These new polymer capacitors can handle tens of thousands of charges at a high depth of discharge and can operate below 0°C as well as withstand temperatures up to 175°F. In addition, the active part of the charge storage device is entirely made of plastic. Future battery concepts include lithium sulfur batteries.

Increases DoD patent licensing by 20%. Although NAWCWD has an impressive patent portfolio in TechLink’s system, there were very few industry inquiries. However, after applying the methodologies described herein, enhancing the impact of the write-ups, results have been dramatic. Out of the initial test batch of 16 patents reworked, TechLink received a total of 12 inquiries involving 9 technologies. Three licenses were awarded, and many more applications are in process. This equates to an 18.75% increase. These highly successful results have been presented to numerous offices including the Office of the Secretary of Defense. In short, this process is working. If it is working for NAWCWD, it can work for your organization.



TechLink assumptions / formula: Estimates below are based on 6,000 total patents / 1,000 patents already licensed / Licensed patents generating \$1.68B over a 20-year period / \$4.4B economic impact / Average of 500 new DoD patents per year generated.

Modest assumption 1

Assuming existing performance to date of about 500 patents per year. Using the new methodology, annually, we might expect:

- 94 additional licenses / \$7.5M additional sales / \$21M additional economic impact

Very modest assumption 2

Even if we cut the existing production in HALF, to only 250 patents per year, OR, if we cut the stated performance effectiveness rate in HALF, from 18.75% to only 9.4%, the final results would still be impressive

- 47 additional licenses / \$3.75M additional sales / \$10.5M additional economic impact

(Note: Hypothetically, if we applied this methodology, which yielded an 18.75% increase, to 6,000 total patents available (1,000 licenses currently in TechLink plus 5,000 additional patents available), yielding an 18.75% increase, annually we might expect:

- 1,125 additional licenses / \$90M addl sales / \$248M additional economic impact
- 20-year impact: \$1.8B additional sales / \$4.95B additional economic impact

Strengthens DoD patent marketing efforts. This guide assists the Office of Research and Technology Applications (ORTA) staff to decipher and convert “rocket science” patent vernacular into clear-cut, highly effective technology transfer data that industry can quickly understand. This “A to Z” step-by-step guide documents a new process that makes the final promotional write-ups extremely attractive to industry. It is a helpful tool for beginners and advanced writers alike. The TechLink website hosts information on thousands of patents in 12 major categories, representing 60+ major R&D facilities including U.S. Army, U.S. Air Force, and U.S. Navy laboratories. Due to the magnitude of offerings, in order to be noticed, laboratories must take special care in providing patent data in a format that is both informative and compelling. Companies need all the pertinent facts in short order.

Supports multipurpose marketing. The best way to market is to create a dynamic and comprehensive write-up for multipurpose applications. For example, in addition to the TechLink Marketing Summary, NAWCWD uses the final summary information to create “Quick Facts” on each patent. The printed versions are used at tradeshow, and the digital versions are featured on internal and external websites, sent to the media when requested, and used as effective marketing tools.

Recognizes inventors individually as well as their sponsoring organization thereby providing a much-needed source of employee and organizational pride and motivation. In addition to licensing, it is important that employees and organizations be formally recognized for their outstanding achievements and patents regardless of whether or not their individual patents get licensed or not.

- **Inventor recognition.** The guide encourages writers to identify individual inventors by name and location in a brief statement at the end of the “New Technology” section. These data are already public knowledge but ONLY on the official patent itself that the public seldom sees. Acknowledging **individual achievement** as well as corporate achievement is extremely important, as it builds pride and motivation, and encourages further innovation.

Strengthens the interaction between inventors and ORTA. This guide, and specifically the comprehensive “Patent Marketing Questionnaire,” a cornerstone of the guide, greatly strengthen the interaction between ORTA and the inventors themselves. This evolutionary research tool works like magic and has evolved over many years for major data calls. Inventors now have an easy to use tool and format encouraging inventors to provide highly valuable, detailed data on their patents unlike ever before. While the questionnaire is usually emailed to the inventors, it can also serve as a guide for oral interviews as well if that is preferred by the inventor.

Answers Who, What, When, Where, Why, and How

- Worksheet allows space for compiling and editing all data from several sources in order to create an effective final “Patent Marketing Summary” for the TechLink website
- Identifies Major Benefits and Who Benefits
- Provides vital statistics, background information, related patents, and points of contact
- Quantitates the significance and scope
- Documents interesting statistics, facts, examples, stories, and WOWs – “icing on the cake” to sprinkle into the final write-up to make the story compelling for industry
- Lists any helpful downloadable supplemental information (PowerPoint briefs, papers, articles) to include on the TechLink website

Provides vital marketing leads and keyword search terms for search engine optimization. In addition, the guide takes a proactive approach versus “waiting to be discovered.” The questionnaire asks the inventors to list any good manufacturing leads including names, contact information, and any dates they may have made contact. This will give TechLink staff a “heads-up” to follow-up with these great leads. This one step alone will greatly enhance the chances of being licensed.

In addition, the questionnaire identifies the opportunity – all industry applications and license availability, identifies the TRL, prototype status, and key search terms, in addition to status and future plans.

Specific Components of This Guide

Custom-designed forms and enclosures

1. Patent Marketability Assessment Form
 - 1A. DoD TRL Descriptions
2. All Patents Tracking Form
3. Individual Patent Progress Form
4. Patent Marketing Summary SAMPLE
 - 4A. Patent Marketing Summary FINAL TEMPLATE
5. Patent Marketing Questionnaire



Sample emails

1. Email to Inventors Assessing Patent Marketability
2. Email to Inventors With the Data Call Package
3. Email to Inventors to Review the Completed Package
4. Email to Inventors Requesting Final Approvals
5. Email to TechLink With the Final Package
6. Email Final Thanks to Inventors

Pre-designed CD label and three-ring binder tabs

- CD Label (Print Ready) (JPG) is included on the CD (and online)
- Tab Labels (MS Word) is included on the CD (and online)

Guide, Forms, Sample Emails All Online

- <https://www.navytechtransfer.navy.mil/library-and-resources/>
- <https://www.onr.navy.mil/work-with-us/technology-transfer-t2/Partnership-Options>
- **Important note:** When getting set-up, see the “Master Sample Patent Folder Contents” on page 7. It clearly shows how to organizationally and quickly set-up folders and sub-folders

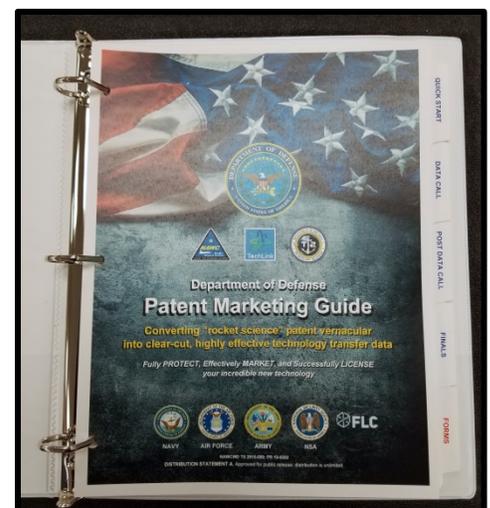
Option 1: Bind data in your own three-ring binder

Recommendations:

- ½- to 1-inch three-ring (slant ring) binders work well
- **Tabs:** 6 dividers about 2 inches wide. Tab labels are already pre-designed for you. The file is entitled “Tab Labels (MS Word)” and included on the CD (and online).

Printed tabs for binder (with page numbers)

- **Introduction:** Pages i–2 (table of contents)
- **Quick Start:** Pages 3–14
- **Data Call:** Pages 15–26
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Option 2: Professional printed booklets. How to print / obtain

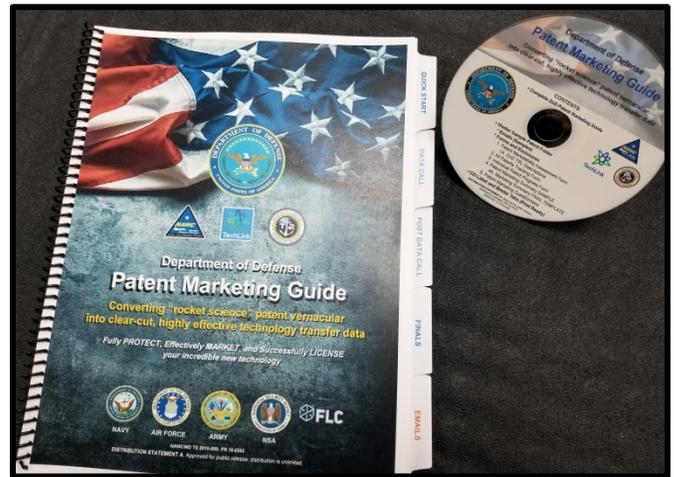
printed guides. Since this is a new product, final logistics are being worked out. However, in the meantime, all the ingredients are provided online for you to easily print and create your own printed guide for a standard three-ring binder with tabs.

At NAWCWD, we chose a spiral bound approach (small plastic coil) that allows for very easy page turns, and allows the user to easily flip and read both sides of the page, only taking up one 8½ x 11 inch space on a desktop or stand. (Wider plastic comb binding creates more friction and is generally harder to page turn.)

NAWCWD Sample Production Specs

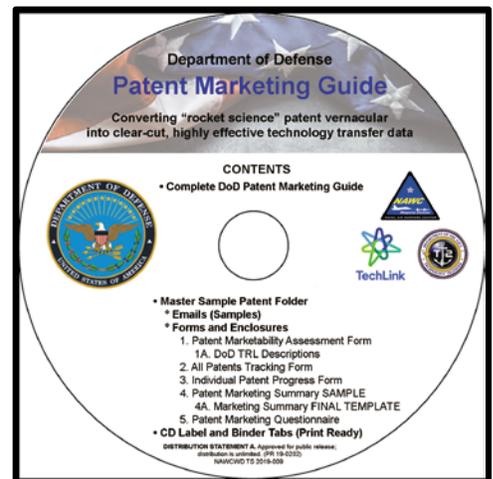
- **Covers:** Exact Index, 100 lb
- **Paper:** Premium Laser Print, 24 lb, 98 brightness
- **Tabs:** Multipurpose Tabs, 9" x 11"
 - **Note:** Tab Labels (MS Word) is included on the CD (and online)
- **Plastic coil:** 10mm
- **CD holder:** Self-adhesive CD disk holder

Include the CD in the back of booklet. If you choose to print booklets, it is recommended that you also include a CD in a stick-on pocket inside the back cover of the booklet.



CD Contents (and label). The actual printed CD label is shown below. In addition, the version you will use to actually print the label is also available online. The file is labeled: CD Label (Print Ready).

- **Main Title:**
Department of Defense, Patent Marketing Guide
- **Sub-Title:** Converting “rocket science” patent vernacular into clear-cut, highly effective technology transfer data
- **Logos included:** DoD, NAWCWD, TechLink, ONR/T2
- **Complete DoD Patent Marketing Guide**
- **Master Sample Patent Folder**
 - **Emails (Samples)**
 - **Forms and Enclosures**
 1. Patent Marketability Assessment Form
 - 1A. DoD TRL Descriptions
 2. All Patents Tracking Form
 3. Individual Patent Progress Form
 4. Patent Marketing Summary SAMPLE
 - 4A. Marketing Summary FINAL TEMPLATE
 5. Patent Marketing Questionnaire
- **CD Label and Binder Tabs (Print Ready)**



Distribution Statement A: Approved for public release; distribution is unlimited.

Notes when using the CD. First, simply download contents to desktop. **Important note:** Do not attempt to open or use files for forms, emails, etc. directly from the CD, as they will not function properly. Download them to your desktop first.

Ease of Use

- CD with all components for quick download
- All forms were custom designed (evolutionary process – multiple revisions)
 - Forms open automatically in different “recommended views” (e.g., 150%) that you can change as desired.
 - Sizes of answer boxes are designed to accommodate the “recommended length” of each answer. When you exceed this length, a scroll bar automatically appears.
 - Forms contain customized pull-down menus to simplify answers.

- All forms contain detailed examples. Eliminates guesswork.
- Guide contains 25+ software tips / hints.

Qualifications for Patent Marketing Staff Candidates. Tasking for this guide is best suited for a public affairs specialist or a technical writer. Candidates with these occupational skill sets should have the ability to clearly and easily separate the “wheat from the chaff.” Other good candidates include those with backgrounds in configuration management, office management, or library sciences. Writers with marketing skills in their background also do very well. Any candidates must have good organizational / analytical skills.

Time required to read and study the guide. This guide is written with a focus on brevity; however, it is also designed to train anyone, at any writing level. Therefore, clear-cut examples are shown throughout, rationale and process justification is thoroughly explained, and methodology is repeated for memory retention. Important elements are often bolded. The guide includes all sample forms and sample emails and is thoroughly illustrated in color for easy readability. The guide is less than 40 pages plus sample forms and emails. Average time to read all content in this document (200 words per minute) is under 2 hours. Naturally, it will take longer to actually work each patent, but if this 2-hour training increased your odds of getting licensed by nearly 20%, it may well be worth it.

Time required to totally complete one patent (4 to 6 weeks part-time). Production time will vary GREATLY depending upon the interest and response time of the inventors, patent complexity, and the skill of the ORTA writer. Inventors may also be on travel or extended leave. Generally, time required waiting for inventors to respond is about a month considering the three requests below. In addition, the time required for ORTA writers considering all logistics is approximately 2 weeks. Therefore, it is safe to assume that a typical patent might take 4 to 6 weeks working part-time. However, writers will normally have several patents in progress at any given time.

- **Patent Marketability and Assessment Form (Average response time: 1 week).** Very simple form requiring 15 minutes or less plus whatever time it takes inventors to locate all previously produced patent briefs, documents, publications, and visual aids. Most have a PowerPoint brief, etc. that they can quickly send you; while others have to search their files and call fellow inventors.
- **Patent Marketing Questionnaire (Average response time: 2 weeks).** This form is the cornerstone research tool in developing a great final write-up. It is more comprehensive but in reality, inventors have noted that it only takes them 1 to 2 hours to complete.
- **Seeking final inventor approval prior to sending materials to TechLink (Average response time: 1 week).** This is done entirely by email.

For beginners and advanced writers alike – Ease of use. Guide, forms, and sample emails are applicable to writers just getting started as well as for advanced staff. A detailed Table of Contents and tabbed section dividers are included. Also, the CD contains downloadable sample folders already set up with sample folders and sub-folders and sample forms and emails. Finally, for many readers, after doing a dozen write-ups, the methodology described will become second nature, and the guide will probably no longer be needed except for occasional future reference. This is a learning tool. That’s the idea! Again, we’ll all learn together. Please submit your best ideas for improvement. This guide will be updated periodically.

About TechLink – DoD Partnership Intermediary

TechLink conducts:

- [Economic impact studies](#) of DoD technology transfer and Small Business Innovation Research (SBIR) agreements
- [Marketing discovery workshops](#) to generate more and better patents from DoD laboratories

TechLink Express Licensing. TechLink’s dynamic website provides a simplified online promotional tool to showcase the main benefits and significance of your product and allows industry to locate your invention fast! If industry can quickly see the basics, they will be enticed to search for full information. TechLink is now teaming up on a semi-automated express licensing agreement (template and terms) to further expedite the process of bringing technologies to market. TechLink’s contact number is 406-994-7700.



Marketing Sample. The next page shows exactly how your finished write-up will appear. You can also see samples online at <http://www.techlinkcenter.org>. In addition, a sample “TechLink Patent Marketing Questionnaire” is enclosed.

TechLink Success Stories. To see highlights and examples of dynamic new technologies available for licensing, review the following:

- Technologies / Technology Spotlight: <https://www.techlinkcenter.org/technologies/>
- News: <https://www.techlinkcenter.org/news/>

TechLink Collaboration With NAWCWD China Lake. TechLink has teamed with the Office of Technology Transfer at NAWCWD China Lake, California, in developing this patent process documentation.

- **More than 1,700 patents have been issued to NAWCWD.** Since the 1940s, scientists and engineers have created thousands of inventions to solve technical problems associated with weapon development. From 1959 to 2015, more than 1,700 patents have been issued to NAWCWD. Several NAWCWD inventors hold more than 20 patents.
- **China Lake was the lead laboratory establishing the first Federal Laboratory Consortium (FLC).** Technical transfer refers to the process of transferring a specific technology developed by the government and making it available to industry. While NAWCWD’s primary focus is on research, development, test, and evaluation (RDT&E) of Navy weapons, many discoveries during research are beneficial to industry and have numerous nonmilitary uses. The FLC, the primary national federal technology transfer group, was originally established by China Lake in 1971 as the DoD Technology Laboratory Consortium for Technology Transfer. Under China Lake’s leadership, the organization grew from 11 original laboratories in 1971 to 200 laboratories in 1975. Today, the FLC consists of more than 250 federal laboratories and centers and their parent departments and agencies. The FLC promotes and strengthens technology transfer nationwide. Through the years, thousands of government patents, with numerous applications to warfighting systems have been awarded. For the complete story on the first FLC, *FLC History, Establishing a National Presence*, request a digital copy at TCO_Publications.fct@navy.mil.
- **A Few Current NAWCWD Top Patents / Inventions With Commercial Potential.** First high-density biofuels for military applications; adaptive facial recognition software; enhanced batteries; new devices that detect explosives, drugs, or lead; enhanced solar cells; shape matching automatic recognition technology; best before and after images; new methods for fingerprint detection; small target detection; human movement charges smart phone batteries; military air vehicle Global Positioning System (GPS) backup navigation system; high-performance missile control actuation system, etc.



Don't Let the "Big Ones" Get Away!

Chemiluminescent "light stick" story



While NAWCWD has had many firsts, milestones, and patents, in the early days, prior to the formalization of "patent license programs," not all patents were formally licensed to industry like they are today. A good example of this is China Lake's "First Chemiluminescent Light Sticks for Military Applications." Today, this is a multibillion-dollar worldwide industry -- a "big one" we let get away. The moral of the story is license, license, license!

In 1961, China Lake scientists recognized DuPont Corporation's PR-155 chemical-light technology as having significant potential for military applications. NAWCWD initiated the Target Illumination and Recovery Aid (TIARA) project to enhance and apply this technology to create effective new warfighter devices. Working with American Cyanamid Corporation, China Lake created a new formulation, Chemiluminescent Light from Oxalate Esters (CHLOE), that was 1,000 times more intense,

and new products were quickly adapted for widespread use. TIARA field devices included spray and splash liquids; a Marstick crayon-like marker; 2- by 3-foot large glowing panels to illuminate helicopter landing areas; and emergency lighting for life rafts, downed flyer beacons, map reading, and damage evaluation, and marking fuel lines. In 1974, two China Lake chemists were granted a patent (3 819 925) titled Chemiluminescent Device; two chemicals were stored separately in the same container (light stick); when bent, the chemicals would mix, and light would be emitted for up to 12 hours. These devices were marketed by industry as Chemlites. Later, the first chemiluminescent marker apparatus was patented (3 940 605) by China Lake in 1976. (Patents by other inventors for nonmilitary chemiluminescent materials and lighting devices were issued as early as 1965.)

Today, China Lake's "light sticks" have become standard usage for life vests; personnel and route-marking; and a wide variety of other uses aboard ship, on aircraft, and in combat. The DoD uses millions of light sticks each year for marking and signaling and safety applications. China Lake's chemiluminescent technology received the 1993 FLC Award for Technology Transfer Excellence.

Now a Worldwide Commercial Industry. Building on earlier civilian and military technologies, chemiluminescent commercial products are now sold worldwide and include safety illumination sticks for emergency kits, commercial fishing lures, recreational hiking and camping items, and route, and limit markers. Items have become standard usage in the search and rescue and law enforcement industries. In addition, "light stick" technology has grown exponentially in the toy and party market including necklaces, wands, pendants, and kites. Today, it is estimated to be a **multibillion-dollar worldwide industry** considering all applications.

"Don't let the big ones get away!"
Fully PROTECT, Effectively MARKET, and
Successfully LICENSE your incredible new technology!



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QUICK START – FIVE STEPS

Overview (Full details follow)

- 1. Get organized and initial set up.**
 - A. Download all CD contents to your desktop.
 - B. Fill out two quick progress monitoring forms.
 - C. Send the lead inventor the “Patent Marketability Assessment Form.”
 - D. Analyze inventor responses and prioritize patents with highest potential.
 - E. Locate all patent briefs, documents, publications, and visual aids.
- 2. Prepare the initial data-call package to send to inventors.**
 - A. Convert patent into a simple Microsoft (MS) Word document. Find the best text that answers three main questions. Color-code for quick reference. Do a basic edit.
 - B. Complete the “Patent Marketing Questionnaire” for inventors.
- 3. Send the initial data-call package to inventors.**
- 4. Tasks to do once the questionnaires are completed and sent back.**
 - A. Prepare the final “Patent Marketing Summary.”
 - B. Prepare one dynamic photo or graphic montage with titles.
 - C. Get all necessary approvals.
- 5. Send the final marketing summary to inventors and TechLink.**

Introduction. Before we get into specifics, it is important to see an example of a FINISHED PRODUCT so you understand what the final goal is. On the following page, is one example of a final patent write-up that your laboratory would send to TechLink to post on their website. You will see that data are straightforward, logical, and easy to understand. In the final write-ups, there are only three main paragraphs (existing technology, new technology, and how it works), a quick statement as to who benefits, and a quick bulleted list of what the major benefits are. That is all we are doing.

However, in order to craft a final dynamic write-up, you will need ALL the necessary ingredients. While, at first glance this looks simple, if you want to make it shine, there is more to it. You will need a simple system for organizing and setting up all your files, a tracking and monitoring system to keep track of all your patents, and an approach for handling all approvals (and public release approvals if your laboratory requires). In short, you will need a “system.” We have prepared one for you to begin with. As you go, you can tailor it to your own personal style. Please document your best ideas, tips, hints, and techniques for improvement. We will incorporate them in the next guide update.

Patent Marketing Summary SAMPLE

Instant, accurate, fumeless, latent fingerprint detection Easy-to-use fumeless powder detects prints up to 30 days!

Existing Technology

Current five-step methods of detecting latent fingerprints rely on older fuming methods that require a special humidity controlled chamber that limits the object size, requires power, and is difficult to field. Additionally, this method takes up to 24 hours and requires special operator skills to properly develop prints. Traditionally, fresh fingerprints (measured in hours) are detected by dusting with a powder that contrasts in color to the background. Older, latent fingerprints (days to weeks) are detected by a developing process using noxious chemicals. The reaction typically uses superglue vapors heated in a sealed chamber to react with fingerprint residues in a complicated process.



New Technology

Acting in quick response to an urgent need by the U.S. Special Operations Forces, NAWCWD researchers have developed a revolutionary smart powder that provides instant fumeless fingerprint identification in the field. The new smart powders chemically bind to fingerprint residues. A solid-state reaction (as opposed to fuming gas or applying liquid) significantly reduces operator error and enhances ease of use. For one application, the DoD needed to get quick prints off of improvised explosive devices (IEDs) in the field. Likewise, for technology transfer applications, this technology allows forensic units to quickly take prints from large and fixed items in the field, such as automotive doors and trunks, office windows, and elevators. In many cases, these items would need to be removed and physically taken to a laboratory in order to obtain highly accurate results. **Lead inventor(s):** Lee R. Cambrea and Benjamin G. Harvey.

How It Works

The invention adds the chemistry of fuming superglue to a powder that can be applied by simply dusting. The powder chemically reacts with fingerprint residues in a manner similar to fuming superglue, but requires no special chamber, heat, or fumes. This simplified method allows large objects to be checked for prints in the field, and provides for fluorescence detection under ultraviolet light. Prints are also visible with white light, so a digital camera flash will enable a detailed print to be captured electronically. The new method detects Level 3 details, such as skin pores, and is shown to be effective on latent fingerprints as old as 30 days! In addition, it is superior to current commercial powders in response to stresses resulting from rough handling. Prints dusted with the new powder can withstand temperature changes, water exposure, and light rubbing. It has unlimited applications for detecting finger, nose, and paw prints for crime scene evidence collection and military applications.

Who Benefits

New technology benefits all types of forensic agencies including local, state, and federal law enforcement agencies and military forensic units.

Benefits

- Allows for real-time print identification in the field
- Decreases detection time from hours to seconds
- No power or special operator requirements
- Detects Level 3 details such as skin pores
- Allows for detection up to 30 days after the print was laid down
- Allows for detection of prints that would otherwise be difficult or impossible to obtain with conventional techniques

Opportunities

- Patent available for licensing. Express licensing available.
- Prototype available.
- Technical Readiness Level (TRL): 6
- Five field-ready sample kits industry tested

Articles and Downloads

- U.S. patent number 8574658, Fumeless Latent Fingerprint Detection
- Fingerprint technical paper
- Fingerprint poster with numerous photos

Another example converting “rocket science” text into clear-cut data

While TechLink has your official patent documentation for reference, even the abstract is usually **far too detailed** for first glance promotional applications. See the example below.

Example: Converting FROM a complex “abstract” summary TO an interesting easy-to-read impactful summary

FROM...

“An optical phase modulator comprising a plurality of non-polarizing waveguides having a layered stack including a core between at least one layer of cladding material, wherein the core is constructed of electro-optic material(s), wherein the layers of cladding materials having lower indices of refraction than the core for guided mode, wherein the layer of cladding material having higher indices of refraction than the core for non-guided mode, a substrate dimensioned and configured to integrate a plurality of optical components, wherein the optical components include a plurality of non-polarizing waveguide(s), a waveguide having a non-polarizing non-modulating region and a non-polarizing modulating region, coupler / splitter(s), electrode(s), a waveguide configuration including a first non-polarizing waveguide, a second polarizing waveguide and a third waveguide, and at least two optical fiber pigtailed where one is coupled to a second and third waveguide.”

TO...

“Physicists at the Naval Air Warfare Center Weapons Division (NAWCWD) have invented a device that improves existing inertial measurement units (IMU) using interferometric fiber optic gyroscopes (IFOG) and other sensors and communication systems. The technology makes existing sensors easier to produce, more environmentally stable, and better suited to digital electronics. A Lithium Niobate (LiNbO3) crystal-integrated optical chip system was developed that included 50 waveguides, couplers, and phase modulators. The new chip is inserted between the input fiber optic coupler and the fiber optic coil of the gyroscope thereby reducing the parts count, the volume, and the laboratory time required to manufacture the gyroscope. Additionally, the new technology eliminates some of the inter-component misalignments that degrade performance.”

1. Get organized and set up

1A. Download all CD contents to your desktop first

Master Sample Patent Folder is already set up for you. A CD is included with this guide. Simply download the CD that is included and save the “Master Sample Patent Folder” to your desktop. (Do not attempt to open and use sample forms and emails directly from the CD as they may not function properly. Download first.) This folder is already set up with all the folders and sub-folders you will need at each major developmental stage. File organization is shown on the next page. In addition, there is also a separate “Master Forms, Enclosures, and Emails” folder that has a complete list of ALL the forms used in this guide in BOTH MS Word and portable document format (PDF).

GENERAL TIPS AND HINTS

Optional. Personal storage folders (PST). If you want to keep a permanent record of important patent emails including final approvals, etc. and make it easy to search for them in the future, then PST files are helpful. They also keep all your patent related emails in one place and they **keep the email message with good explanatory notes right with the attachments.** When attachments get separated, you may not know what’s what when searching in the future. MS Outlook includes this neat PST feature. You can use it for both SENT and INBOX.

Example. You could set up patent names alphabetically in the left hand column of your main Outlook screen. For example, you could have one folder entitled “Fingerprint Detection” and whenever you get a related email (especially those with attachments), you can just copy and paste the email into this ONE main PST patent folder. This makes future searches very simple. In the future, you then have the option to either search normally using the TO, FROM, DATE SENT or RECEIVED features, or you could also search your PST files alphabetically by PATENT NAME.

Note: If you only have a few patents you may not need this extra step, but if you manage a large portfolio, or if you have patents that are very complicated, requiring multiple approvals, etc. you may want to consider going the extra step to set up PST files. Most people have never used this feature, but many can’t live without it. For guidance on setting up these files, search MS Outlook Help, or go to YouTube tutorials. It is a simple process – just a few steps.

Master Sample Patent Folder Contents

File Organization – Sample List of Major Folders, Sub-Folders, Forms, and Emails
Note: Below is just ONE organizational sample, customize files however you like.

- 1. Complete DoD Patent Marketing Guide
 - 2. Master Sample Patent Folder
 - 1. Patent Lists Folder (You will add TechLink lists and your ORTA lists of all patents.)
 - 2. Individual Patents Folders (Add all your individual patents using short file names.)
 - Patent 1 (with samples)**
 - A. Initial Packet to Inventors Folder** (Example: "Fingerprint Detection." Within this main folder, each sub-folder includes ALL the necessary individual components.)
 - Fingerprint Detection (example)**
 - 1. Email to Inventors Assessing Patent Marketability
 - Enclosures**
 - 1A. Patent Marketability Assessment Form (enclosure / PDF)
 - 1B. DoD TRL Descriptions (enclosure / PDF)
 - 2. Email to Inventors With the Data Call Package
 - Enclosures**
 - 2A. Patent Marketing Summary SAMPLE (enclosure / PDF)
 - 2B. Patent Marketing Questionnaire (PDF)
 - 2C. Original Patent for Reference (MS Word)
 - 3. Email to Inventors to Review the Completed Package
 - B. Final Packet to Inventors Folder**
 - 1. Email to Inventors Requesting Final Approvals
 - Enclosures**
 - 1A. Patent Marketing Summary FINAL TEMPLATE / MS Word
 - 1B. Supplemental Downloads (photos, etc.) SAMPLES (for TechLink)
 - 2. Email Final Thanks to Inventors
 - C. Final Packet to TechLink**
 - 1. Email to TechLink With the Final Package
 - Enclosures**
 - 1A. Patent Marketing Summary FINAL (example)
 - 1B. Supplemental Downloads (photos, etc.) SAMPLES (for TechLink)
 - 3. Master Forms, Enclosures, and Emails (blank / generic)
 - Emails (Samples)**
 - 1. Email to Inventors Assessing Patent Marketability
 - 2. Email to Inventors With the Data Call Package
 - 3. Email to Inventors to Review the Completed Package
 - 4. Email to Inventors Requesting Final Approvals
 - 5. Email to TechLink With the Final Package
 - 6. Email Final Thanks to Inventors
 - Forms and Enclosures**
 - 1. Patent Marketability Assessment Form (PDF)
 - 1A. DoD TRL Descriptions (PDF)
 - 2. All Patents Tracking Form (MS Word)
 - 3. Individual Patent Progress Form (PDF)
 - 4. Patent Marketing Summary SAMPLE (PDF)
 - 4A. Patent Marketing Summary FINAL TEMPLATE (MS Word)
 - 5. Patent Marketing Questionnaire (PDF)
 - All Forms in BOTH PDF and Word
3. CD Label and Binder Tabs

1B. Fill out two quick progress monitoring forms “All Patents Tracking Form” • “Individual Patent Progress Form”

All Patents Tracking Form

This form has five patents per page and provides a quick snap shot. This is helpful for managing a long list of patents. Since the form is in MS Word it is totally flexible. There is a sample color-legend at the top in case you want to highlight entries by color to denote different stages of development. For example,

- Black = waiting for questionnaires
- Green = received questionnaires (in progress)
- Purple = in public release re-review (ONLY if necessary)
- Blue = DONE, sent to TechLink

Option – Separate Lists? Or, you can simply cut and paste entries from this master list and start totally separate lists / MS Word files as desired – however you like to organize. Regardless, it may be a good idea to cut and paste finished entries (e.g., “DONE, sent to TechLink” and put in a separate document.)

Individual Patent Progress Form

This form repeats the BASIC vital statistics on the tracking form, but it only has one patent per page and allows significant space for you to document ONGOING chronological notes on each particular patent, plus, it identifies previously produced materials.

- **KEEP GOOD CHRONOLOGICAL NOTES.** For example, whenever you contact an inventor, it is helpful to keep good notes and dates. (Example: “2/25/19: ST [Spoke To] inventor. He found a great PP [PowerPoint] brief. Also, WP [White Paper] with great summary information. He is sending.”)
- **IDENTIFY PREVIOUSLY PRODUCED PATENT DOCUMENTS – MAJOR TIME-SAVER!** This form also asks the inventors WHAT is ALREADY AVAILABLE in the form of PowerPoint briefs, Papers / Reports • Articles / Publications plus visual aids including Posters / Displays • Photos / Graphics • Videos / Animations.

EASY, FLEXIBLE, MS WORD FORMS

MS Word vs. PDF. Custom forms are provided in different formats (MS Word or PDF) for different reasons and functionality. For example, the “Patent Marketing Questionnaire” and the “Patent Marketability Assessment Form” are all provided in PDF for ease of use. Other tracking forms, etc. are provided in MS Word format for additional flexibility. First, the tracking form suggests color-coding entries to indicate stages of development, and PDF forms DO NOT allow for changing colors, nor are PDFs flexible.

- **MS Word–Add as many pages as you like.** You can add more pages as needed by simply copying and pasting. Also, MS Word is great if you need to cut certain patents from the list to make several special lists (e.g., “Inventors Not Available” or “Cannot Participate at This Time”).
- **In MS Word, you can manually SORT and ORGANIZE your list (boxes) however YOU like.** The form lists **Patent Number** first so you could cut, paste, and sort **Numerically**. OR, if you prefer, you can cut and paste patents by colors to denote which patents are in different **stages** of development, OR you could sort them **Alphabetically** by the first letter of the “**Official Technical Patent Name.**”
 - **Sort / group by FAMILY of patents.** Some labs / patents / inventors have numerous spin-off / related patents that are still **MAJOR** in scope and warrant their own TechLink separate patent listing. In these cases, it is better to group these patents together with the main / parent patent on top, followed by the related / sub-patents underneath.

Fill out the “All Patents Tracking Form”

Purpose of form. This form allows you to quickly see, at-a-glance, ALL the patents you are working on and identifies all the vital data, but it also provides a space to identify the specific major stage of development at any given time. Includes five patents per page. If you only have a few patents, you can ignore the discussion below about color-coding and sorting, etc. However, if you manage a large portfolio of patents, the information below may be helpful.

Locate all patent lists. Your ORTA office should receive all available patent lists from your patent counsel office.

Next, open a copy of the “All Patents Tracking Form” and size it to fit the other half of your screen. (The sample form can be found in the Master Sample Patent Folder / Master Forms, Enclosures, and Emails / Forms and Enclosures. Or, you can just use the copy already included in the sample CD folder already downloaded.)



Then, transfer existing patent data from your patent counsel lists to your individualized form. You can do multiple patents at one time to save time.

Inventor Name Notes

- **Change name format.** For easier reading, change the format. Switch names around to first, middle, last.

CAUTION: Make sure you spell their names correctly, if you are one letter off, you may not be able to find them in Outlook when you look them up, and you will have difficulty contacting them.

- **List the lead inventor first.** On your form, and on the patent, and most other lists, the lead inventor is usually the first inventor listed.
- **Next, devise a very “short file name” for each patent.** Start at the top of the list and read each “Official Technical Patent Name” and then come up with a very “short file name” (two words if possible) and write it on the form.



- **Tip:** *This seems like crazy, unnecessary detail...but it is not. You will see. You need “short file names” to instantly identify which patent you are referring to when sending out several data-call packets and public release forms to inventors, supervisors, and public release staff (if pertinent). Everyone needs to know QUICKLY and exactly what patent you are talking about. Technically, you could use the patent numbers, etc., but nobody would know what you were talking about and many of the formal “Official Technical Patent Names” are too long and confusing.*
- **Tip:** *Developing short names is simple but some require a little thought. The goal is to use as FEW WORDS as possible to answer the question “What is it.” Delete all adjectives / qualifiers. OK to use acronyms, but ONLY if audience knows them well.*

Examples: Simple, logical, sample file names that require little thought:

- FROM: “Fumeless Latent Fingerprint Detection” TO: “Fingerprint Detection”
- FROM: “Apparatus for Detection of Objects” TO: “Object Detection”
- FROM: “Insensitive Munitions Warhead Explosive Venting System” TO: “IM Venting System”
- FROM: “Material Ordering and Reporting Expediter (MORE)” TO: simply using the acronym “MORE”

Examples: Some file names that require a little more thought when it comes to shortening:

- FROM: “Dual Polarized Broadband Tapered Slot Antenna” TO: “Slot Antenna”

- FROM: “Method for Utilizing a MEMS Safe Arm Device for Microdetonation”
TO: “MEMS Microdetonation” or just “MEMS” (if you do not have other MEMS inventions)
- FROM: “Phased Array Blade Antenna Assembly” TO: “Antenna Assembly”
- FROM: “Low Latency Switch Architecture for High-Performance Packet-Switched Networks”
TO: “Latency Switch”
- FROM: “Method for Surface Imprinted Films with Carbon Nanotubes”
TO: “Surface Films”
- **What if you have two closely related patents?** You have two options:
 - You may determine the MAIN / PRIMARY (parent) invention and then list the secondary related invention under “Related Patents.”
 - Or, if the two patents are significantly different but related, you could also add a one-word qualifier to differentiate. For example, if you had TWO “navigation converter” patents:

Example

- FROM: “Inertial Navigation Unit Protocol Converter”
- TO: “Navigation Converter”
AND, the second related patent....
- FROM: “Emulator for an Inertial Navigation Unit Protocol Converter”
- TO: “Navigation Converter Emulator” (the word “emulator” is the differentiator)

- **Repeat until the entire list is complete and each patent has a very short file name.**

- **Manually, cut and paste and sort your lists however you like.**

Options include

- Alphabetize the entire list of patents by the FIRST LETTER of the “short file name”
- Sort by PATENT number, etc.
- Cut the entries out and start creating totally separate lists / documents. Your choice.
- Keep in one list and color-code by STAGES of development. (See details below.)

- **Sort by color-code legend (at the top of “All Patents Tracking Form”)**

- **Tip:** *In order to easily track progress of multiple patents, while keeping patents in ONE LIST alphabetically for quick reference, you may find it helpful to use colors to identify progress levels. Again, while you can use any color variation you wish, the colors chosen are easily identifiable. And while they are the same colors used for highlighting different answers / categories on the “Patent Marketing Questionnaire” it MAKES NO DIFFERENCE here, because it is for an entirely different application. However, this is just one technique. Use whatever works for you, and whatever colors are best for you.*

Examples

- Black = waiting for questionnaires to come back from inventors
- Green = Received questionnaire back from inventors (in progress now)
- Purple = In public release review process
- Blue = Done. Questionnaire sent to TechLink

- **Tip:** *When developing these instructions, numerous alternative methods were used involving several independent checklists, etc. However, in the end, one form using colors appears to be the easiest process.*

- **Save Form.** When finished, save this form to your Master Sample Patent Folder / “4. All Patents Tracking Form.”

Fill out the “Individual Patent Progress Form”

- **Purpose of the form.** This form repeats the BASIC vital statistics on the tracking form, but it only has one patent per page and allows significant space for you to document ONGOING chronological notes on each particular patent. In addition, it identifies previously produced materials.
- **Copy the very basic data from the “All Patents Tracking Form”** and paste data into the “Individual Patent Progress Form.” This is the main tracking form you will use as it contains more detailed additional information you will need as you go along.
- **Next, look up contact information on ALL inventors in MS Outlook.**
 - Add their codes and email addresses to the form
 - Add the full patent URL
 - Look up the inventor’s email, code, and phone number and add to form
 - Add ALL co-inventors listed on the patent and look up their contact information
- **Save form.** When finished, save this form to your Master Sample Patent Folder / Individual Patents Folder, and then save into the specific patent folder identified by the short file name.

1C. Send the lead inventor the “Patent Marketability Assessment Form”

- **Email the lead inventor FIRST.** BEFORE spending ANY time working on any patents, you and your ORTA team may want to first evaluate your patents, assess them for marketability, and rate them according to the criteria set by your team and TechLink. Properly marketing patents takes time and effort over a several week period and you do not want to “spin your wheels” needlessly. Some patents may have no contact information available, inventors may have retired or moved to other labs, or inventors may be too busy or choose not to participate. You need to know this basic information right up front. Therefore, you will need to email the lead inventor to get this basic information.

To accommodate this prioritization process, this guide includes two things:

1. **Sample “Email to inventors assessing patent marketability.”** This email introduces you and the overall project, tells a little bit about TechLink, and asks if the inventors might like to participate. The email also includes an attached “Patent Marketability Assessment Form” for them to fill out and return. See Master Sample Patents Folder / Master Forms, Enclosures, and Emails / Emails (Samples) / Email to Inventors Assessing Patent Marketability.
 - **Time allowed for response (1 week):** This very simple form requires 15 minutes or less to complete, plus whatever time it takes inventors to locate all previously produced patent briefs, documents, publications, and visual aids. Most have a PowerPoint brief, etc. that they can quickly send you; while others have to search their files and call fellow inventors.
2. **“Patent Marketability Assessment Form.”** This form asks the lead inventor (usually listed FIRST on the patent) to answer a series of basic qualifying questions on their patent.

GENERAL TIPS AND HINTS

Email Read Receipts – Help keep things moving. Read receipts for data requests are very effective when follow-up is required. You will be emailing inventors five times for data, reviews, and approvals (sample emails are included.) It is also helpful to notate these SENT and RECEIVED dates on your “All Patents Tracking Form” and your “Individual Patent Progress Form” because busy inventors frequently skip over emails for voluntary data calls such as this. Therefore, if you DO NOT get a read receipt in several days, then you know you need to follow-up with a friendly reminder call to keep things moving.

- **To request a receipt.** In MS Outlook, when sending, simply go to the top menu and select “Options” and then check the box that says “Request a Read Receipt.” When they actually open the file, you will be sent a notice. Very simple.

1D. Analyze inventor responses and prioritize patents with highest potential

After receiving the assessment form back from the lead inventor, you and your team need to analyze the responses, delete those patents that do not qualify, and prioritize the rest according to which ones are most likely to succeed.

- **Remove any patents from the list that do not qualify.** Simply cut the entry from the main list and paste into separate MS Word files with different names by CATEGORY as appropriate.

Examples:

1. “Inventors No Longer Available”

- **Tip:** *Frequently, due to the passage of time, some inventors may have either moved on to other positions, transitioned to other laboratories or positions, or retired. This poses a significant problem unless one or more of the co-inventors listed on the patent are willing and able to ACTIVELY PARTICIPATE. If there is little interest, then simply file the patent in the “Inventors no longer available” file.*

2. “Cannot participate at this time”

- **Tip:** *There are MANY reasons why inventors simply can’t respond. Don’t stress, do what you can, and then move on. Simply make notes as to the reason given in the “chronological notes” section on the “Individual Patent Progress Form.”*

In short, pick your “BEST STUFF” to work on first. Sit down with your ORTA lead and go over the list of all your patents. If you have questions about this, the TechLink staff can assist as needed. Their contact number is 406-994-7700. The following are basic guidelines.

Team up. Laboratories may want to assemble a team to perform regularly scheduled reviews of its own issued patents. That team should be a mix of people with technical, business, and intellectual property skills, as this process takes time, diligence, and more skill than can be contributed by any one person. The following are useful steps that can be taken to achieve a meaningful evaluation of patents for commercial licensing value.

“Patent Marketability Assessment Form” Questions and Criteria – What to look for

(**Note:** Again, if you only have a few patents, disregard the information below. However, if you are juggling a large portfolio, then read on. You and your team will have to prioritize which criteria, listed below, are the most important to your laboratory, when choosing patents with the highest potential. At the end of the form, there is a summary box for rating each patent on a 1-9 scale.)

1. **Check the DATE the patent was filed. Keep in mind that aging patents rapidly lose value to prospective licensees. Patents generally have a 20-year lifespan.** There is no hard cut-off date, but this is a major factor for consideration. As such, recent patents may have more marketing value. However, many industries, very interested in a certain technology, often want to have ALL related patents licensed, even those that are more dated. In these cases, TechLink discounts can be applied on a case-by-case basis.
2. **Check whether or not the lead inventor or co-inventors have an interest in participating and if they are still available.** If not, move on.
3. **Check the scope of the patent.** The form asks if there is a prototype available, number of years in development, number of employees involved, and estimated dollars invested by the government to date.
4. **Check the TRL level for marketability.** Products with high Technical Readiness Levels (TRLs) are more marketable (TRL 6-9). The TRL lets industry know immediately how much additional work they have to do to get this to market. If you have a working prototype, your level



will be at least TRL 6. Some industries may only want to pursue licenses where a working prototype has been developed (TRL 6 or above), and others may only be interested if the item has been successfully field tested (TRL 9).

Proof of concept – Validation

- **TRL 1 – Basic principles observed and reported.** Lowest level of technical readiness. Scientific research begins to be translated into applied R&D. Examples include paper studies of a technology’s basic properties.
- **TRL 2 – Technology concept and/or application formulated.** Invention begins. Once basic principles are observed, practical applications can be invented. Applications are speculative and there may be no proof or detailed analysis to support assumptions.
- **TRL 3 – Analytical and experimental critical function and/or characteristic proof-of-concept.** Active R&D is initiated. Includes analytical and laboratory studies to physically validate analytical predictions of separate elements of the technology. Examples include components that are not yet integrated or representative.
- **TRL 4 – Component / subsystem validation in laboratory environment.** Basic technology components are integrated to establish how they will work together. This is relatively “low fidelity” compared to the eventual system. Examples include integration of “ad hoc” hardware in the lab.
- **TRL 5 – System / subsystem / component validation in a relevant environment.** Fidelity of breadboard technology increases significantly. The basic technology components are integrated with reasonably realistic supporting elements, so it can be tested in a simulated environment. Examples include “high fidelity” lab integration of components.

Prototyping

- **TRL 6 – System / subsystem model or prototyping demonstration in a relevant end-to-end environment.** Representative model or prototype system, which is well beyond that of TRL 5, is tested in a relevant environment. Represents a major step up in a technology’s demonstrated readiness. Examples include testing a prototype in a high-fidelity laboratory or in a simulated operational requirement.
- **TRL 7 – System prototyping demonstration in an operational environment.** Prototype near, or at, planned operational system. Represents a major step up from TRL 6, requiring demonstration of an actual system prototype in an operational environment.

Final Test and Evaluation (T&E)

- **TRL 8 – Actual system completed and “mission qualified” through test and demonstration in an operational environment.** Technology has been proven to work in its final form and under expected conditions. In almost all cases, this TRL represents the end of true system development T&E of the system in its intended weapon system to determine if it meets design specifications.

Final Operational Field Testing

- **TRL 9 – Actual system “mission proven” through successful mission operations.** Actual applications of the technology in its final form and under mission conditions, such as those encountered in operational T&E. Examples include using the system under operational mission conditions.

5. **Check to see if the patent has military or commercial applications or both.** Patents with both are more marketable.
6. **Rate the patent on its OVERALL probability of being licensed.** At the bottom of the form, there is a pull-down menu (1-9). A rating of 9 means this patent has the HIGHEST probability of being licensed and a rating of 1 would be the lowest.

1E. Locate all previously produced patent briefs, documents, publications, and visual aids on the specific patent. Follow-up with inventors.

Very Important Time-Saver. Chances are ALL the main BENEFITS and major selling points have already been identified and summarized. Early documents helped explain their ORIGINAL high-tech concept to management and sponsors. NOW, at this stage, we need these same documents to simplify these concepts to industry. Usually one inventor has “just the right brief” that nails the content so writers don’t have to reinvent the wheel.

Important follow-up phone call. Best to follow-up your email in a few days with a phone call to the lead inventor. Introduce yourself, explain the project, ask them if they received the email, and ask if they have any questions. Nicely encourage participation. Have your “Individual Patent Progress Form” open so you can type in data and chronological notes as you go.

- **Confirm if there are any “Other related patents.” Ask inventors to identify the one MAIN patent and then identify ANY closely “related” patents and the main differentiators.** Then, on the questionnaire in the “Related Patents” box, you can simply list all other closely related spin-offs, or sub-patents (Also known as “continuations-in-part” or “divisionals” or “patents for related inventions”). The questionnaire asks for the patent number, name, and the “**Main Differentiator**” (e.g., what makes this **sub**-patent unique compared to the main patent)? Write this on the form to avoid confusion.

For example, if a main biofuel patent is related to military jets, BUT variations of the fuel via other related patents could have MAJOR application to OTHER industries such as the race car industry, or recreational products industry, etc. sometimes it might be worth having a totally separate patent write-up for marketing to other industries.

CAUTION: If you do not ask the inventor, you will have no way of knowing, and you may spend needless hours working a patent when it really should just be listed simply as a “**related**” patent on the main patent write-up. When you get the list of “related” patents from TechLink or your ORTA, they are NOT grouped with the MAIN patent in any way. Good luck!

- **Identify all patents by the SAME inventor.** While you have the inventors on the phone, also confirm any other patents by the same inventor. More often than not, many, if not most, inventors are named on **multiple** patents you will be working on. It is very helpful when speaking to them if you know **ALL** the inventions their names are attached to. Otherwise, you will be calling the same inventor back SEVERAL TIMES. Many inventors are hard to reach. Try to get as many answers in the fewest calls.



- **Identify all other inventors.** The lead inventor will probably identify OTHER inventors who are very active and who may wish to participate. Good to notate their name and contact information, but SECONDARY inventors should channel their input and comments to the lead. The lead can compile comments and send FINAL inputs back to you throughout the process. Experience on numerous major data call projects show that this is way too complex if you try to deal with multiple inventors. It becomes too time-consuming and ineffective.
- **Locate all previously produced materials.** When you speak with the lead inventor, it is important to re-emphasize the importance of identifying and locating all previously produced materials. Sometimes, the lead inventor will have materials readily available to send to you. However, more often than not, they will have to relocate materials and contact all co-inventors for help here as well. It is very important to follow-up with inventors to secure ALL materials.
- **Save Form.** When finished with the “Patent Marketability Assessment Form,” save this form to your Master Sample Patent Folder / Individual Patents Folder / then into the specific patent folder identified by the short file name.

DATA CALL

2. Prepare the initial data-call package to send to inventors

Contents of the initial data-call package

- “Email to inventors with the data call package”
- “Patent Marketing Summary Sample” (Generic sample. This will be an enclosure.)
- “Patent Marketing Questionnaire” (This will already be partially filled out by you in advance.)

Preliminary Set Up Tasks

- **First, set up frequently used patent search internet sites (icons) on your desktop for quick reference.** First, you need to locate a copy of the actual patent itself for reference. The patent partially answers several of the key questions on the questionnaire. But this is not a straight-forward simple task because certain patents DO NOT exist on all sites. You have to check. Also, there are several patent sites and some provide the text in **editable** format and others do not. It is recommended that you get set up for all options just in case.
 - **Pin the site to your menu.** Therefore, first locate each of the sites below, and then, with the homepage open, copy the entire top URL line of each site and paste it into your menu bar. Instantly, the ICON for that site will then appear and the site will be easy to locate in the future. If you can't find a patent on one site, just click the ICON and try the next site.
 - **Try to use the United States Patent and Trademark Office (USPTO) website FIRST** as this site does not require passwords, and patents are in TEXT FORM so that you can simply copy and paste into a MS Word document without retyping data or having to convert it to PDFs, etc.
 - **USPTO:** <http://patft.uspto.gov/netahhtml/PTO/search-bool.html>
- Other TechLink Patent Sites** – Note: The Government does not recommend or show favoritism to any other specific non-governmental sites; however, three other patent sites frequently used include:
- Patent Buddy: <http://www.patentbuddy.com/>
 - Acclaim: <http://www.acclaimip.com/>
 - Google Patents: <https://patents.google.com/>
 - *Tip: However, this list is NOT all inclusive. There may be many other excellent sites.*



2A. Convert patent into a simple MS Word document. Find three main answers. Basic edit.

Searching for answers to three main questions. Existing Tech • New Tech • How it Works

Overview. Patents are written in a complex scientific legal style, two-column format with hundreds of numerical margin references, etc. and many patents are in PDF formats, etc. and too difficult or impossible to edit. Therefore, text must be copied and pasted into a simple easy to edit MS Word format. Next, identify and color-code the best answers to several questions and then delete text that is not needed. Finished, first-draft answers will be copied and pasted into the appropriate answer boxes on the “Patent Marketing Questionnaire.”



At this stage, you are answering only three main questions. LATER, on the questionnaire itself, after further refinement, you will be answering a few other major questions including, Major Benefits, Marketing Title, and Sub-title, etc.

- **Tip:** *At first glance, the information below may seem overly detailed. However, after you do this once or twice, it's a snap and the whole process can be done in 30 minutes or less. Advanced writers and researchers, highly skilled, may not even need this color-coding step.*

Open a NEW MS Word document and format it

- Name it, using the short file name of the patent:
Example: "Fingerprint Detection Patent in MS Word"
- Set margins to 0.6 all the way around (Home / Layout / Margins / Narrow [0.6 all around])
- Set line spacing to single spaced
- Type in a subject line for your new document.
Example: "Fingerprint Detection Patent in MS Word"

Copy and paste the USPTO original patent text into the new MS Word document

- Home / Select All (far top-right menu)
- Paste the copied text into a new MS Word document using the FAR RIGHT "paste" icon that reads "Keep Text Only"
 - **Tip:** *This is a great function in MS Word, as this feature lets you ONLY select the TEXT. It **automatically** deletes all the photos, graphics, tables, etc. that you DO NOT need at this time. In addition, it **automatically** converts the two-column format into an easily editable one column format you can work with. You will still have to delete numerous reference numbers, delete many other things, and clean up the document quickly, but MS Word does a nice job initially.*

CAUTION: If you inadvertently select any of the other paste options, it won't work. If you do by mistake, just undo, select, and re-paste using the **FAR RIGHT** paste icon.

- Now close the USPTO page. You are done with that for now. Leave the other file up.

In the new file, delete ALL unneeded content (clean up the new document)

- Scroll down to the first major section, probably "Field of the Invention" and delete everything BEFORE it (above it)
- Next, go through the document and delete ALL of the following that might not have already been cleaned up automatically

| | | |
|----------|----------|-------------------|
| Captions | Figures | Graphs |
| Drawings | Formulas | Reference numbers |

Delete the "Brief Description of the Drawings" section entirely (if applicable).

Highlight and BOLD all the major headings remaining in the patent for quick reference.

Why not just write one long paragraph that combines everything? Three main questions you are answering via words in the patent. "Existing Technology," "New Technology," and "How it Works." Experience has proven that if you "mix it up" up into one longer paragraph, it may tell a quick "big picture" story but usually does not capture the FULL STORY that industry needs to make a decision. This "mix it up, check in the box" approach is definitely quicker and is frequently used by inexperienced writers, but it is not thorough, accurate, and compelling as having full, substantiated data in each category. This is the purpose of this guide.

- **Color-coding.** Experience has shown that simple color-coding works very well when closely reading for specific answers.
 - Existing Technology = Blue
 - New Technology = Green
 - How it Works = Orange

- **Three reasons to color-code**
 1. **Laser focuses your attention.** Allows you to focus your attention on one of the three topics (Existing, New, How) and color-code text on the spot. If you just copy and paste it in one long paragraph, you will just have to sort it later on anyway.
 2. **Documents your process.** If an inventor asks where did certain information come from, by color-coding you can find it instantly.
 3. **Marks your place.** Also, we are all interrupted throughout the day with phone calls, unexpected meetings, etc. If you color-code, and then get interrupted, you can come back and know right where you left off.
- **Optional step for advanced writers or very simple patents?** If your patent is exceptionally simple, or if you are a very analytical and highly organized person/writer who can EASILY separate the “wheat from the chaff” from a very complicated patent, then you can probably skip this next step. But, if you are new to this, you may want to start using the color-code method, at least at first, to easily extract categorized data from some patents that are so complicated you can’t make heads nor tails. Using this method, as you slowly read the material, you can color-code as you go. Then, when you are finished, you simply copy all the “Existing Technology – Blue” wording and paste it under the “Existing Technology” heading in the “Patent Marketing Questionnaire,” etc. **We recommend that you color-code for a few patents anyway to help train yourself to spot and separate these three topics.** After that you may or may not need to do this. This looks complicated, but it is NOT.

[Fingerprint Detection Patent Example Below – Color-Coded](#)

EXISTING TECHNOLOGY (Problem / Goals) – Sections to Keep:

- **Background of the Invention**
- **Only a few key words in the “Detailed description of the embodiments of the invention”**
 - *Tip: Although this is PRIMARILY describing the NEW invention, sometimes wording here will inadvertently include EXISTING TECHNOLOGY. If so, you may be able to pull out a few sentences. However, you will probably end up deleting MOST of this section including any and all references to photos / graphs / tables, etc.*

NEW TECHNOLOGY (Solution) – Sections to Keep:

- **Abstract**
- **Field of the Invention**
- **Summary of the Invention**
- **What is Claimed**
- **Embodiments of the Invention** (Like above, just keep a few introductory words ONLY if they describe NEW technology. You will probably end up deleting MOST of this section.)

HOW IT WORKS

- **“Abstract” and any applicable words from any of the above sections**

Note: Your final paragraph will most likely be your short executive LAYMAN summary. Often, the Abstract itself does the best job of summing up how it works because MOST of the rest of the patent is simply way too complex for marketing applications. This is where looking up key high-tech words in the dictionary may also help. Just highlight key words here and there throughout the document telling HOW. Eventually, it will tell a quick one paragraph story. Also, it all becomes CLEAR once you have the entire questionnaire back with inventor’s input, AND you have looked at ALL supplemental material (white papers, other publications, articles, etc.). Between all sources, you will be able to tell a quick story as to HOW IT WORKS in layman’s words.

Sample Patent Text Converted to MS Word First Draft is then Edited and Color-Coded in the Example Below

Searching for answers in the original patent that explain
Existing Technology • **New Technology** • **How it Works**

Sample patent below. The sample used is “Fingerprint Detection,” the same example used throughout this guide. Below is the original patent text that was copied and pasted from the USPTO website into a flexible MS Word document. Your first draft answers from this MS Word document would be copied and pasted into the appropriate answer boxes on the “Patent Marketing Questionnaire.”

Fingerprint Detection Sample Patent Color-Coded

ABSTRACT

A fumeless latent fingerprint detection system using fluorescent particles.

FIELD OF THE INVENTION

The invention generally relates to a method for fumeless latent fingerprint detection, and more specifically, the use of functionalized fingerprint powders that are made to specifically bind fingerprint residues.

SUMMARY OF THE INVENTION (Not included for this patent. Patents differ and many do not contain all the same categories. Even the headings may change somewhat (e.g., Some read “Claims” and other patents read “What is Claimed,” etc.)

EMBODIMENTS OF THE INVENTION (Only keep a few introductory sentences, etc. Words to keep are highlighted in green font. Notice that some words are highlighted in blue font indicating Existing Technology – Problems / Goals information. These words go in another answer box.)

Embodiments of the invention generally relate to fumeless latent fingerprint detection. The development of latent fingerprints is a time consuming process. Older techniques are based on the iodine / silver transfer method. This method involves a 5 step process: fuming iodine with a heat gun, directing fumes toward the location of the prints, placing a sheet of silver on the prints, removing the silver plate, and exposing the plate to a bright light source to expose the prints. Newer techniques use fuming superglue (cyanoacrylate) prior to manually dusting with either black powders.

Embodiments of the invention relate to a method for latent fingerprint detection including, providing at least one functionalized fluorescent particle capable of binding to at least one print residue, applying the particles to a surface / substrate. Additionally, the ability to functionalize these particles with a variety of chemical moieties allows for exquisite control of solubility, aggregation, and surface chemistry. A rapid, high throughput process for imaging latent finger-prints to aid in the identification of suspects is required.

Instead of taking evidence back to a lab for complete finger-print analysis, embodiments of this invention allow for the real time development and digital storage of fingerprints, in the field, on a variety of substrates. The ability to quickly identify fingerprints on evidence in the field will increase the chances of matching latent prints to individuals in the area.

Automation of latent fingerprint detection and processing is hindered by the time consuming and labor intensive process of fuming prior to dusting with powders. After dusting, the prints are typically removed from the surface, sealed, and taken back to the lab for analysis. The fuming process and removal of the prints are often destructive to the evidence / substrate and are also time consuming steps toward identification. Embodiments allow for real time analysis of fingerprints in the field.

A new method of developing latent fingerprints without the need for fuming techniques has been discovered. Embodiments of this method include the use of lanthanide oxide nanoparticles functionalized to specifically bind to finger dictates the degree of solubility / reactivity of the particles.

In the step of applying the particles, techniques utilizing hydro-phobic (e.g., long chain alkanes including palmitic acid or trioctylphosphine oxide ligands) interactions can be used.

- **Tip:** Text in orange indicate HOW IT WORKS, however, the final write-up did NOT include this level of detail. However, it is highlighted here as an example only.

In summary, the automation of latent fingerprint detection is hampered by the complicated and time-consuming fuming process. A fumeless lanthanide oxide nanoparticle system 55 was developed to eliminate this problem. Fluorescent nano-particles were synthesized with specific binding interactions to fingerprint residue. The small size of the nanoparticles coupled with the specific binding allows for better detection.

WHAT IS CLAIMED (*Tip: As seen below, only a very few things are highlighted in the entire section. Normally, this section might have been completely deleted for being too high-tech; however, we left it in for example only. “Sometimes” you may be able to pull a few good words here and there in a quick scan. The point is, DON’T GET BOGGED DOWN with high-tech minutia. Scan it quickly and pull out a few good words if you can. If you can’t – move on!*)

1. A method for latent print detection, comprising: providing at least one type of fluorescent particle; functionalizing said particles by covalently or ionically bonding a telechelic, multifunctional ligand to the surface that allows for covalent or ionic bonding directly to print residue; applying said functionalized, dry particles to a surface / substrate and determining whether said surface / substrate includes said residue; substantially removing unbound and excess said particles from said surface / substrate; and detecting remaining bound said particles through their fluorescence with a broadband UV source in real time.

2. The method according to claim 1, wherein said particles are polycrystalline or amorphous nanoparticles.

3. The method according to claim 1, wherein said prints are either human or animal.

4. The method according to claim 1, wherein said print is selected from the group consisting of fingerprint, nose print, and / or footprint. (Words could also be used in NEW TECHNOLOGY section.)

5. The method according to claim 2, wherein said nanoparticles include a lanthanide oxide.

(**Note:** Items purposefully skipped for example purposes only.)

This invention has applications for latent fingerprint detection on a variety of surfaces including, but not limited to porous (e.g., documents) and non-porous (e.g., metals). This technology could be utilized by all forensics agencies. (Words could also be used in the NEW TECHNOLOGY section.)

10. The method according to claim 1, wherein said particles have a broad excitation and narrow emission profile for fluorescence.

11. The method according to claim 1, wherein said detecting of remaining bound said particles utilizes optical filters requires latent fingerprint detection including: local, state, and federal law enforcement / agencies, and military forensics units.

2B. Complete the “Patent Marketing Questionnaire”

Overview – Works Like Magic! This evolutionary research tool works like magic and has evolved over many, many years for major data-call projects, with a goal of constant improvement and efficiency in mind (75+ prior versions. In short, it works!) Research has proven that a highly focused questionnaire with clear examples is the fastest way for you to obtain needed ingredients you must have. The questionnaire uses a reverse engineering methodology, asking focused questions that break down the complex “whole” into easily understandable, individual “parts” who / what / when / where / why / how data. It serves as a worksheet.



Icing on the cake. In addition, the patent asks probing questions getting the inventors to think “out of the box” in order to reveal interesting and compelling data to enhance readability – “icing on the cake.” Interesting statistics, facts, and examples.

About the Questionnaire

Answers Who, What, When, Where, Why and How

- Worksheet allows space for compiling and editing all data from several sources in order to create an effective final “Patent Marketing Summary” for the TechLink website
- Identifies Major Benefits and Who Benefits
- Provides vital statistics, background information, related patents, and points of contact
- Quantitates the significance and scope
- Documents interesting statistics, facts, examples, stories, and WOWs – “icing on the cake” to sprinkle into the final write-up to make the story compelling for industry
- Lists any helpful downloadable supplemental information (PowerPoint briefs, papers, articles) to include on the TechLink website

Identifies needed vital licensing data

- Identifies the opportunity – all industry applications and license availability
- Identifies TechLink marketing leads (potential manufacturers)
- Identifies the TRL, prototype status, key search terms
- Identifies current status and future plans

Instead of having a professionally skilled interviewer schedule **lengthy oral interviews**, etc., initial inventors beta testing this methodology, reported that this questionnaire takes 1 to 2 hours to complete. It appears long BUT this **includes** much space devoted to providing exact examples so you know the **exact** data you need, AND it **includes** lots of space for you to copy and paste data, AND many questions will simply be not applicable (NA). The beauty of the format is that inventors are on their own **flexible timeline** to get it done. This critical form provides a “jump start” for inventors.



Exception – Recorded Interviews. A few inventors may actually prefer to do a recorded interview. In these cases, BRING A RECORDER (much easier) and just ask the questions presented in the questionnaire (in order). Then simply transcribe later. Also, occasionally, you can push for an interview when you are having difficulty getting inventors to fill out and return the questionnaire. Everyone has their own style and preferences.

Very Important Step

YOU must complete as much of the questionnaire as possible BEFORE sending this questionnaire to the inventors. This legwork is the job of the patent marketing specialist. If just asking the inventors to “do it” worked in the first place, this guide would not be needed now.

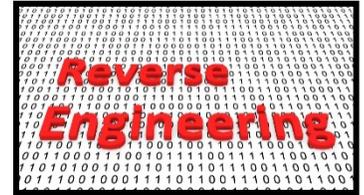
Techniques for VERY CONFUSING patents with little information

- **If you still do not have sufficient information, look up other similar patents on the internet.** If you still do not have, or simply cannot locate earlier documents regarding the patent, you can “look it up” to find related patents / sites that can provide additional, simple, “layman’s terms” language to understand WHAT your patent is about in order to explain it to industry. Most patent write-ups are very highly complex and even the “abstracts,” in many cases, do not easily describe WHAT it is. On the questionnaire we even ask, “In ONE WORD...what is it?” You would be amazed to see how many inventors have trouble answering this basic question.

Example. After interviewing one inventor for 15 minutes and after playing 5 minutes of charades in an attempt to get to the heart of the matter, the author gave the inventor a pen and asked if he could draw it. The inventor quickly sketched three lines and handed it back. Presto! As it turned

out, the invention was not a tangible product; it was a conceptual FORMULA / ALGORITHM. That is why they say, “It’s Rocket Science.” First ask, “what is it” in ONE word.

- **Reverse Engineering.** Break down complex lingo by reverse engineering. The questionnaire contains a box for you to vertically list any very high-tech or confusing words in the abstract and look them up in an online dictionary and write out a layman’s definition next to each. This will help you make sense out of “rocket science” vernacular. If you understand the individual “parts,” you will better understand the “whole.”



Excellent online technical dictionaries. Here are a few.

- **Information Technology.** Techopedia: <https://www.techopedia.com/dictionary>
- **Physics: Oxford.**
 - <http://www.oxfordreference.com/view/10.1093/acref/9780199233991.001.0001/acref-9780199233991>
- **Mechanical Engineering. Oxford.**
 - <http://www.oxfordreference.com/view/10.1093/acref/9780199587438.001.0001/acref-9780199587438>
- **Recommended length of finished write-ups?** While this is not set in stone, from an initial promotional standpoint, the goal is 1 to 2 web pages maximum for the three main topics. Then, all additional and supplemental details can be listed in the “Articles and Downloads” (PowerPoint briefs, white papers, videos, posters, etc.).

| Average for all 16 patents | Words | Fingerprint Detection Sample Only | Words |
|----------------------------|------------|-----------------------------------|------------|
| Existing Technology | 100 | Existing Technology | 103 |
| New Technology | 175 | New Technology | 142 |
| How it Works | 125 | How it Works | 159 |
| TOTAL WORDS | 400 | TOTAL WORDS | 404 |

- **TechLink Random Samples.** In a blind test (conducted AFTER all the NAWCWD (new methodology totals were generated above), three finished write-ups (27 total) from nine random sample organizations listed on the TechLink website were studied. Results showed that the AVERAGE finished word count was 394 words, NEARLY IDENTICAL to the AVERAGE word count used by the new NAWCWD China Lake methodology.
- **Estimated time required to complete one write-up.** After the guide has been in use for some time, and feedback is received from numerous organizations and ORTA writers actually using the system, the author will then have sufficient data to calculate a reasonable “average.” These data will appear in the first update to this guide. Remember to please send us your feedback.
- **Initially, YOU must complete the first draft of this form BEFORE sending it to inventors.**
 - **Transfer the best answers from the patent.** Next, open the “Original Patent in MS Word” and copy the highlighted and color-coded best words / answers, and paste the answers into the appropriate answer boxes on the questionnaire.
 - **Transfer ALL data and notes from the “All Patents Tracking Form.”**
 - **Transfer the best answers from ALL vital supporting documents and publications.**
 - **Transfer the best-of-the-best wording into the final “Inventor’s Review” boxes** (1-7 highlighted in red) and wordsmith / edit into an effective, interesting, final first draft.
- **Second, you will send the final first draft of the completed questionnaire to inventors for their input, revisions, and additional supplemental information.**

| Questions on the questionnaire
(color-coded) | Patent sections that best answer these questions
(Note: Patents differ and some may NOT have all categories) |
|---|--|
| 1. Existing Technology
(Problem / Goals) | “Background of the Invention” • If applicable, only keep key words from “Detailed Description of Embodiments of the Invention” |
| 2. New Technology
(Solution) | “Abstract” • “Field of the Invention” • “Summary of the Invention” • “What is Claimed” (only keep key words)
• “Detailed Description of Embodiments of Invention” (only keep key words) |
| 3. How it Works | “Abstract” & applicable words from any of the above 5 sections |
| 4. Major Benefits | This will encompass single word highlights (bullets) from “New Technology” and “How it Works” (See instructions below) |

Questionnaire Sections

1. Existing Technology

- “Background of the Invention.” Go through your patent document in MS Word and copy all the font highlighted in blue in the “Background of the Invention” section (and any other blue text you have highlighted anywhere) and paste these words into the “Existing Technology” box on the questionnaire.

CAUTION: When copying and pasting from many different sections, it is best that you leave some SPACE between each new pasting/entry OR just leave a blank line so you have natural BREAKS between varying text and you can easily see where you pasted new content from another section. Later you can add transitional words in the blank spaces to tie all the pieces together so it flows and makes sense. Right now, you are just copying words/ingredients into basic category boxes so you can edit later.

2. New Technology

- **2A “Abstract”:** From the patent in MS Word, copy the “Abstract” paragraph and paste it into the Questionnaire in box #2 “New Technology.” (Separate text as needed.)
- **2B “Abstract” (Layman Word Definitions):** Vertically, list any very high-tech or confusing words in the abstract and look them up in an online dictionary and write out a layman’s definition next to each. This will help you make sense out of “rocket science” vernacular.
- **2C “Claims”:** Next, from the patent in MS Word, copy the best “Claims” words or the entire paragraph (if short) and paste into the questionnaire in 2C “Claims.”
- **2D “Field of the Invention”:** Next, from the patent in MS Word, copy the best “Field of the Invention” words or paragraph (if short) and paste it into the questionnaire in box #2D “Field of the Invention.”
- **2E “Summary of the Invention”** (if applicable): Next, from the patent in MS Word, copy the “Summary of the Invention” paragraph(s) and paste it into the questionnaire in box #2E “Summary of the Invention.”

3. How It Works

- Within the patent in MS Word, copy the “Patent Abstract” paragraph and paste the text in the “How It Works” answer box #3.
- Also, do a quick scan of the “Detailed Description of the Embodiments” and see if you can pick out 3 to 4 introductory or explanatory type sentences that may be useful and copy and paste them in this box as well. (However, 95% of the text is usually way too complex.)

Tip: The goal is give “just a little” data on how it works WITHOUT giving too many details. One paragraph is all that is needed. Sometimes you can just shorten the “patent abstract” or pull a sentence or two from other answers above. But keep it BASIC for promotional purposes. Remember, readers can always refer to the highly detailed patent for detailed “how it works” data at any time.

4. Major Benefits

The requirement here is a little different. Here, you are looking for short, descriptive statements / phrases / bulleted points that quickly nail the “major benefits” in short order. Refer to the “**New Technology**” and “**How It Works**” sections (above) and bold each, specific, major benefit listed in the text. Next, copy and paste the benefits in the box, then bulletize them, and finally, prioritize the list from most to least significant. (Detailed example is included below. Answer box at the end.)

Major Benefits Example (Fingerprint detection patent sample)

“Instant, accurate, fumeless, latent fingerprint detection”

“Easy-to-use fumeless powder detects prints up to 30 days”

Fingerprint Detection Example

“New Technology” section / write-up WITH “Major Benefits” wording highlighted. (Notice that the wording / phrases that best describe MAJOR BENEFITS are highlighted in red.)

Acting in quick response to an urgent need by the U.S. Special Operations Forces, NAWCWD researchers developed a smart powder that revolutionizes all of this and requires no chambers. **Detection can be done easily in the open air within seconds.** The new smart powders specifically / chemically bind to fingerprint residues. A solid-state reaction (as opposed to fuming gas or applying liquid) significantly reduces operator error and enhances ease of use. **There are no power or special operating requirements.** For one application, the DoD needed to get quick prints off of IEDs in the field. Likewise, for technology transfer applications, this technology allows forensic units to **quickly take prints from large and fixed items in the field**, such as automotive doors and trunks, office windows, and elevators. In many cases, these items would need to be removed and physically taken to a laboratory in order to obtain highly accurate results.

“How it Works” section / write-up WITH “Major Benefits” wording highlighted.

The invention adds the chemistry of fuming superglue to a powder that can be applied by simply dusting. The powder chemically reacts with fingerprint residues in a manner similar to fuming superglue but requires no special chamber, heat, or fumes. This simplified method allows large objects to be checked for prints in the field, and provides for fluorescence detection under ultraviolet light. Prints are also visible with white light, so a digital camera flash will enable a detailed print to be captured electronically. **The new method detects level 3 details, such as skin pores**, and is shown to be **effective on latent fingerprints as old as 30 days!** In addition, it is superior to current commercial powders in response to stresses resulting from rough handling. Prints dusted with the new powder can withstand temperature changes, water exposure, and light rubbing. It has unlimited applications for detecting finger, nose, and paw prints for crime scene evidence collection and military applications.

Now, combine all the Major Benefits (Final bulleted list taken from the “New Technology” and “How it Works” sections. Then prioritize and rank the list according to overall significance with the most significant at the top.)

- **Instant, accurate, fumeless, latent fingerprint detection**
- **Easy-to-use fumeless powder detects prints up to 30 days**
- **Allows for real-time print identification in the field**
- **Decreases detection time from hours to seconds**
- **No power or special operator requirements**
- **Detects level 3 details such as skin pores**

5. Who Benefits

- List of all the entities that benefit from this invention. Can be a bulleted list or an explanatory sentence or two.

Next, **REFINE** all write-ups that will be submitted for “Inventor’s Review” (Boxes 1, 2A-E, 3, 4, and 5.) While the entire questionnaire is a “worksheet,” there are a few boxes, highlighted in red font, that denote “FINISHED WRITE-UPS FOR INVENTOR’S REVIEW.”



- **Tip:** All refinements should be done *BEFORE* attempting to create a final “Marketing Summary Title” and “Summary Sub-title.” The reason is because the title and sub-title are the **MAIN HEADLINE ATTRACTION** and must capture the **HIGHEST VALUE** of the patent to industry. When you have finished refining all of the above information, the single most important title (top line) and the second most important sub-title (second line) will become evident by this time.

6-7. Creating a dynamic TITLE and SUB-TITLE

Need a catchy, sellable, promotional title. Refer to the bulleted list of MAJOR BENEFITS above, because often the TOP BULLET on the list can be used to craft the words for the main title. Capitalize the first letter of each word in the title.

Marketing summary TITLE examples

- Patent: Latent Fingerprint Detection
 - Title: “Instant, Accurate, Fumeless Fingerprint ID in the Field”
- Patent: “Facial Recognition Software”
 - Title: “Adaptive Facial Recognition Software”
- Patent: “Screw Removal Tool”
 - Title: “Screw Removal and Insertion Tool”



Patent summary SUB-TITLE examples. Refer to the “Major Benefits” bulleted list and pick the benefits of SECONDARY importance and use as is or craft it into a sub-title. Often the second and third bullets also work well. Only capitalize the first letter of the first word in the sub-title. All other words should be lower case.

- Patent: Latent Fingerprint Detection
 - Title: “Instant, Accurate, Fumeless Fingerprint ID in the Field”
 - Sub-title: “Easy-to-use fumeless powder detects prints up to 30 days!”
- Patent: “Facial Recognition Software”
 - Title: “Adaptive Facial Recognition Software”
 - Sub-title: “Military and commercial applications regarding safety, security and surveillance.”
- Patent: “Screw Removal Tool”
 - Title: “Screw Removal and Insertion Tool”
 - Sub-title: “Removes stubborn screws with minimal effort.”

Next, complete the very top questions on the “Patent Marketing Questionnaire.” Questions are in the same order as data appears on the patent in MS Word.

- **Tip:** Refer to the original patent in MS Word document to complete the very top information on the questionnaire. Recommend zooming in to 200% view. High-tech patent jargon is hard to decipher in small font. Recommend you put the patent on left screen and the questionnaire on the right side. Makes it easier to just copy and paste [or type / transcribe] from one to the other. When pasting, select the “Merge Formatting” (middle arrow) icon (keeps formatting of questionnaire where new input will be pasted).
- **First, change the generic file name to the specific patent “short file name”:** FROM “Patent Marketing Questionnaire” TO e.g., “Fingerprint Detection Questionnaire” for example.

- **“Patent #”**: Do include commas; enter data on the questionnaire exactly as it appears.
- **“Date Issued”**: Exactly as it appears.
- **“Patent Title”**: Exactly as it appears.
- **“Inventors”**: Write their names in on the questionnaire, BUT change the order making the names simpler to read. Instead of (last / middle initial / first), change the order to (first / middle / last) then city / state.

Example

- FROM: Roberts; M. Thomas...
- TO: Thomas M. Roberts (Ridgecrest, CA); John B. Doe (Ridgecrest, CA); ...
- **Scan the rest of the questionnaire and fill in whatever data you have available.** However, answers to the rest of the questions (pages 7 to 13) will come mostly from the inventors themselves, but you may be able to fill out some things.

When totally complete, make sure you have changed the generic name of your file from “Patent Marketing Questionnaire” TO the specific short file name of your patent (e.g., “Fingerprint Detection Questionnaire”) and save the file in your “Individual Patents Folder.” This is the file you will send to inventors for additional input and review. Save the file with edits.

Note. This concludes the PRIMARY Patent Summary information gathering. The goal of the next half of the questionnaire is to provide “icing on the cake.” The goal is to gather a few additional needed ingredients to make your final write-ups and stories interesting and compelling for industry. (WOWS: unique stories, statistics, facts, examples!) Additional guidance for this section of the questionnaire can be found on the form itself.

3. Send the initial data-call package to inventors

- **Allow only ONE patent per email.** Even if an inventor has more than one patent, DO NOT attempt to “save time” by sending out multiple data-call emails and multiple forms for multiple patents. It is confusing enough as it is as each patent has multiple attachments. Keep it SIMPLE and keep it all SEPARATE. If an inventor has more than one patent, send each package in a separate email.



CAUTION: Maintain accuracy and consistency with all folder names. Set up a new folder as you begin to work on each new patent. **Example:** Master Sample Patent Folder / Individual Patents Folders / Patent short file name (e.g., “Fingerprint Detection.”) Only use the “short file name” you created earlier. Be consistent. Keep them **exactly** the same. Change generic form names to “short file names.” This is critical in keep everything straight. For example, you may have five patents for similar fuzes with only one word differentiators. If you get sloppy naming files and folders and emails, when you start doing numerous patents with similar names, it becomes a nightmare. Do not use promotional titles for file names. They are too long (e.g., “Fumeless Latent Fingerprint Detection”) shorten and simplify ... maybe name it “Fingerprint Detection.”

Other examples to rename

- Rename “Patent Questionnaire” ... TO: “Fingerprint Detection Questionnaire”
- Rename “Patent Summary” TO: “Fingerprint Detection Summary”

First introductory email package to inventors

- **Your email will contain the following:**
 - “Email to inventors with the data call package.”
 - “Patent Marketing Sample” (Generic sample / enclosure).
 - “Patent Marketing Questionnaire” (Renamed starting with your patent “short file name” then the word “Questionnaire.” It will already be partially filled out by you in advance.

- **Email inventors with the data-call package.**
 - Refer to the Master Sample Patent Folder / Master Forms, Enclosures, and Emails / Emails (Samples) / Email to Inventors With the Data Call Package. Copy the sample email (all of it INCLUDING the subject line box at the top) and paste into a new email.
 - Cut the subject line from the box and paste text into the subject line at the top.
 - Fill in the name and number of the invention after the colon: (e.g., Patent: Fingerprint Detection, Patent # 7280083).
 - Change the salutation as needed.

- **Copy and paste “Patent Marketing Summary SAMPLE”** as an enclosure to the inventor email. (Note: Do not customize, just include the sample as is.)

- **Copy and paste “Patent Marketing Questionnaire”** as an enclosure to the inventor email. (This document has been partially filled out by you already.)
 - Remember to rename / customize the questionnaire: quickly drag and drop questionnaire to your desktop and rename it (e.g., from “Patent Marketing Questionnaire” to “Fingerprint Detection Questionnaire”). Then drag it back to the email, and delete the prior enclosure.

- **Email the packet out.**
 - **Optional** – request a read receipt – Helps keep it moving. (See page 11.)

- **Update your two progress monitoring forms**
 - “All Patents Tracking Form” (In the Questionnaire box, write in the date sent.)
 - “Individual Patent Progress Form” (In the Questionnaire box, write in the date sent.)

- **Average response time: 2 weeks.** The questionnaire is the cornerstone research tool in developing a great final write-up. It is more comprehensive, but in reality, inventors have noted that it only takes them 1 to 2 hours to complete.

POST DATA CALL

4. Tasks to do once questionnaires are completed and sent back

- **Update your two monitoring forms**
 1. **“Individual Patent Progress Form.”** Just notate the date you received the questionnaire back and any other chronological notes you may want to include.
 2. **“All Patents Tracking Form.”** Add in the date you received the questionnaire. You may want to also color-code your patent box Green indicating “next step” progress.
- **Save questionnaire.** Save to your “Individual Patents Folder” / “2. Questionnaires Received.”

Prepare the final “Patent Marketing Summary”



- **Scan through the entire questionnaire and one-by-one incorporate NEW inventor input into your final patent marketing summary answers.**
 - **“Sprinkle in” ALL interesting facts, statistics, and WOWs.** From throughout the questionnaire worksheet, make sure that THE MOST interesting WOWs: facts, statistics, stories, unique testing results, background development information, etc. have, in fact, been incorporated into your FINAL answers. (These WOWs help tell your final interesting and informative story.)
 - **Credit your PARENT organization** NOT individual sub-sites. It is better to credit and identify the name of your PARENT organization as the “source” of the invention versus any individual site. Example: Better to list “NAWCWD” (parent organization) versus “China Lake” or “Point Mugu” (individual sites within NAWCWD).
 - **Credit your INVENTORS.** In a government setting, the main emphasis is usually on a “team” approach; however, this guide suggests that you add the names of your inventors at the very end of the “New Technology” write-up.

Example: Lead inventor(s): John Richard Doe. **Other inventors:** Mary Jane Smith, George Samuel Henry, etc. (You do NOT need to add geographical information.)
 - **Final Edit.** Finally, do any last-minute wordsmithing of your final answers. Make sure your answers are greatly simplified, tell an interesting story, describe how technology was, how new technology is helping, identify the major benefits, and tell who will benefit.
- **Transfer final questionnaire answers to your “Patent Marketing Summary FINAL TEMPLATE.”**
 - **Open a copy of the MS Word form entitled “Patent Marketing Summary FINAL TEMPLATE” to use as a format.**

*Tip: You could start a totally new form, but it is easier to just use the “Patent Marketing Summary SAMPLE.” Just make a copy of the sample, and rename it (Example. FROM: “Patent Marketing Summary SAMPLE” TO: Short file name of your specific patent, e.g., “Screw Removal Tool Summary.” Then, keep the exact same formatting, etc. and **copy and paste new answers over the existing sample text. That’s it.***
 - **Copy your final wordsmithed answers from the “Inventors Review” boxes and then just paste the text over the sample text in the “Patent Marketing Summary FINAL TEMPLATE.”**
- **Add in your final dynamic representative image.** Simply substitute the new image with the sample photo on the “Patent Marketing Summary FINAL TEMPLATE.” Instructions on preparing your new image are found on the next page.
- **Send to editor for final review.** If your organization has a professional editor, or publication group, we recommend you send your final text to them for a quick edit prior to final release. At the very least, always use the grammar and spell check in MS Word. (Home / Review / Spelling and Grammar.)

Prepare one dynamic representative image



“A picture is worth a thousand words.” One great image is suggested to help sell your patent to industry. It is the first thing they see when prospects open the TechLink page. Many people will try to find the old photo in the drawer, but this is generally NOT the right approach. For example, scientists and engineers will want to only show the actual device / patent under test, thinking that technical purity is THE MOST important element. But remember this is for a promotional application. Therefore, it is better that the “image” be dynamic and interesting and colorful and only needs to be

REPRESENTATIVE of the patent.

Points to consider when developing the single image

- It can be a combination of whatever it takes to tell “what it is” in 2 SECONDS.
- It does not even have to show the actual item.
- It can show the MAJOR BENEFITS of the patent.
- It can show the MAJOR APPLICATIONS of the patent. If the patent has several major applications, maybe show 2 to 3 adjacent photos.
- It can be a combination of a graphic and a photo.
- It can be a dynamic photo that represents the CATEGORY of the invention.
- If there are multiple MAIN elements of the patent, and you are having a hard time finding a photo, consider using a title or two in a creative way over / under one or more photos.

Base photographer OR professional stock photo image services. While there are many opinions on this, as the author of this document, who has produced products like this for more than 20 years, I highly recommend the use of one of the new and dynamic stock photo companies who provide highly professional, sensational images, for FAR LESS than you will pay trying to cobble together something totally original yourself. It could take several hours to half a day of a Command photographer’s time, plus your time, plus the inventor’s time to try to “stage” a dynamic photo including the items, background, lighting, etc. Plus, you have to track down original photo sources, etc. for photo credits, etc. All very time-consuming. In MOST cases, it is simply not needed. In many cases, you can ALSO mix and match great existing Government website/archive photos alongside one or more sensational stock photos. You will notice in the demos below, both approaches are used successfully.

Many stock libraries available. There are many professional services available including Getty Images, iStock, FotoSearch, Shutterstock, etc. The Government does **not** make any endorsements of any kind regarding one company over another. However, as the author of this document, I can personally state, based on referrals and trial and error, that Shutterstock is an example of one company that has a great reputation, a huge selection, reasonably priced, and is super easy-to-use. It was the company used to provide for all of the photos in this guide. All you have to do is come up with a theme, concept, idea, category, or exact photo you want, type it in the search term, and presto – you will have hundreds, if not thousands of outstanding professionally produced graphics and photos to choose from.

- **Tip:** Pick the first or second incredible image and move on. They are so dynamic, and so plentiful, you can easily get lost and spend too much time on each photo.
- **Tip:** While every military base or R&D laboratory needs may differ, if you want to TRY a service, it is recommended that you purchase the smaller, individual plan for e.g., 25 photos to begin with for one flat low-cost fee. Experiment, and if you like it, you can simply buy another batch of 25 and so on. Later, if your needs expand, companies offer many monthly subscription plans that are excellent for larger, continuing orders as well. You may want to get a group license as well. You will need to ask your business financial manager (BFM) to set up a credit card purchase and password. Then, you are ready to go. You can archive all of your images for future reference at any time. And the best part, using a professional stock service you DO NOT have to worry about copyright issues.

CAUTION: Copyright issues. Through the years we have experimented with browsing photos on the internet via “Image” sites; however, there are always multilayered copyright issues. You cannot just use proprietary photos without express written permission. And this is a major hassle and takes too much time. A photo stock library is the easiest and most effective. However, you are also safe to use any publicly released photos on the DoD site, and each branch of the military has their own photo libraries, usually in the public affairs sections of their websites, as well. If in doubt or you have questions, consult your activity’s legal counsel.



How to create your own dynamic images

MS Word is probably all you need, and you do NOT need to be a PowerPoint pro or graphic artist to create some simple, dynamic, “representative” images. The process is simple:

- **Purchase a stock photo library plan.** You can research and then ask your manager to make arrangements. You will need a charging object number. Your financial manager will have to sign up for the plan, create a user name and password, and then assign a “one-seat” license / permission for you to use it. Whenever you need to access the library, just use the sign-in information. (It will probably remember you anyway. It is easy.)
 - *Tip: Again, if you have more than one person needing access to photos in your group, then it would be better to purchase a group license. Details differ from different companies.*
- **Make a list** of all the photos or concepts, you need to represent for a particular patent.
- **Search** the database by topic (they have “something” for “everything” and it all looks great).
- **Download and save** the pictures in your “box” or “archive” or however it functions and save images to your desktop in the specific patent folder by name.
- **Next, create interesting photos / montages** however you like. All the montages below were made by simply placing photos adjacent to one another and inserting text boxes over photos for titles.



COMMONLY USED photo / montage effects. Important Note: There are hundreds of options. The instructions below are for 2016 version of Word. Techniques or keystrokes may differ with different versions. Simply adjust as needed. These are just a few examples. Refer to Microsoft Help for options; check out YouTube for quick tutorials. “Google It”... possibilities are endless.

- **When downloading, which format to choose?** (JPEG, Vector, etc.?) JPEG is recommended.
- **When downloading, which size to choose?** Commonly, stock photo services will allow you to choose from three sizes when downloading. For TechLink applications, we recommend downloading the MEDIUM size and then you can scale it later for your specific usage. However, many companies will let you download all three sizes with no additional charge. With most services, you can always come back and redownload images in different sizes as long as you have an active account anyway. Here is quick guidance:
 - **Small:** Has the shortest download time and is suitable for digital (TechLink website) use. (Typically, around 1 x 2 inches)
 - **Medium:** Is suitable for small prints and digital use. (Typically, around 2 x 3 inches)
 - **Large:** Is suitable for large prints and digital use. (Example: 9 x 14 inches)
- **Posters.** Many services provide for enhanced image sizing as well. Check their features.

- **Image DPI (dots per inch).** Commonly, most stock photo images come in 300 DPI which is the standard, while 72 DPI is the standard for web use. When creating content for screen viewing, you can adjust the DPI using common imaging tools. Many services even include editing features.
- **Enlarge / shrink photos.** You can easily enlarge photos or shrink them by simply selecting the photo and then drag any corner of a photo in or out. (Hold the shift or Ctrl Key to maintain aspect ratio of the photo or graphic).
- **Simply add captions over photos as needed.** First, select photo.
 - Select Home / Insert / Text Box / Simple Text Box / Scale the box down by clicking in a corner and dragging it inwards until the box is small enough to fit neatly at the bottom of your photo.
 - Next, move the small text box to the bottom of your photo (or wherever you like) and size it however you like.
 - Replace sample text in the box with your new title / Center it / Bold the text (if desired) / Change text font to whatever color you desire (you probably know how to do this).
- **Next, decide on the look of your text box background?**
 - **Colored background?** While the text box is highlighted / Format / Shape Fill / Select color from drop down menu.
 - **Transparent background?** While the text box is highlighted / Format / Shape Fill / No fill.
 - **If you want a line / border around your caption box:** While the text box is highlighted / Format / Shape Outline / Weight / then from the pull down menu select any weight you want (the default of 3/4 pt is usually good).
 - **If you do not want a line / border around your caption box:** While the text box is highlighted / Format / Shape Outline / No Outline.
 - **Add black lines around photos if desired.** This is advisable especially for photos or graphics that have light backgrounds, or missing backgrounds. A thin line helps to delineate the photo so that it stands out from the text. (Select the photo, then from the Home menu, second menu line down, select the Borders icon. Then, if you want to adjust the size of the border lines, select the pull down menu and select “Borders and Shading,” and in the “Width” pull down menu, select any line weight you want.)
- **“Group” the final product.** When you have the montage exactly as you want it to look, select and highlight ALL the individual ingredients / components of your image, then right-click, and select “group.” This will group ALL your individual components (photos / graphics / titles) into ONE grouped image. Then, you can enlarge or shrink the ENTIRE IMAGE at one time in the future. If you ever need to adjust or replace any single component in the montage, simply “ungroup” the image, fix or replace, then simply go back and “group” it again. It is really simple. You do not need a highly specialized artist to create your own dynamic images. If you are doing many of these, it is advisable to sign-up for one of the great MS Word classes available to DoD employees.

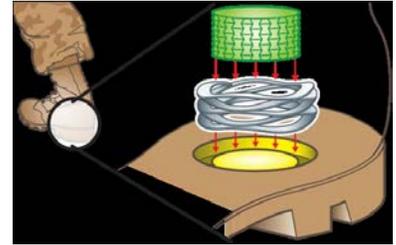
Examples of Patent Summary Photos / Montages



Military Air Vehicle GPS Backup Navigation System. In this case, we did not have a good photo, and elements were sensitive and not exciting anyway. Since the patent involved TWO major APPLICATIONS relating to GPS and TSPI; therefore, we decided on using one dynamic stock photo graphic plus two titles.

Human Movement Charges Smart Phones and Tablets.

In this example, the product itself didn't show well. So an approach was taken that graphically showed HOW the product might work in the heel of a shoe.



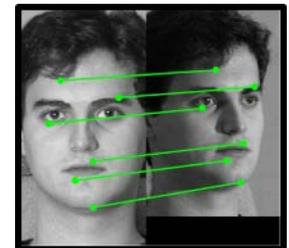
New Optical Dyes Show Great Potential for All-Optical Computing, Switching, and Gyroscopes. In this case, a combination of images was used. The one to the far left and the far right show the actual item itself. The center blue powder image was also found in the stock photo library and the image adds color to the finished product.

Tool Tracking via Radio Frequency Identification Tags. This example uses three stock photos where the tools surrounded a black center section (for text). Since this patent involved "RFID" a simple search revealed many stock images of the shield and waves.



Enhanced Solar Cells. In this case, an actual photo was not available, so we improvised. The write-up discussed the fact that the batteries were of great use extending the life of small drones and UAVs. Therefore, this interesting image was merely REPRESENTATIVE of one major APPLICATION. You could also use a montage showing several other applications as well.

Adaptive Facial Recognition Software. In this case, you can have someone in your office be the star of the show (with their permission). By using two photos then adding PowerPoint line points, the concept is well illustrated very simply.





Instant, Accurate, Fumeless, Latent Fingerprint Detection. In this case, the actual item (powder) was not as effective as showing a dynamic colored image of a fingerprint. The stock image library had just the thing.

Laser Radar (LADAR) – Precision ID and Tracking System. In this instance, there were no suitable actual photos that were impressive conveying the idea of the patent. Therefore, a montage of three graphics was chosen from the stock library. Again, the idea was to show two major APPLICATIONS – for military and civilian use.



Ships, Jets, and Tanks Made from Plastic – Lighter and Stronger than Steel. Here again, the actual (real) photo was not impressive. Therefore, showing a colorful, professional stock photo of the dropper, plus two dynamic stock photos of HOW the patent will be used (e.g., ships and planes) was chosen.

Screw Removal and Insertion Tool. This example used three stock library photos showing APPLICATIONS plus one photo of the actual device (lower left).



New, Stronger, Longer-Lasting Batteries. Again, actual patent item was not impressive. Three stock photography images were used to create this colorful montage.

New Device Detects Explosives, Drugs, or Lead. This patent involves a simple but highly effective kit. Therefore, a combination of three actual photos of the patent itself was used PLUS two stock photos showing APPLICATIONS – gun powder / lead and explosives. Often titles may not be needed; however, in this case, a three-step process told the story and simple titles were added.



5. Send the final package to inventors

When to publicly re-release and when not? It is important to remember that the MAJORITY of the data in the “Patent Marketing Summary” will probably come from the ORIGINAL PATENT that has ALREADY been publicly released and probably been made available on the public internet. Therefore, the question as to whether the latest, updated package should be re-released or not, is a question best left up to your Public Affairs Officer, your OPSEC officer, and your ORTA. **As a general rule, most bases consider this exercise as a “promotional” application and most do NOT require this extra step.** The reasoning is that the original patent that is now in public domain and on the internet, etc., has already gone through the formal release process once. Since the exercise is primarily focusing on SIMPLIFYING data and converting it for PROMOTIONAL APPLICATIONS, this usually does not warrant any further reviews.



- **Exception:** The only time that a re-review might be warranted is if any of the supplemental downloads (PowerPoint briefs, videos, etc.) are “NEW” or have never been released AND may contain data deemed “sensitive” by the inventor or their uplines. In this case, any and all NEW technical data should be re-reviewed by your security officer and public affairs office. Also, ask them to review ANY of the new embellishments in the final story that may contain any “sensitive” data that did not previously appear in the original patent.

CAUTION / TIME-SAVER: Decide if the SUPPLEMENTAL information is worth the extra time required to get re-released if required. Be advised that additional public release may add SIGNIFICANT production time, and multiple approvals may bog your project down significantly. Therefore, you must make the decision as to whether it is worth the effort. For example, if the supplemental videos or white papers are dynamic and could GREATLY enhance the marketability of the license, then take the time. In many cases, the majority of the content may be perfectly releasable except for a few sensitive details. In these cases, just delete the sensitive data. You may be able to keep the rest, or you could simply add a bullet in the “Articles and Downloads” section that reads, **“Technical Data Packages available with proper security clearance.”** Then, if industry is interested, they will at least know that additional data are available.

CAUTION: Do not send classified information via email. If in doubt regarding any issue of sensitivity or classification, ask your security officer or public affairs office for guidance.

If applicable, set up two new folders for “Professional Edits” and “Public Release”

- Add any and all applicable files to these folders as needed.
- Add Public Release Distribution Statement and numbers in the center at the bottom of any and all documents INCLUDING downloadable attachments. (Only if required by your Command.)
- Similar to the questionnaire, for the best results, ALWAYS fill out as much of these forms as you can, before sending to the inventors and their supervisors. These forms can be daunting. Make it as simple as possible to make your job easier.

Email the lead inventor to review the completed package. A sample email is included in this guide. See Master Sample Patent Folder / Master Forms, Enclosures, and Emails / Emails (Samples) / Email to Inventors to Review the Completed Package. **Average response time:** Few days. (Optional: read receipt.)

Email the lead inventor requesting final approvals. After the inventors have made any final suggestions to the package and all changes are incorporated, send them a follow-up email. A sample email is included in this guide. See Master Sample Patent Folder / Master Forms, Enclosures, and Emails / Emails (Samples) / Email to Inventors Requesting Final Approvals. **Average response time:** Few days. (Optional: read receipt.)

If public re-release is required by your command, send email, documents, and attachments to all applicable personnel and get necessary approvals.

Send the final approved packet to TechLink



Make one **FINAL LAST-MINUTE CHECK** before you send to TechLink to post on the World Wide Web. One-by-one, enclosure-by-enclosure, along the top, in order, open each document and just do one final last-minute triple check. If you catch something minor (punctuation, capitalization, bullets indent, etc.) just make quick last-minute changes. By this time in the process, you should not have anything, but if you do, just change it. Even if you have had another

public release review, OPSEC is not concerned with punctuation and format, only technical content. Make sure it is perfect. This is what you are representing from your base to the World Wide Web.

A few main points to consider in final review

- **Patent Marketing Summary**
 - Make sure all bullets are indented and aligned (frequently they are NOT).
 - Make sure all articles and downloads are included in bulleted list and as attachments. (During public release, etc. some may have been removed.)
 - Make sure your main photo montage (if more than one picture) is properly “grouped” so that nothing gets or misaligned when you email. This frequently happens.
- **Optional Public Release Steps (only if required by your Command).**
 - **Make sure the distribution statement and public release number are included on all documents.** At the very bottom / center of ANY and ALL documents and supplemental documents (posters, etc.) if required by your command.
 - **Sample:** “Approved for public release; distribution is unlimited. NAWCWD PR #18-0002”
- **Send email to TechLink.** A sample email is included in this guide. See Master Sample Patent Folder / Master Forms, Enclosures, and Emails / Emails (Samples) / Email to TechLink With the Final Package.



- **Send to TechLink with CC to**
 - Your supervisor
 - Your ORTA Director
- **Update your “Individual Patent Progress Form” and your “All Patents Tracking Form”**
 - **Progress Form.** Just notate the date you sent to TechLink and any other chronological notes you may want to include.
 - **Tracking Form.** Just add in the date sent to TechLink. Also, change the color from PURPLE font = “in public release process” to BLUE font = “Sent to TechLink.”
 - **Tip:** *Several other tracking methods and techniques were used in beta testing. This simple color-coded approach using only ONE “All Patents Tracking Form” seems to work the best. If you have other suggestions, let us know.*
- **Send final thank you email to inventors notifying them of completion.** Sample email included in this guide. See Master Sample Patent Folder / Master Forms, Enclosures, and Emails / Emails (Samples) / Email Final Thanks to Inventors.
- **Notate your final “lessons learned” at the very bottom of the “Individual Patent Progress Form.”** Every patent is a little different with its own unique set of challenges. On the bottom of the form there is a special place to recap the highlights of this patent. Notate what worked, what didn’t, and why on the bottom of the form. These “lessons learned” will help you improve your processes for future patents write-ups.

- **VERY IMPORTANT. Send TechLink any marketing lead information you have.** TechLink's goal is to match your new technology with manufacturers who can make and sell your new product / technology. We need your help here. We want to take a proactive approach versus waiting to be discovered. On the "Patent Marketing Questionnaire," page 11, last question in Section 4 "Opportunity / All Industry Applications," the form asks the inventor to list any good manufacturing leads including names, contact information, and any dates they may have made contact. In a totally separate email, from the final packet sent, please forward the answer to this question to TechLink. This will give their staff a "heads-up" to follow-up with these great leads. This one step will greatly enhance your chances of getting licensed. (Note: This information DOES NOT appear anywhere on the TechLink website.)
- **Use final promotional materials to promote your technology transfer program locally.** Also, please feel free to incorporate this link on your ORTA or base wide website or however you like. Many ORTA offices also print out copies of the "Marketing Summary" as handouts for tradeshows and symposiums. You may also want to send a copy of finished materials to your base and local newspaper. Marketing and proven results are a source of pride for you and your organization.

How to Submit Questions, Feedback, and Suggestions for Improvement

Patent Marketing Guide Feedback. As stated earlier, this initial guide will be evolutionary in nature, and will continue to improve as we receive valuable ideas and input from ORTA writers from throughout the DoD. All ideas, suggestions, and feedback are welcome and strongly encouraged! Please send any input to TCO_Publications.fct@navy.mil

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- NAWCWD Director of Technology Transfer: Dylan Riley
- TechLink Guidance: Marti Elder
- Technical Communication Office / Publications Administration: Travis Ball, Shaleen Lambert
- Beta Testers / Editors: Ellen Mahoney, Jay McConnell, Amy Wyatt, Jeff Morgan

About the Author

Wallace T. Martin conceived the idea and authored this Department of Defense Patent Marketing Guide in collaboration with the NAWCWD (WD) ORTA office, the China Lake Technical Communication Office (TCO), and TechLink, a DoD partnership intermediary. A nationally recognized analytical writer, Martin has authored numerous books for NAWCWD including three editions of *Arming the Fleet (ATF) – Providing our Warfighters the Decisive Advantage 1943-2011* (208 pgs) (sold by Amazon and the Government Printing Office). ATF is in the Library of Congress and was given to state and national leaders including former President George W. Bush. The ATF product line also includes *WD Capabilities – Maintaining Maritime Superiority* (Major Facilities and Range Guide (89 pages); *WD Innovations – Patents, Firsts, and Milestones* (27 pages). Martin authored numerous employee guides including *Find It Fast – Guide for the Technical Library*, *WD Benefits Guide*, *Gold Rush Guide* – documenting California recreational opportunities, and the first NAVAIR Exhibit Style Guide. For many years as a multi-media writer/producer, he developed dozens of training modules and programs for pilots, military, and the Safety and Security Department. For more than a decade, Martin served as the lead writer for the 250-page annual CNO-required *Command History*. He has guest-authored chapters for several national books including Eric Hildebrandt's "Fly Navy" book, and Martin was invited to present historical papers at the U.S. Naval Academy in Annapolis, MD. Prior to joining the TCO, Martin served as Deputy Director for the WD Business Development Office for 16 years. He holds a BS in Business Administration from California State University. Complete biography on LinkedIn.

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Emails (Samples)

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Email to Inventors Assessing Patent Marketability

Email subject line: Copy the statement below and paste into the subject line of the email. Example: "Patent Innovation. Please help us help you market your invention: Fingerprint Detection Patent # XXXXXXXX"

Inventors!

I am working with our Technology Transfer Office to help market patented technologies to industry. To begin with, we are conducting a quick assessment to determine the marketability of your patent. We are hopeful that you will join us in this effort.

In this project, NAWCWD is working with TechLink, a non-profit organization who has partnered with all Department of Defense (DoD) branches of the military to simplify the tech transfer process, streamline online searches (web-based marketing) and enhance promotional materials to showcase our technologies to industry (<https://techlinkcenter.org/>). TechLink has transitioned more than 1,000 inventions to industry that has generated sales to date of more than 2-billion dollars. However, many patents do not have sufficient promotional information.

Revenue and team recognition

We hope this process will help maximize the value of the patent program and bring much deserved attention to the innovative work you do. Once a patent is licensed, and industry starts generating sales, revenue is shared with the inventors, ranging from a few hundred dollars when a license closes, up to thousands of dollars in annual royalties. In addition, successful patents generate funding for further research and development (R&D), and bring recognition to the research team, the program, and the laboratory.

Need to assess initial marketability

We have developed a formalized process for helping you market your patent to industry, but before we send you the initial packet and questionnaire, we FIRST need to assess the potential marketability of your patent. It takes less than 30-minutes to complete the form. Please complete and return within a week.

I will be following up with a telephone call in the next few days and I look forward to working with you to help you market your invention.

Please find the following attachments:

1. Patent Marketability Assessment Form
- 1A. DoD Technical Readiness Level (TRL) Descriptions

Sincerely,

(Your name)
(Your work phone)
(Your cell phone)

Email to Inventors With the Data Call Package

Email subject line: Copy the statement below and paste into the subject line of the email. Example: "Patent Innovation. Please help us, help you, market your invention: Fingerprint Detection Patent # XXXXXXXX"

Inventors!

Congratulations, we have determined that your patent has significant marketing and licensing potential. Working with you, we would like to take this to the next step and begin the process.

While we have your official patent documentation for reference, even the abstract is usually too detailed for first glance promotional applications. To help with this problem, together we will develop a quick snapshot with an easy-to-read summary and major benefits along with consolidated supporting information such as slides, PowerPoint briefs, and white papers. This information will also support a first of its kind web-based semi-automated express licensing program that will expedite the process of bringing appropriate technologies to the commercial market.

Please help us help you market your patent!

Step One. Review the TechLink Innovation Sample. This is one example of a final patent write-up that your laboratory would send to TechLink to post on their website. You will see that data is straightforward, logical, and easy to understand. There are only three main paragraphs (existing technology, new technology, and how it works), a quick statement as to who benefits, a quick bulleted list of the major benefits, and a great photo. That is all we are doing.

In order to develop a final dynamic write-up, ALL the necessary ingredients are required. To simplify data gathering, this enclosed questionnaire asks the basics: who / what / when / where / why / how. A number of answers will provide interesting statistics, facts, stories, and examples that make the final stories more interesting and compelling. After you send the questionnaire back to us, in the next two weeks, we will take your answers and then compile a DRAFT Summary for your review.

Just type out answers to the questionnaire and return

The form is in PDF and easy to navigate. Please do not be alarmed at the length. This is because there are many examples, etc. In the initial sample batch beta testing, inventors report that it only took 1 to 2 hours to complete. Many questions will not be applicable. In these cases, just write NA in the box and move on. The form would only be several pages, but it is longer because laser-focused examples have been included, so you know EXACTLY the type of data we need. **This eliminates all guess work and saves you time!** Lengthy oral interviews are not needed. We make it easy. Questions are numbered in case you want to assign different inventors different items to tackle (whoever is best suited). Copy and paste answers from wherever.

As a “jump start,” we have already started filling out the questionnaire for you.

We have taken the original patent and color coded text that specifically answers a few main questions on the questionnaire. We are including the patent as well for your background information.

Revenue and team recognition

We hope this process will help maximize the value of the patent program and bring much deserved attention to the innovative work you do. Once a patent is licensed, and industry starts generating sales, revenue is shared with the inventors, ranging from a few hundred dollars when a license closes, up to thousands of dollars in annual royalties. In addition, successful patents generate funding for further research and development (R&D), and bring recognition to the research team, the program, and the laboratory.

Please find the following attachments:

1. Patent Marketing Sample (example of what actually appears online when we are done)
2. Patent Marketing Questionnaire
3. Original Patent for Reference

Thanks for helping us, help you, to market your patent. The DoD, and upper management at your organization, supports this data collection effort, as does your local ORTA office. Working together, we look forward to helping you license your product to industry. As mentioned, it only takes 1-2 hours to complete the form and we hope to receive this back completed within the next two weeks.

Sincerely,

(Your name)
(Your work phone)
(Your cell phone)

Email to Inventors to Review the Completed Package

Email subject line: Copy the statement below and paste into the subject line of the email.

Example: "Final patent innovation package for review and approval: Fingerprint Detection Patent # XXXXXXXX"

Inventors,

Congratulations, together we have completed the promotional package for your patent and are almost ready to begin routing the package for final approvals.

But before we do, I wanted to give you a chance to review one last time and ensure you are completely satisfied with the final product in its entirety. Once you contact me and make any final changes, I will resend the package to you for a final email approval.

The package includes:

- "Patent Marketing Summary"
- Supplemental downloads. Any vital previously produced materials that directly relate to the patent (papers / reports, PowerPoint briefs, articles / downloads, awards / recognition. VISUAL AIDS: posters / displays, photos / graphics, videos / animations).

Sincerely,

(Your name)

(Your work phone)

(Your cell number)

Email to Inventors Requesting Final Approvals

Email subject line: Copy the statement below and paste into the subject line of the email.

Example: "Final public release package. Approval email requested. Fingerprint Detection Patent # XXXXXXXX"

Inventor,

Congratulations, together we have completed the marketing package for your patent.

Enclosed, please find the final Patent Marketing Package that will be sent to TechLink and posted on their public website to assist the Department of Defense (DoD) in marketing your patent. All of your suggestions and alterations have been incorporated. We should be good to go.

Supplemental Data (Sensitive or Classified?) If any NEW supplemental download data may appear sensitive by the inventor or their uplines, then this material should be re-reviewed by your security officer and public affairs office and publicly released if this is going on the TechLink website. Also, ask your security officer and public affairs office to review ANY of the new embellishments in the final story that may contain any sensitive technical data that did not previously appear in the original patent.

Depending on how significant or effective this data is, and your time requirements, you may or may not want to take the significant time required for this extra step. Another option is to not include the download but simply add the titles of the data and state, "**Technical details available with proper security clearance.**"

Enclosures include:

1. Patent Marketing Summary
2. Supplemental Downloads
3. Public Release Form? (ONLY If applicable)

Please send me a return email in the next day or so with the final version, plus any supplemental downloads, and include a statement that reads:

"I approve the attached Patent Marketing Summary as written. I have included any supplemental downloads, and I consider all materials it to be consistent with previously produced and publicly released information for this patent."

Again, thank you for all of your help.

(Your name)

(Your work phone number)

(Your cell number)

Email to TechLink With the Final Package

Email subject line: Copy the statement below and paste into the subject line of the email.
Example: "Final patent marketing package for TechLink Website. Fingerprint Detection Patent # XXXXXXXX"

Marti,

Enclosed, please find:

1. Patent Marketing Summary
2. Supplemental downloads.
3. Public re-release form (if applicable)

Sincerely,

(Your name here)
(Your work number)
(Your cell number)

Email Final Thanks to Inventors

Email subject line: Copy the statement below and paste into the subject line of the email.
Example: "Special thanks for your marketing assistance. Your final materials have now been posted on the TechLink website. Fingerprint Detection Patent # XXXXXXXX"

Dear _____,

We are proud to announce that the final marketing materials for your patent # XXXXXXXX have just posted on our website. We are pleased to advertise your innovation to the fullest extent possible and we look forward to working with you and industry officials to help get your patent licensed. We will contact you concerning any future inquiries.

Your patent can be found at the following link: _____.
Please feel free to incorporate this link on your ORTA or base website or however you like.

Again, thank you for a job well done!

Sincerely,

(Your name)

(Your work phone number)

(Your cell phone number)

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Forms and Enclosures

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Patent Marketability Assessment Form

(Note: Form opens in auto view at 150% – change as desired. Answers here will help determine the viability and marketability of your patent based on TechLink criteria. The ORTA writer will complete the top section, and the lead inventor will complete the rest and return the form.)

| DATA FOR THE ORTA WRITER TO COMPLETE FIRST | | | | | |
|--|--|---------------------|--|---------------------------|--|
| Technical Patent Name: | | | | | |
| URL: | | | | | |
| Patent #: | | Patent Date: | | # Years Remaining: | |

| PRIMARY DATA FOR THE LEAD INVENTOR TO COMPLETE | | | |
|--|-------------|---------------|---------------|
| (Note: If the answer to the next two questions is NO, then stop here!) | | | |
| As the lead inventor are you interested in helping us help you market your product? | YES: | | NO: |
| <p>Note: This will require several hours over a course of three weeks. You would be asked to answer a detailed questionnaire with patent background information, and you will need to try to find all PREVIOUSLY PRODUCED materials helping to explain the patent (PowerPoint briefs, white papers, reports, articles, etc.).</p> | | | |
| Alternate lead inventor available? | YES: | | NO: |
| <p>Note: If you are NOT available, is there another lead inventor who is technically capable of the OVERALL WORKINGS of the patent, and who would be WILLING to work with industry officials to help advise and provide technical assistance as needed if we marketed this patent?</p> | | | |
| Please identify team inventor: | | | |
| Name: | | Phone: | Email: |

| DATA FOR THE LEAD INVENTOR TO COMPLETE ONLY IF THE ABOVE ANSWERS ARE YES |
|--|
| <p>What is it exactly? What is the MAJOR CATEGORY (see list below) that best identifies WHAT your patent is?</p> <ul style="list-style-type: none"> • New prototype / device/hardware • Use of a new formula / algorithm • New process or product by process • New chemical / formulation • Improved software • Other / combination? (explain) <p>Note: “Manufactured products” generally have higher marketability than “processes / formulations.”</p> |
| |

| | | | | |
|---|-------------|--|------------|--|
| Is there a working prototype available? | YES: | | NO: | |
| Estimated # years in development: | | Estimated number of employees involved: | | |
| Estimated total government dollars spent on this patent to date: | | | | |
| What is the Technical Readiness Level (TRL) of the patent (1-9): | | | | |
| <p>• Note: If you are not sure of the TRL, see the attached page for quick descriptions of each level. This is an important question for industry as they need to know how much additional work they will need to do if they pursued this patent. Please be as accurate here as you can. Industry absolutely NEEDS to know that they “might” be able to “pick up” an invention license for a few thousand dollars that cost the U.S. Government a few million dollars and a decade to develop.</p> | | | | |

| |
|--|
| Prototype / Background Developmental Testing Description: Briefly describe any MAJOR tests and trials conducted? University studies? Field testing? How did the item perform? |
| |

| | | | | | |
|--|-----------------|--|-------------------|--|-------------|
| Does the patent have military or commercial applications or both? | Military | | Commercial | | Both |
| <p>• Note: Patents with BOTH military AND commercial applications have the highest marketing value.</p> | | | | | |

| |
|--|
| Applicable Industries / Customers: Major Technology Area Applications: On their website, TechLink identifies 11 major technologies. Which ones are applicable to your patent? (In alphabetical order): |
| <ul style="list-style-type: none"> • Communications • Military Technology • Electronics • Energy • Environmental • Materials • Medical and Biotechnology • Photonics • Sensors • Software and Information Technology • Other |
| Your technology area answer |
| |

Identifying the overall IMPACT of this improvement. DEGREE of Significance? To what degree (%) would you say this technology has IMPROVED the previous technology / methodology: 10% improvement / 25% / 50% / 100% / 200% (twice as effective)? Order of magnitude (10X more effective)?

Your percentage of improvement answer: % Other: _____

OTHER RELATED PATENTS

Identify all other patents (name and number) that have been issued that DIRECTLY RELATE to this subject patent? Do you know if there are related patent applications pending?

| Official Related Patent Name | Patent # | Main Differentiator?
(In a few words, how does this sub-patent differ from the main patent? What's new here? Also note if the difference is SO SIGNIFICANT that, in your opinion, the related patent should be marketed separately on TechLink.) |
|------------------------------|----------|---|
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VITAL PREVIOUSLY PRODUCED PATENT INFORMATION AND VISUAL AIDS TO HELP EXPLAIN AND SIMPLIFY THE TECHNOLOGY TO INDUSTRY

DO NOT reinvent the wheel. Great material has ALREADY been developed and much of your homework has ALREADY been done. Chances are, ALL the main BENEFITS and major selling points have already been identified and summarized. Early docs helped explain your ORIGINAL high-tech concept to **management / sponsors**. NOW, at this stage, we need these SAME documents to simplify these SAME concepts to **industry**. Please search your archive and ask your co-inventors to gather materials. **Usually one inventor has “just the right brief” that nails the content so writers don’t have to reinvent the wheel.**

- **Note:** If the paper / brief / article / report is very comprehensive, or very effective in its ENTIRETY, you can ALSO submit the entire publication as it can be DOWNLOADED from the TechLink site. (However, all material must be suitable for public release.) **In short, the MORE that industry knows about the patent / technology, the more likely they are to pursue it.**
- **Supplemental Data (Sensitive or Classified?).** If any NEW supplemental download data contains sensitive or classified info, data must be publicly released if this is going on the TechLink website. Depending on how significant or effective this data is, and your time requirements, you may or may not want to take the time required for this extra step. Another option is to not include the download but simply add the titles of the data and state, **“Technical details available with proper security clearance.”**

BRIEFS, DOCUMENTS, PUBLICATIONS

| Items Downloadable | Description (Name / Title / Year) |
|-------------------------|-----------------------------------|
| PowerPoint Briefs | |
| Papers / Reports | |
| Articles / Publications | |
| Awards / Recognition | |

VISUAL AIDS

| Items Downloadable | Description (Name / Title / Year) |
|---------------------|-----------------------------------|
| Posters / Displays | |
| Photos / Graphics | |
| Videos / Animations | |

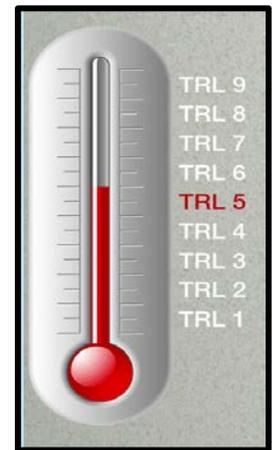
FINAL PATENT MARKETING ASSESSMENT RATING (1-9)

(Considering ALL team criteria factors, rate this patent’s chances of being licensed.)

| | | | | | | | | | |
|--|--|--|--|--|--|--|--|--|--|
| | | | | | | | | | |
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DoD Technology Readiness Levels (1-9)

- **TRL 1. Basic principles observed and reported.** Lowest level of technology readiness. Scientific research begins to be translated into applied research and development (R&D). Examples include paper studies of a technology's basic properties. Supporting information includes published research that identifies the principles that underlie this technology, references to who, where, and when.
- **TRL 2. Technology concept and / or application formulated.** Invention begins. Once basic principles are observed, practical applications can be invented. Applications are speculative, and there may be no proof or detailed analysis to support the assumptions. Examples are limited to analytic studies. Supporting information includes publications or other references that outline the application being considered and that provide analysis to support the concept.
- **TRL 3. Analytical and experimental critical function and / or characteristic proof-of-concept.** Active R&D is initiated. This includes analytical studies and laboratory studies to physically validate the analytical predictions of separate elements of the technology. Examples include components that are not yet integrated or representative. Supporting information includes the results of laboratory tests performed to measure parameters of interest and comparison to analytical predictions for critical subsystems. References to who, where, and when these tests and comparisons were performed.
- **TRL 4. Component and/or breadboard validation in a relevant environment.** Basic technological components are integrated to establish that they will work together. This is relatively "low fidelity" compared with the eventual system. Examples include integration of "ad hoc" hardware in the laboratory. Supporting information includes system concepts that have been considered and results from testing laboratory scale breadboard(s). References include who did this work and when. Documentation provides an estimate of how breadboard hardware and test results differ from the expected system goals.
- **TRL 5. System / subsystem / component validation in relevant environment.** Fidelity of breadboard technology increases significantly. The basic technological components are integrated with reasonably realistic supporting elements so they can be tested in a simulated environment. Examples include "high-fidelity" laboratory integration of components. Supporting information includes results from testing laboratory breadboard system are integrated with other supporting elements in a simulated operational environment. How does the "relevant environment" differ from the expected operational environment? How do the test results compare with expectations? What problems, if any, were encountered? Was the breadboard system refined to more nearly match the expected system goals?



PROTOTYPING

- **TRL 6. System / subsystem model or prototyping demonstration in a relevant end-to-end environment.** Representative model or prototype system, which is well beyond that of TRL 5, is tested in a relevant environment. Represents a major step up in a technology's demonstrated readiness. Examples include testing a prototype in a high-fidelity laboratory environment or in a simulated operational environment. Supporting information includes results from laboratory testing of a prototype system that is near the desired configuration in terms of performance, weight, and volume. How did the test environment differ from the operational environment? Who performed the tests? How did the test compare with expectations? What problems, if any, were encountered? What are/were the plans, options, or actions to resolve problems before moving to the next level?

- **TRL 7. System prototyping demonstration in an operational environment.** Prototype near or at planned operational system. Represents a major step up from TRL 6 by requiring demonstration of an actual system prototype in an operational environment (e.g., in an aircraft, in a vehicle, or in space). Supporting information includes results from testing a prototype system in an operational environment. Who performed the tests? How did the test compare with expectations? What problems, if any, were encountered? What are/were the plans, options, or actions to resolve problems before moving to the next level?

FINAL TEST AND EVALUATION (T&E)

- **TRL 8. Actual system completed and “mission qualified” through test and demo in operational environment.** Technology has been proven to work in its final form and under expected conditions. In almost all cases, this TRL represents the end of true system development. Examples include developmental test and evaluation (DT&E) of the system in its intended weapon system to determine if it meets design specifications. Supporting information includes results of testing the system in its final configuration under the expected range of environmental conditions in which it will be expected to operate. Assessment of whether it will meet its operational requirements. What problems, if any, were encountered? What are/were the plans, options, or actions to resolve problems before finalizing the design?

FINAL OPERATIONAL FIELD TESTING

- **TRL 9. Actual system “mission proven” through successful mission operations.** Actual application of the technology in its final form and under mission conditions, such as those encountered in operational test and evaluation (OT&E). Supporting information includes OT&E reports.

(See: <https://techlinkcenter.org/technology-readiness-level-dod/>)

(See: <https://www.nasa.gov/sites/default/files/thumbnails/image/technology-readiness-level.gif>)

All Patents Tracking Form

(Note: 8-point font. Form opens in auto view at 150% – change as desired. Sort however you like. May want to color-code boxes? Example: Black = Waiting for Questionnaires • Green = Received Questionnaires • Purple = In Public Release review • Blue = DONE, Sent to TechLink. OR you can cut and paste entries and start separate MS Word lists/documents as desired. (Good idea to pull “DONE, Sent to TechLink” and start a new list).

| Patent # | Patent Date | Official Technical Patent Name | | | | Short File Name
What Is It? | |
|---|-------------|---------------------------------|--|--------------------------------------|--------------|--|--|
| | | | | | | | |
| Marketing Title | | | | | | | |
| Lead Inventor | | | | Code | Phone | Email | |
| Name | | | | | | | |
| Previously Produced Materials Request (DD/MM/YY) | | Questionnaire (DD/MM/YY) | | Pro Edit (ONLY if applicable) | | Public Release (ONLY if applicable) | |
| Sent | | Sent | | Sent | | Sent | |
| Recd | | Recd | | Recd | | Recd | |
| Patent # | Patent Date | Official Technical Patent Name | | | | Short File Name
What Is It? | |
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| Marketing Title | | | | | | | |
| Lead Inventor | | | | Code | Phone | Email | |
| Name | | | | | | | |
| Previously Produced Materials Request (DD/MM/YY) | | Questionnaire (DD/MM/YY) | | Pro Edit (ONLY if applicable) | | Public Release (ONLY if applicable) | |
| Sent | | Sent | | Sent | | Sent | |
| Recd | | Recd | | Recd | | Recd | |
| Patent # | Patent Date | Official Technical Patent Name | | | | Short File Name
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| Lead Inventor | | | | Code | Phone | Email | |
| Name | | | | | | | |
| Previously Produced Materials Request (DD/MM/YY) | | Questionnaire (DD/MM/YY) | | Pro Edit (ONLY if applicable) | | Public Release (ONLY if applicable) | |
| Sent | | Sent | | Sent | | Sent | |
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| Patent # | Patent Date | Official Technical Patent Name | | | | Short File Name
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| Lead Inventor | | | | Code | Phone | Email | |
| Name | | | | | | | |
| Previously Produced Materials Request (DD/MM/YY) | | Questionnaire (DD/MM/YY) | | Pro Edit (ONLY if applicable) | | Public Release (ONLY if applicable) | |
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| Recd | | Recd | | Recd | | Recd | |
| Patent # | Patent Date | Official Technical Patent Name | | | | Short File Name
What Is It? | |
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| Marketing Title | | | | | | | |
| Lead Inventor | | | | Code | Phone | Email | |
| Name | | | | | | | |
| Previously Produced Materials Request (DD/MM/YY) | | Questionnaire (DD/MM/YY) | | Pro Edit (ONLY if applicable) | | Public Release (ONLY if applicable) | |
| Sent | | Sent | | Sent | | Sent | |
| Recd | | Recd | | Recd | | Recd | |

Individual Patent Progress Form

Vital Statistics, POCs, Key Dates, Notes, and Previously Produced Documents

(Note: 9-point font. Form opens in auto view at 150% – change as desired.)

| Patent # | Patent Date | Official Technical Patent Name | Short File Name
What Is It? |
|---|-------------|------------------------------------|---|
| | | | |
| Marketing Title | | | |
| Patent URL | | | |
| Lead Inventor | | Code | Phone |
| Name | | | Email |
| Other Inventors | | Code | Phone |
| Name | | | Email |
| Name | | | |
| Others | | | |
| Previously Produced Materials Request
(DD/MM/YY) | | Questionnaire
(DD/MM/YY) | Pro Edit
(ONLY if applicable) |
| Public Release
(ONLY if applicable.
Add PR #) | | TechLink Finals | |
| Sent | | Sent | |
| Recd | | Recd | |
| <p>KEEP GOOD CHRONOLOGICAL NOTES: When you contact inventors, FIRST write in the dates (in bold), followed by a colon, then a very short description of the latest data or action. (Example: "02/25/19: ST [<i>Spoke To</i>] inventor. He found a great PP [<i>PowerPoint</i>] brief. Also, WP [<i>White Paper</i>] with great summary information. He is sending both.")</p> | | | |
| | | | |
| <p>FIRST STEP – NEED COPIES OF ALL PREVIOUSLY PRODUCED PATENT DOCUMENTS. THIS IS A CRITICAL TIME-SAVER. Early documents helped explain your ORIGINAL high-tech concept to management / sponsors. NOW, at this stage, these same documents are needed to simplify these concepts to industry. Ask the lead inventor to contact all co-inventors to locate explanatory materials. Usually one inventor has "just the right brief" that nails the content, so our writers do not have to reinvent the wheel.</p> | | | |
| PATENT DOCUMENTS | | NAME / TITLE | |
| PowerPoint Briefs | | | |
| White Papers / Reports | | | |
| Articles / Publications | | | |
| VISUAL AIDS | | NAME / TITLE | |
| Posters / Displays | | | |
| Photos / Graphics | | | |
| Videos / Animations | | | |

| |
|---|
| <p>LESSONS LEARNED / FUTURE IMPROVEMENT: When totally complete, notate production highlights. What worked? What did not?</p> |
| |

Patent Marketing Summary SAMPLE

Instant, accurate, fumeless, latent fingerprint detection

Easy-to-use fumeless powder detects prints up to 30 days!

Existing Technology

Current five-step methods of detecting latent fingerprints rely on older fuming methods that require a special humidity controlled chamber that limits the object size, requires power, and is difficult to field. Additionally, this method takes up to 24 hours and requires special operator skills to properly develop prints. Traditionally, fresh fingerprints (measured in hours) are detected by dusting with a powder that contrasts in color to the background. Older, latent fingerprints (days to weeks) are detected by a developing process using noxious chemicals. The reaction typically uses superglue vapors heated in a sealed chamber to react with fingerprint residues in a complicated process.



New Technology

Acting in quick response to an urgent need by the U.S. Special Operations Forces, China Lake researchers developed a smart powder that revolutionizes all of this and requires no chambers. Detection can be done easily in the open air within seconds. The new smart powders chemically bind to fingerprint residues. A solid-state reaction (as opposed to fuming gas or applying liquid) significantly reduces operator error and enhances ease of use. For one application, the DoD needed to get quick prints off of Improvised Explosive Devices (IEDs) in the field. Likewise, for technology transfer applications, this technology allows forensic units to quickly take quick prints from large and fixed items in the field, such as automotive doors and trunks, office windows and elevators. In many cases, these items would need to be removed and physically taken to a laboratory in order to obtain highly accurate results. **Lead inventors:** Lee R. Cambrea and Benjamin G. Harvey.

How It Works

The invention adds the chemistry of fuming superglue to a powder that can be applied by simply dusting. The powder chemically reacts with fingerprint residues in a manner similar to fuming superglue, but requires no special chamber, heat, or fumes. This simplified method allows large objects to be checked for prints in the field, and provides for fluorescence detection under ultraviolet light. Prints are also visible with white light, so a digital camera flash will enable a detailed print to be captured electronically. The new method detects Level 3 details, such as skin pores, and is shown to be effective on latent fingerprints as old as 30 days! In addition, it is superior to current commercial powders in response to stresses resulting from rough handling. Prints dusted with the new powder can withstand temperature changes, water exposure, and light rubbing. It has unlimited applications for detecting finger, nose, and paw prints for crime scene evidence collection and military applications.

Who Benefits

New technology benefits all types of forensic agencies including local, state, and federal law enforcement agencies and military forensic units.

Benefits

- Allows for real-time print identification in the field
- Decreases detection time from hours to seconds
- No power or special operator requirements
- Detects Level 3 details such as skin pores
- Allows for detection up to 30 days after the print was laid down
- Allows for detection of prints that would otherwise be difficult or impossible to obtain with conventional techniques

Opportunities

- Patent available for licensing. Express licensing available.
- Prototype available.
- Technical Readiness Level (TRL): 6
- Five field-ready sample kits industry tested

Articles and Downloads

- U.S. patent number 8574658 Fumeless Latent Fingerprint Detection
- Fingerprint technical paper
- Fingerprint poster with numerous photos

Patent Marketing Summary FINAL TEMPLATE

Instant, accurate, fumeless, latent fingerprint detection

Easy-to-use fumeless powder detects prints up to 30 days!

(Tip: Copy your final edited answers from the “Inventors Review” boxes on the “Patent Marketing Questionnaire” and then just paste the text over the sample text in the sample template below. This keeps the same formatting, etc. That’s it!)

Existing Technology

Current five-step methods of detecting latent fingerprints rely on older fuming methods that require a special humidity controlled chamber that limits the object size, requires power, and is difficult to field. Additionally, this method takes up to 24 hours and requires special operator skills to properly develop prints. Traditionally, fresh fingerprints (measured in hours) are detected by dusting with a powder that contrasts in color to the background. Older, latent fingerprints (days to weeks) are detected by a developing process using noxious chemicals. The reaction typically uses superglue vapors heated in a sealed chamber to react with fingerprint residues in a complicated process.



New Technology

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- Technical Readiness Level (TRL): 6
- Five field-ready sample kits industry tested

Articles and Downloads

- U.S. patent number 8574658 Fumeless Latent Fingerprint Detection
- Fingerprint technical paper
- Fingerprint poster with numerous photos

Patent Marketing Questionnaire

(**Note:** 10-point font. Form opens in auto view at 150% – change as desired. This worksheet takes only 1 to 2 hours to complete! Who / What / When / Where / Why / How (extra form length is due to the inclusion of specific examples to save you time AND lots of space to copy / paste answers from several sources. Continually refined for maximum results.) (Last revised: 9/3/19)

About the “Patent Marketing Questionnaire”

Purpose – Answers to this worksheet will help you develop the final TechLink “Patent Marketing Summary” that will appear on the TechLink website.

- **First, YOU must complete the first draft of this form BEFORE sending it to inventors.**
 1. **Transfer the best answers from the patent to the appropriate boxes on this questionnaire.**
 2. **Transfer the best answers from ALL previously produced documents, briefs, and publications.**
 3. **Transfer the best-of-the-best questionnaire (worksheet) text into the final “Inventor’s Review” boxes (1-7 highlighted in red) and then wordsmith / edit answers into an effective, interesting, first draft.**
- **Second, you will send the first draft of the completed questionnaire to the lead inventor for THEIR final input, revisions, and any additional supplemental data.**

VITAL STATISTICS

| | | | | | |
|--------------------------|--|---------------------------------|--|------------------------|--|
| Patent # | | Date Issued (MM/DD/YYYY) | | Military Branch | |
| DoD Lab Name | | | | | |
| Patent Title | | | | | |
| USPTO Link | Specific link to USPTO (United States Patent and Trademark Office) website for specific patent information | | | | |
| Inventor(s) Names | (Name format: first / middle / last, then city / state. Example: John R. Doe, Ridgecrest, CA) | | | | |

What is it exactly? What is the MAJOR CATEGORY (see list below) that best identifies WHAT your patent is?

- New prototype / device/hardware
- Use of a new formula / algorithm
- New process or product by process
- New chemical / formulation
- Improved software
- Other / combination? (explain):

Original patent provides inventors with “jump start” answers to five basic questions: Initial first draft answers to the five main questions below come directly from the original patent itself. First, save the patent as an MS Word Document, then highlight and color-code the best answers, and copy and paste answers into the most appropriate boxes below. See the Patent Marketing Guide for complete instructions.

1. MARKETING SUMMARY

(Five Parts: 1. Existing Technology. 2. New Technology 3. How It Works. 4. Major Benefits. 5. Who Benefits)

Examples. Existing Technology (Problems / Challenges):

- **Problem (example 1):** “Earlier rockets used composite propellants and rubber binders filled with powdered aluminum. However, powdered aluminum also created a dense, white-smoke trail that was not desirable because it alerted the enemy...”
 - **Option / Goals:** If a clear-cut “problem” is NOT present, then this section can also simply include the “goals,” “mission statement,” or “future vision” identifying the current technology and establishing where it is headed.
 - **Example:** “There are countless battery charging devices on the market, but not many that charge a battery by using human movements. One day soon, you may be able to charge your smart phone via foot power...”

1. EXISTING TECHNOLOGY: FINAL FIRST DRAFT FOR INVENTOR'S REVIEW

Existing Problems / Challenges (OR Goals / Mission / Future Vision). Within the MS Word file (patent text), copy the best words or paragraph entitled "**Background of the Invention**" (if short) and paste into this box below. (Note: if there is any "NEW technology" or "How it Works" wording mixed into the write-up, simply copy and paste these words into the "**New Technology**" box #2A below.

Recommended length: 100 words (Box [as shown] indicates recommended answer length.)

2A. NEW TECHNOLOGY (Abstract)

NEW Technology / Solutions. Within the MS Word file (patent text), copy and paste the paragraph entitled "**abstract**" and paste into the box below. This is a short, concise summary of the patent.

2B. ABSTRACT (Layman Word Definitions)

Vertically, list any very high-tech or confusing words in the abstract and look them up in an online technical dictionary and write out a layman's definition next to each. This will help you make sense out of "rocket science."

2C. NEW TECHNOLOGY (Claims)

NEW Technology / Solutions. Within the MS Word file (patent text), copy and paste the best words or the paragraph entitled "**Claims**" (if short) and paste into the box below. (If text is long, just copy and paste the BEST answer.)

2D. NEW TECHNOLOGY (Field of the Invention)

Within the MS Word file (patent text), copy / paste the paragraph entitled “**Field of the Invention**” below.

2E. NEW TECHNOLOGY (Summary of the Invention – If applicable)

Next, from within the patent text, copy and paste the paragraph(s) entitled “**Summary of the Invention**” below (if applicable). HOWEVER, this is just for reference in case you need a LITTLE MORE info for your final write-ups.

2A-E. “NEW TECHNOLOGY” FINAL FIRST DRAFT FOR INVENTOR’S REVIEW

Copy and paste your finished wording within each of the four boxes above (2A-2D) into the box below. Then, tie the wording together with needed transitional statements, and then refine the final write-up.

Recommended length: 175 words (Box [as shown] indicates recommended answer length.)

3. “HOW IT WORKS” FINAL FIRST DRAFT FOR INVENTOR’S REVIEW

Within the patent, copy / paste the entire “**Patent Abstract**” here. Also, scan the “**Detailed Description of the Embodiments**” and see if you can pick out 3 to 4 introductory or explanatory type sentences that may be useful and copy and paste them in this box as well. (However, 95% of this text is usually way too complex.)

Note: The goal is give “just a little” data on how it works WITHOUT giving too many details. One paragraph is all that is needed. Sometimes you can just shorten the “**Patent Abstract**” or pull a sentence or two from other answers above. But keep it BASIC for promotional purposes. **Remember, readers can always refer to the highly detailed patent at any time.** The data contained here are for quick promotional applications only.

Recommended length: 120 words (Box [as shown] indicates recommended answer length.)

4. MAJOR BENEFITS

The requirement here is a little different. In this case you are looking for short, descriptive statements, phrases and **bulleted points** that quickly nail the “major benefits” in short order. Refer to the “**New Technology**” and “**How It Works**” sections (above) and bold each, specific, major benefit listed in the text. Next, copy and paste the benefits in the box below, then bulletize them, and finally, prioritize the list from most to least significant. (Detailed example is included below. Answer box appears at the end.)

Major Benefits Example (Fingerprint detection patent sample)

“Instant, accurate, fumeless, latent fingerprint detection”

“Easy-to-use fumeless powder detects prints up to 30 days”

Fingerprint Detection Example

“**New Technology**” section / write-up WITH “**Major Benefits**” wording highlighted. (Notice that the wording / phrases that best describe MAJOR BENEFITS are highlighted in red.)

Acting in quick response to an urgent need by the U.S. Special Operations Forces, NAWCWD researchers developed a smart powder that revolutionizes all of this and requires no chambers. **Detection can be done easily in the open air within seconds.** The new smart powders specifically / chemically bind to fingerprint residues. A solid-state reaction (as opposed to fuming gas or applying liquid) significantly reduces operator error and enhances ease of use. **There are no power or special operating requirements.** For one application, the DoD needed to get quick prints off of IEDs in the field. Likewise, for technology transfer applications, this technology allows forensic units to **quickly take quick prints from large and fixed items in the field**, such as automotive doors and trunks, office windows, and elevators. In many cases, these items would need to be removed and physically taken to a laboratory in order to obtain highly accurate results.

“**How it Works**” section / write-up WITH “**Major Benefits**” wording highlighted

The invention adds the chemistry of fuming superglue to a powder that can be applied by simply dusting. The powder chemically reacts with fingerprint residues in a manner similar to fuming superglue but requires no special chamber, heat, or fumes. This simplified method allows large objects to be checked for prints in the field, and provides for fluorescence detection under ultraviolet light. Prints are also visible with white light, so a digital camera flash will enable a detailed print to be captured electronically. **The new method detects level 3 details, such as skin pores**, and is shown to be **effective on latent fingerprints as old as 30 days!** In addition, it is superior to current commercial powders in response to stresses resulting from rough handling. Prints dusted with the new powder can withstand temperature changes, water exposure,

and light rubbing. It has unlimited applications for detecting finger, nose, and paw prints for crime scene evidence collection and military applications.

Now, combine all the Major Benefits (Final bulleted list taken from the “New Technology” and “How it Works” sections. Then prioritize the list.)

- Instant, accurate, fumeless, latent fingerprint detection
- Easy-to-use fumeless powder detects prints up to 30 days
- Allows for real-time print identification in the field
- Decreases detection time from hours to seconds
- No power or special operator requirements
- Detects level 3 details such as skin pores

4. “MAJOR BENEFITS” FINAL FIRST DRAFT FOR INVENTOR’S REVIEW

Now, for your specific patent, refer to the “**New Technology**” and “**How it Works**” sections (above) and bold each, specific, major benefit listed in the text. Then, copy and paste the benefits below, bulletize them, and prioritize the list (from most to least significant).

5. “WHO BENEFITS” FINAL FIRST DRAFT FOR INVENTOR’S REVIEW

What types of organizations / customers will most likely use this product? DoD, Academia, Industry? Which specific industries by category?

Creating a dynamic Patent Marketing Summary TITLE and SUB-TITLE. Need a catchy, sellable, promotional title. Refer to the bulleted list of MAJOR BENEFITS above, because often the top bullet (or top 2 bullets) on the list can be used to craft the words for the main title.

Marketing Summary TITLE examples

- Patent: “Latent Fingerprint Detection”
 - Promotional Title: “Instant, accurate, fumeless fingerprint ID in the field”
- Patent: “Facial Recognition Software”
 - Promotional Title: “Adaptive Facial Recognition Software”

6. MARKETING SUMMARY TITLE FOR INVENTOR’S REVIEW

Refer to the “**Major Benefits**” bulleted list above and try using the top bullet, or craft the wording into a catchy, promotional title.

7. MARKETING SUMMARY SUB-TITLE (Layman's Description)

Need a catchy, sellable, promotional sub-title. Refer to the bulleted list of MAJOR BENEFITS, because often the **second and third bullets** on the list can be used as is or to craft the words for the sub-title.

Marketing summary SUB-TITLE examples

- Patent: "Latent Fingerprint Detection"
 - Promotional Title: "Instant, accurate, fumeless fingerprint ID in the field"
 - Promotional Sub-title: "Easy to use fumeless powder detects prints up to 30 days!"
- Patent: "Facial Recognition Software"
 - Promotional Title: "Adaptive Facial Recognition Software"
 - Promotional Sub-title: "Military and commercial applications regarding safety, security and surveillance."
- Patent: "Screw Removal Tool"
 - Promotional Title: "Screw Removal and Insertion Tool"
 - Promotional Sub-title: "Removes stubborn screws with minimal effort"

7. MARKETING SUMMARY SUB-TITLE FOR INVENTOR'S REVIEW

Refer to the "**Major Benefits**" bulleted list and pick the benefits of SECONDARY importance and use as is or craft it into a sub-title. Often the second and / or third bullet work well.

FINAL EDITS TO FIRST DRAFT WRITE-UPS

- **Polish your final first draft write-ups.** Within each section, you will need to add final transitional words to tie the final DRAFT write-ups together. They don't have to be perfect now. You will refine the write-ups further once the inventors have completed the full questionnaire and sent it back to you.
- **Option—Save a copy with your edits?** Everyone has a different editorial style. If you have kept your editorial markings, when you are all through, you may want to save a special version of this final file that shows ALL your edits. If you wish to do this, name it "Questionnaire with Edits" and save in your patent folder for future reference.
- **Scan the rest of the questionnaire and fill in whatever data you have.** However, answers to the rest of the questions (pages 7-14) will come mostly from the inventors themselves. But you may be able to fill out some things.
- **When totally complete, change the generic name of your file from "Patent Marketing Questionnaire" TO the specific short file name of your patent** (e.g., "Fingerprint Detection Questionnaire") and save the file in your patent folder. This file will be sent to inventors for additional input and review.
- **Much easier than it looks.** In an attempt to be thorough, instructions here may, at first glance, appear complicated. It's not! You are simply pulling together good text from several sources and then refining the final write ups. That's it. After you do this once or twice, it will be a snap!

Note. This concludes the PRIMARY Patent Summary information gathering. The goal of the next half of the questionnaire is to provide "icing on the cake." The goal is to gather a few additional needed ingredients to make your final write-ups and stories interesting and compelling for industry. (WOWS: unique stories, statistics, facts, examples!) Additional guidance for this section of the questionnaire can be found on the form itself.

“ADDING ICING TO YOUR CAKE”

Once you complete the primary Marketing Summary information, the next step is to gather needed ingredients to “spice-up your cake”

- Add some interesting statistics, facts, examples
- Quantitate the significance and scope
- Provide a little information on the background / development
- Identify if a prototype is available
- Identify the Technology Readiness Level (TRL) and key search terms
- Identify any helpful downloadable supplemental information (PowerPoint briefs, papers, articles) to include on the TechLink website
- Identify current status / future plans

1. “HOW” – EXAMPLES FROM GOVERNMENT AND INDUSTRY

A. BEST example of HOW this technology solves ONE MAJOR problem for the DoD. WHAT specific problem was your lab ORIGINALLY tasked to solve?

Main DoD problem / solution example

B. BEST example of HOW this technology could solve ONE MAJOR problem for private industry?

Main tech transfer problem / solution example

C. Is this patent or innovation a response to a significant DoD need, requirement, or initiative?

Examples.

- **Penetrating Bombs:** When the military REQUIRED a hard-target deep penetrating bomb, China Lake designed airframe enhancements to meet the Navy’s catapult launches requirements....
- **Biofuels:** The Navy’s Green Fleet Initiative CALLS for 50% renewable energy by 2020. Biofuels support this initiative...

Your needs / requirements / initiatives statement (if applicable)

D. Is this patent or innovation a response to an immediate or wartime crisis? Was the invention / technology actually used in combat? Describe how it was used. (Note: Most technologies never make it to the battle field. Those that do, should be emphasized. This is a very important question to answer. Instant credibility answer.)

Examples.

- **Sidewinder missile:** Was first deployed in combat when Nationalist Chinese forces engaged the Communist Chinese Air Force over the straits of Formosa in 1958. Its first large-scale use came during Vietnam...

| |
|--|
| Your wartime crisis or combat example (if applicable) |
| |

2. SIGNIFICANCE

A. What is the major SIGNIFICANCE of this patent?

Examples.

- At the close of WW II, the U.S. Joint Chiefs of Staff listed the atomic bomb, radar, and the proximity fuze as the three most significant developments of the war...

| |
|---------------------------------------|
| Your major significance answer |
| |

B. Have there been any testimonials or quotes from VIPs or others that tout the success of this patent? (This may require a little research via your local base newspaper or publication but the fact is – high-level personnel lend a lot of credibility to your patent / invention. It is worth the effort.)

Examples.

- The squadron’s commanding officer described ATARS as “*indispensable*” to the war effort.”
- The Secretary of Defense stated that the MAC warhead “*can take out the first floor of a building without damaging the floors above.*”

| |
|--|
| Your testimonials / VIP quotes answer (if applicable) |
| |

C. Identifying the overall IMPACT of this improvement. DEGREE of Significance? To what degree (%) would you say this technology has IMPROVED the previous technology / methodology: 10% improvement / 25% / 50% / 100% / 200% (twice as effective)? Order of magnitude (10X more effective)?

| | | | |
|--|---|---------------|--|
| Your percentage of improvement answer | % | Other: | |
|--|---|---------------|--|

D. If you picked ONE adjective that BEST describes the overall SIGNIFICANCE, what would it be?

- ambitious • dramatic • exponential • game-changer • historic • impressive • monumental
- remarkable • evolutionary • quantum leap • spectacular • staggering, etc.

| | |
|----------------------------|--|
| Your best adjective | |
|----------------------------|--|

E. Describe any VERY UNIQUE FEATURES of this patent or innovation? Look for unique key words like “Only” “Largest” “Smallest” “Fastest” “Most expensive” “Least expensive” etc.

Example – Real-Time Radioscopy. It was the **only** system of its kind in the free world, and it made China Lake one of the premiere places to test solid-propellant rocket motors. By the mid-1980s, engineers had developed a workable high-energy real-time radioscopy (RTR) capability built around a nine-million-electron-volt linear accelerator. The multi-million-dollar invention included a 12,000-pound accelerator assembly....

Your most UNIQUE features answer

| |
|--|
| |
|--|

F. Identify any interesting FACTS. Examples of ANYTHING fun or unusual of reader interest.

Example. In addition, China Lake’s new biofuels come in flavors. Prominent scents include clove, orange, pine, and cedar. One day, filling up your car might even smell good as you fill-up...

Your interesting facts answer

| |
|--|
| |
|--|

G. Scope of Operations. Very important questions but ONLY IF the scope of your patent is SIGNIFICANT. The following quick section should NOT bog you down. You only need to complete this next box if your patent is VERY SIGNIFICANT in scope. Some patents are minor in scope; some are HUGE in scope requiring millions of dollars, a large staff, and a decade in development or more. But when industry quickly scans your final three paragraph write-up THEY WILL NOT KNOW THIS unless you call it to their attention. As an insider, you may know it’s a big deal, but industry does not.

- **VERY Important! Industry absolutely NEEDS to know that they “might” be able to “pick up” an invention license for a few thousand dollars that took the U.S. Government a few million dollars and a decade to develop.** Now, that’s a bargain! Think if YOU were a buyer for industry. For major projects, your answer to this little box below could possibly LICENSE YOUR PATENT TO INDUSTRY. For this application, a general estimate is good enough.

| | | |
|---|--|--------|
| When did this project initiate: | | (Year) |
| When did the major work end: | | (Year) |
| How many people were employed full-time during this time: | | (#) |
| Approximately, how much money did the Government invest in the TOTAL project effort from conception to patent (or until major work completed): | | (\$) |
| Manpower estimate: For MAJOR, multi-year, multi-participant efforts, please try to quantify (e.g., Email your BFM with a quick question asking what was the total number of hours charged to this project during the timeline described above) | | (#) |

3. BRIEF OVERALL BACKGROUND / MAJOR LAB TASKING / OTHER PARTNERS

A. What specifically did your organization do concerning the development of this innovation / patent? (Related testing, etc.)

Example – Atomic bomb. China Lake also performed detonator testing; mixed, melted, cast, and machined explosive shapes; air-dropped hundreds of bomb components and shapes from B-29 bombers; studied and solved flight problems; and conducted aeroballistic tests to optimize aerodynamics and to test fuze functions. The team also evaluated equipment procedures to be used in the tactical delivery of the atom bomb....

What did your organization do EXACTLY?

B. In a few words, provide a quick historical overview / timeline for major development. When did your organization first start working on this technology? Describe any MAJOR milestones / breakthroughs along the way. Keep it short! Industry needs to know a basic evolutionary major development timeline. Industry can SAVE ALL THIS TIME that the Government has already spent.

Example – PBX. Beginning in the **1940s**, China Lake made significant contributions in synthesis, formulation, development, scale-up, evaluation, and application of new and improved energetic materials. Between **1945 and 1949**, the Center was the single producer of certain chemical explosive components for the nuclear weapons program. In **1954**, China Lake developed a high-performance PBX for the Folding-Fin Aircraft Rocket.... By the late **1960s**, during the Vietnam Conflict, most PBX formulations in service were developed by China Lake. To date, China Lake has at least 16 PBX inventions with 11 patents issued, the earliest dated 1951...

Your quick snapshot / developmental timeline

C. Is this a joint development / collaboration with other DoD agencies, or commercial partners? If so, identify the major players. Also, does this patent or technology BUILD on any EXISTING patent / technology developed by someone else? If so, please identify.

Important Note: Give credit where credit is due. Below is a prime example of this. In this case, China Lake had a MAJOR role in the eventual worldwide DoD and Tech Transfer success of “light sticks” by improving the original technology **1,000 times**...HOWEVER, China Lake was NOT the original inventor. Therefore, in the example below, the article first credits DuPont as the inventor, but then specifically discusses China Lake’s role in enhancing the technology. In addition, the bold title of this patent is written as “First Chemiluminescent Light Sticks for MILITARY Applications.” By qualifying “military use” it does not detract from DuPont’s claim as the original inventor. The point to remember is that it is OK to highly tout your patent’s accomplishments, just make sure to always give credit where credit is due. Many patents BUILD on the works of other great patents.

Examples.

- **Light sticks:** In 1961, NAWCWD China Lake scientists recognized DuPont Corporation’s PR-155 chemical-light technology as having significant potential for military applications. NAWCWD initiated the TIARA project to enhance this technology 1,000 times to create new Warfighter devices...

Your partnership answer (if applicable)

4. OPPORTUNITY / ALL INDUSTRY APPLICATIONS

Applicable Industries / Customers: Major Technology Area Applications: On their website, TechLink identifies 11 major technologies. Which ones are applicable to your patent? (In alphabetical order):

- Communications • Military Technology • Electronics • Energy • Environmental • Materials
- Medical and Biotechnology • Photonics • Sensors • Software and Information Technology • Other

Your technology area answer

List as many OTHER possible commercial applications for your invention? How else might this technology be used? Again, brainstorm. Call a few team members together and get creative. How ELSE could this technology be used? Remember, when industry scans your final few paragraphs, your brainstorming ideas might find a creative tech transfer use that they may quickly miss at first glance.

Example – Logarithmic Amplifier. NAWCWD China Lake developed logarithmic amplifiers for radar signal processing applications. In 1971 China Lake transferred the design for a custom logarithmic amplifier to the Mayo Clinic, which was instrumental in the design, development, and successful demonstration of the first ultrasonic body-scanning equipment. Ultrasonic scanning equipment has since become an important non-invasive medical diagnostic tool used worldwide...

List all OTHER commercial applications: (Note: You might get noticed by any number of industries. TechLink cross-references patents by applicable industries.)

VERY IMPORTANT. TechLink Marketing Leads -- Manufacturers. (Data for TechLink Only – Does NOT appear anywhere on the website.) TechLink's goal is to match your new technology with MANUFACTURERS who can make and sell your new product/technology. We need your help here. We want to take a proactive approach versus just waiting to be discovered. Think carefully, and perhaps do a little research. WHO is already making and selling products closely related to your invention? Have you been in contact with any good candidates? **We need ANY good leads.**

List ANY good manufacturing leads. Names, contact information, dates you may have already contacted them, Document any background notes to help TechLink staff when making marketing calls to industry.

5. PROTOTYPE / TRL INFORMATION / KEY WORD SEARCH

Technology Readiness Level (TRL) / Licenses / Prototypes. (Note: Critical question industry needs to know. Read levels below. Your answer lets industry know how much additional work they have to do to get this product to market. **If you have a working prototype, your level will be at least 6.**)

Concept – Proof of Concept – Validation

- **TRL 1 Basic principles observed and reported.** Lowest level of technical readiness. Scientific research begins to be translated into Applied R&D. Examples: paper studies of a technology's basic properties.
- **TRL 2 Technology concept and / or application formulated.** Invention begins. Once basic principles are observed, practical applications can be invented. Applications are speculative and there may be no proof or detailed analysis to support assumptions. Examples limited to analytic studies.
- **TRL 3 Analytical and experimental critical function and / or characteristic proof-of-concept.** Active R&D is initiated. Includes analytical and lab studies to physically validate analytical predictions of separate elements of the technology. Examples include components that are not yet integrated or representative.

- **TRL 4 Component / subsystem validation in laboratory environment.** Basic tech components are integrated to establish how they will work together. This is relatively “low fidelity” compared to the eventual system. Examples include integration of “ad hoc” hardware in the lab.
- **TRL 5 System / subsystem / component validation in relevant environment.** Fidelity of breadboard tech increases significantly. The basic tech components are integrated with reasonably realistic supporting elements, so it can be tested in a simulated environment. Examples include “high fidelity” lab integration of components.

Prototyping

- **TRL 6 System / subsystem model or prototyping demonstration in a relevant end-to-end environment.** Representative model or prototype system, which is well beyond that of TRL 5, is tested in a relevant environment. Represents a major step up in a technology’s demonstrated readiness. Examples include testing a prototype in a high-fidelity laboratory or in a simulated operational requirement.
- **TRL 7 System prototyping demonstration in an operational environment.** Prototype near, or at, planned operational system. Represents a major step up from TRL 6, requiring demo of an actual system prototype in an operational environment such as an aircraft, vehicle, or space. Examples include testing the prototype in a test bed aircraft.

Final Test and Evaluation (T&E)

- **TRL 8 Actual system completed and “mission qualified” through test and demo in operational environment.** Technology has been proven to work in its final form and under expected conditions. In almost all cases, this TRL represents the end of true system development T&E of the system in its intended weapon system to determine if it meets design specifications.

Final Operational Field Testing

- **TRL 9 Actual system “mission proven” through successful mission operations.** Actual application of the technology in its final form and under mission conditions, such as those encountered in operational T&E. Examples include using the system under operational mission conditions.

| | |
|------------------------|-----------|
| Your TRL (1-9): | #: |
|------------------------|-----------|

| | | | | | |
|-------------------------------|-----------|---------------------------|-----------|-----------------------------|-----------|
| Available for License: | Yes
No | Express Licensing: | Yes
No | Prototype Available: | Yes
No |
|-------------------------------|-----------|---------------------------|-----------|-----------------------------|-----------|

| |
|--|
| Prototype / Background Developmental Testing Description: Briefly describe any MAJOR tests and trials conducted? University studies? How did the item perform? Any high ranking DoD or other VIPs in attendance? Any good quotes? |
| |

Define “KEY WORD” Search Terms. Review the Patent Disclosure, and “Major Benefits” and write down any and all SPECIFIC KEY TERMS people might use to find your invention. Be specific. Don’t use general terms that will yield millions of hits.

| |
|---|
| Your specific patent key word search terms |
| |

Other Related Patents

Identify all other patents (name and number) that have been issued that **DIRECTLY RELATE** to this subject patent? Do you know if there are related patent applications pending? (Note: See the Marketing Guide for tips and hints on obtaining this information from inventors.)

| Official Related Patent Name | Patent # | Main Differentiator? (In a few words, how does this sub-patent differ from the main patent> What's new here? Also note if the difference is SO SIGNIFICANT that, in your opinion, the related patent should be marketed separately on TechLink.) |
|------------------------------|----------|--|
| | | |
| | | |
| | | |
| | | |
| | | |

6. VITAL PREVIOUSLY PRODUCED DOCUMENTS, PUBLICATIONS, BRIEFS AND VISUAL AIDS AVAILABLE FOR REVIEW AND POSSIBLE DOWNLOAD

Overview.

A. IMPORTANT. You MAY find the exact summary wording you need right up front. **DO NOT** reinvent the wheel. Great material has PROBABLY ALREADY been developed and much of your homework probably ALREADY been done. Early docs helped explain the ORIGINAL high-tech concept to management / sponsors. NOW, at this stage, we need these SAME documents to simplify these SAME concepts to industry. Usually one inventor has "just the right brief" that nails the content so our writers don't have to re-invent the wheel. Great items include white papers / reports, PowerPoint briefs, articles / publication, awards / recognition, as well as available visual aids including posters / displays, photos or videos. Carefully read each document and copy / paste the best answers into the questionnaire.

Note: If the paper / brief / article / report is very comprehensive, or very effective, in ADDITION to taking key words / sentences / paragraphs, you can ALSO submit the entire publication (only if HIGHLY effective) as it can be DOWNLOADED from the TechLink site. (However, all material must be publicly released.) **In short, the MORE that industry knows about the patent / technology, the more likely they are to pursue it.**

Classified Information. Remember, if ANY NEW supplemental download data appears sensitive by the inventor or their uplines, then this material should be re-reviewed by your security officer and public affairs office and publicly released if this is going on the TechLink website. Also, ask them to review ANY of the new embellishments in the final story that may contain any sensitive technical data that did not previously appear in the original patent. However, another option is not to include the new data, but simply add the titles in below (needed to identify the specific item), but in the description box you can simply write in the following: **"Technical Data Packages available upon request with proper security clearance."**

| Items Downloadable | Description (Name / Title / Year) |
|-------------------------|-----------------------------------|
| Papers / Reports | |
| PowerPoint Briefs | |
| Articles / Publications | |
| Awards / Recognition | |

B. Visual Aids

| VISUAL AIDS FOR DOWNLOAD | |
|---------------------------------|--|
| Items Downloadable | Description (Name / Title / Year) |
| Posters / Displays | |
| Photos | |
| Graphics | |
| Videos | |
| Animations | |

7. STATUS / FUTURE PLANS

A. Please provide a quick update (status) on this patent / research since the patent was filed. Are researchers still working on this technology?

| |
|--------------------|
| Your answer |
| |

B. Describe any significant future plans.

| |
|------------------------------------|
| Your answer (if applicable) |
| |

8. IDENTIFY THE MAIN POCs FOR COMPLETING THIS QUESTIONNAIRE

Tech Transfer Office POC

| | | | | | |
|---------------|--|--------------|--|---------------|--|
| Name: | | Code: | | Title: | |
| Email: | | | | Phone: | |

Lead Inventor(s) POC helping with questionnaire

| | | | | | |
|---------------|--|--------------|--|---------------|--|
| Name: | | Code: | | Title: | |
| Email: | | | | Phone: | |

Lead Inventor(s) POC helping with questionnaire

| | | | | | |
|---------------|--|--------------|--|---------------|--|
| Name: | | Code: | | Title: | |
| Email: | | | | Phone: | |

Don't Let the "Big Ones" Get Away!



**Fully PROTECT, Effectively MARKET, and
Successfully LICENSE
your incredible new technology!**