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I. Introduction

Mr. Chairman, Ranking Member, and members of the Committee, on behalf of the Software and Information Industry Association (SIIA) and its members, thank you for this opportunity to testify before you today on the benefits of the intellectual property.

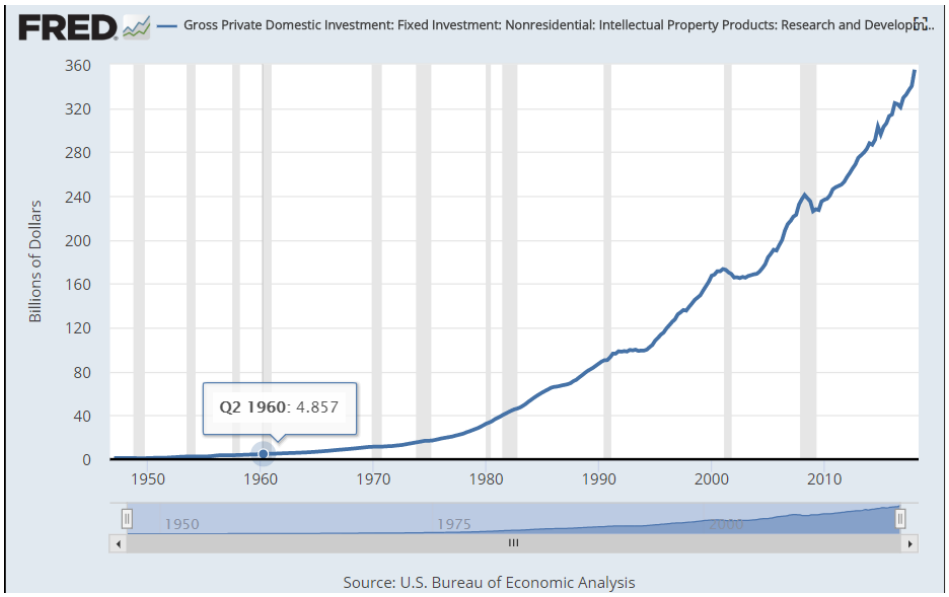
SIIA is the principal trade association of the software and information industries and represents over 800 companies that develop and market software and digital content for business, education, consumers, the Internet, and entertainment. SIIA's members range from start-up firms to some of the largest and most recognizable corporations in the world, and one of SIIA's primary missions is to protect their intellectual property and advocate a legal and regulatory environment that benefits the software and digital content industries. SIIA member companies are market leaders in many areas, including but by no means limited to:

- software publishing, graphics, and photo editing tools;
- corporate database and data processing software;
- financial trading and investing services, news, and commodities exchanges;
- online legal information and legal research tools and;
- newsletter, journal and educational publishing.

I am here today to talk about the many small businesses who are members of SIIA. Some are what you would consider pure "software companies." Others are publishers that have or are transitioning from a subscription and paper model to a digital model. In many respects, these businesses were, are, or are gradually becoming technology companies.

Small businesses depend on a sound and uniform intellectual property system. And I am happy to say that that system exists. According to the Patent and Trademark Office's most recent studies, intellectual property-intensive industries accounted

for 27.9 million jobs and over 38 percent of GDP.[1] Those working in these industries earned wages roughly 46 percent higher than those in non-IP intensive areas.[2] And fixed investment into intellectual property products is decidedly on an upward slope:



In 2015 alone, R&D investments in the software and internet industry grew faster than any other industry: "[s]oftware & Internet [R&D spending] grew at over 27%, far greater than the growth of all other industries from 2014 to 2015."[3] And that spending is increasing as a percentage of R and D generally, from

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1 U.S. Patent and Trademark Office, Intellectual Property and the U.S. Economy: 2016 Update, at ii (2016), available at https://www.uspto.gov/sites/default/files/documents/IPandtheUSEconomySept2016.pdf.

2 *See id.*

3 PwC, 2015 Global Innovation 1000: Innovation's New World Order at 14, October 2015.

15% of total R&D spending in 2010 to 24% in 2020.[4] Companies that reported faster revenue growth than their competitors allocated more R&D investment to software.[5] That same positive trajectory is on the startup side as well: since 2014, venture capital funding for startup software and internet companies is up by 88% compared to the three years prior.[6] And in 2016, venture capital raised $41.6 billion for startups, the highest amount in 10 years.[7]

The picture of the American IP system is a resoundingly healthy one. R and D, venture funding, startup activity and even the number of patent filings have been on a steady climb since 2012.[8] Current law both incentivizes innovation and creativity and protects brands and competitive advantages from unfair competition.

In what follows, I will lay out an overview of the four kinds of IP that SIIA members primarily rely on: patents, copyrights, trademarks, and unfair competition. We hope to give you some flavor of how those rights help our businesses grow from small ones to large ones.

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4 (PWC, 2016 Global Innovation 1000, October 2016).

5 PWC, 2016 Global Innovation 1000, October 2016.

6 PwC / CBInsights MoneyTree™ data explore, available at http://www.pwc.com/moneytree (showing that U.S. VC funding for internet and software companies totaled $55.13B for Q2 2011-Q2 2014; funding for Q3 2014-Q3 2017 totaled $104.22B).

7 (2017 NVCA Yearbook). See also Patent Progress, Innovation is Alive and Well, https://www.patentprogress.org/2018/02/08/innovation-alive-well-rd/.

8 High Tech Inventors Alliance, Innovation is Thriving, available at https://docs.wixstatic.com/ugd/3929b0_74c746db8c9e4cf9ad37421bb614ec02.pdf.

I. Patents and Copyrights

The patent and copyright laws emanate from the grant of power in Article I, Section 8, clause 8 of the Constitution, which permits Congress to establish exclusive rights to authors and inventors for limited times. The Founders included that provision for two reasons: first, to unleash innovation by creating incentives to invent and create; and second, to create those incentives in a uniform fashion—in the words of the Federalist papers, "The states cannot make effectual provisions for either of the cases [patent or copyright]".[9] In other words, the Founders (as well as the Congress) envisioned a free-market system where everyone operated within the same, uniform set of rules.[10] The calibration of particular policies, however, is Congress's task, and it has executed that task admirably.

A. Patents

Congress passed its first patent law in 1790—one year after the Constitution was ratified.[11] At that time, an inventor would apply to the Secretary of State (Thomas Jefferson), the head of the Department of War (Henry Knox) and the Attorney general (Edmund Jennings Randolph) for a patent for their invention.[12] If the invention contained something new and useful, the inventor could exclude others from making, using or vending the invention for a period of fourteen years.[13] In exchange, the patentee had to disclose his invention to the public.

The Secretary of State no longer examines patents. Times have changed. Nonetheless, our modern statute still contains the basic outlines of that first effort in the sense that there is an

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9 The Federalist No. 43 (Madison).

10 *E.g.,* 17 U.S.C. §§ 106; 504; 35 U.S.C. § 271.

11 Patent Act of 1790, 1 Stat. 109 (1790).

12 *Id.* § 2.

13 *Id.* § 1.

administrative application process—though a much more complex one—followed by a patent grant from the executive branch.[14] And it still represents a quid pro quo: the inventor discloses the workings of a process or device in sufficient detail to enable a person skilled in the art to make and use the invention once the patent has expired.[15] That same disclosure and drafting warns those in a particular industry of the exact boundaries of the patent grant.[16] Once the term of the patent—now 20 years—expires, those in the art are free to use the invention.[17]

Patentable subject matter consists of technological contributions except for abstract ideas, laws of nature, and natural phenomena.[18] The light bulb, prescription drugs, sewing machines, telephones—all of these were the subject of patents obtained through the same general process. An applicant applies for a patent grant by submitting his proposed patent to the U.S. Patent and Trademark Office. That application includes relevant prior art, a description (explaining how the invention works and why it's worthy of protection) and claims that describe the scope of the exclusive rights which the inventor is claiming.[19] There are certain

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[14] *See generally* Oil States Energy Servs., LLC v. Greene's Energy Grp., LLC, 138 S. Ct. 1365 (2018) (describing the evolution of the examination process).

[15] *E.g.,* Universal Oil Prod. Co. v. Globe Oil & Ref. Co., 322 U.S. 471, 484, 64 S. Ct. 1110, 1116, 88 L. Ed. 1399 (1944).

[16] *See id; see also generally* Johnson & Johnston Assocs. Inc. v. R.E. Serv. Co., 285 F.3d 1046, 1052 (Fed. Cir. 2002) (describing the role of the patent claims).

[17] 35 U.S.C. § 154. Design patents, which provide protection for ornamental features and not functionality, last for fourteen years.

[18] Alice Corp. Pty. v. CLS Bank Int'l, 134 S. Ct. 2347, 2354, 189 L. Ed. 2d 296 (2014).

[19] *See* 35 U.S.C. § 111; *see also generally* 1 Moy's Walker on Patents § 3:5 (4th ed.) (describing what must be put in a patent application).

limits—the invention cannot, for example, be obvious to one skilled in the art, and it is the PTO's job to ensure that the applicant's invention was not anticipated by what had come before.[20] And there is sometimes a back and forth between examiner and applicant, the extent of which varies by case.[21] The result of that process is the right to exclude others from making, using or selling a particular invention.[22]

For well over two centuries, the courts, Congress, and the Executive branch have administered this system, with Congress passing the laws, the Executive deciding whether patents should issue, and the courts determining infringement. While many of the substantive doctrines that exist today bear great similarity to those that existed at the time of the Founding, the administrative practice has greatly changed. In 1790 and 91, there were only 36 patents granted.[23] In 2015, there were 629,647 patent applications

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[20] *E.g.,* 35 U.S.C. § 103 (stating that a patent may not be obtained "if the differences between the claimed invention and the prior art are such that the claimed invention as a whole would have been obvious" to a person of ordinary skill in the art).

[21] *See generally* 1 Moy's Walker on Patents § 3:2 (providing short overview of the application process, and an estimate).

[22] 35 U.S.C. § 271(a).

[23] U.S. Patent and Trademark Office, U.S. Patent Activity, 1790 to the Present, available at https://www.uspto.gov/web/offices/ac/ido/oeip/taf/h_counts.htm. Statistics on the number of applications

filed.[24] In that same year, over 300,000 patents were granted, and there are over 2,000,000 patents currently in force.[25]

Making sure that such a large volume of applications meets the statutory requirements represents an enormous administrative challenge. Examiners can spend on average only 19 hours examining each application through, including the initial review and the back and forth with the applicant.[26] Patent applicants are not required to look for prior art and bring it to the examiner's attention. Despite this, the Patent Office must grant the application unless it can prove that the claims do not meet the statutory requirements.[27]

The task becomes much harder during a period of rapid technological change. In the early 2000s, the explosion of digital technology resulted in a flurry of bad patents that never should have been issued, especially in the areas of computer software and networking technology. Many of these covered abstract business methods are performed on a computer system or the Internet. That flurry of poor-quality patents resulted in a form of litigation abuse called patent trolling: a case in which a person buys a low-quality patent—such as claiming the exclusive right to settle financial transactions with a "data processing system"—threatens litigation

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[24] U.S. Patent and Trademark Office, U.S. Patent Statistics Chart Calendar Years 1963-2015, available at https://www.uspto.gov/web/offices/ac/ido/oeip/taf/us_stat.htm.

[25] See generally Dennis Crouch, The Number of US Patents in Force, Patently-O https://patentlyo.com/patent/2014/10/number-patents-force.html;

[26] Frakes, Michael D., and Melissa F. Wasserman, *Is the time allocated to review patent applications inducing examiners to grant invalid patents? Evidence from microlevel application data*, Review of Economics and Statistics 99.3 (2017): 550-563.

[27] Oil States Energy Services, LLC v. Greene's Energy Group, LLC et al., 584 U.S. ___ (2018) (No. 16-712), Br. for Intel et al. as *amici curiae* in support of respondents, at 29-32.

and settles for less money than it would cost to determine the patent's validity through the trench warfare of federal litigation.[28]

Small business and startups in the tech sector were especially hard hit as they attempted to establish businesses with an Internet presence.[29] At the height of the litigation epidemic, 55% of unique defendants had revenues of $10 million or less.[30] This is not surprising because small businesses are less able to take on the burden of fighting bad patents in litigation. As academic studies have reported, patent litigation, even the threat of litigation, and the pressures to negotiate a settlement, can have severe negative impacts on small businesses.[31]

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[28] Alice Corp. v. CLS Bank Int'l, 34 S. Ct. 2347 (2014).

[29] See Appel, I., Farre-Mensa, J., & Simintzi, E., Patent Trolls and Small Business Employment. Harvard Business School (2017), available at https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2887104. Bessen, The Evidence is in: Patent Trolls Do Hurt Innovation, Harvard Business Review, (Nov. 2014), available at https://hbr.org/2014/07/the-evidence-is-in-patent-trolls-do-hurt-innovation; Bessen & Meurer, The Direct Costs from NPE Disputes, 99 Cornell L. Rev. 387 (2013), available at https://scholarship.law.cornell.edu/cgi/viewcontent.cgi?referer=https://www.google.com/&httpsredir=1&article=4620&context=clr; Cohen, L., Gurun, U., & Kominers, S. D. Patent trolls: Evidence from targeted firms. National Bureau of Economic Research, (2014) (No. w20322), available at https://pdfs.semanticscholar.org/6bbe/1912f1820afab07cd1ba24ed19e2efe92201.pdf.

[30] Chien, C., Patent Trolls by the Numbers , available at https://digitalcommons.law.scu.edu/cgi/viewcontent.cgi?referer=https://www.google.com/&httpsredir=1&article=1610&context=facpubs.

[31] *See* Chien and Feldman, R. (2013), Patent demands & startup companies: The view from the venture capital community, 16 Yale J. L. & Tech. 236 (2013); Bessen, J., Ford, J., & Meurer, M. J. The private and social costs of patent trolls. 34 Regulation 26 (2011), available at http://www.bu.edu/law/workingpapers-archive/documents/bessen-ford-meurer-no-11-45rev.pdf.

Congress responded by passing the America Invents Act, legislation designed "to establish a more efficient and streamlined patent system that will improve patent quality and limit unnecessary and counterproductive litigation costs."[32] The creation of an inter partes review (IPR) proceeding was a centerpiece of that reform effort.[33] Although not as expensive as years of fighting in federal court, they are not cheap—the average cost of bringing a proceeding has been estimated as the low-to-mid six figures.[34] By Congressional design, the procedure requires that the petitioner front-load the substance of its case at the petition stage, acting as a deterrent against frivolous petitions. These proceedings balance the patent law's incentives and the need for certainty against the strong federal policy that unpatentable inventions belong in the public domain. SIIA strongly supports the both AIA's inter partes procedures, the continuing evolution and clarification on patent subject matter eligibility by the Supreme Court and the cumulative goals of improving patent quality to strengthen the U.S. Patent system.

A high-quality patent, defined as a patent that meets all the statutory requirements, is the sine qua non of a healthy patent system. The largest drain on innovation that our members face is

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[32] H. Rep. No. 112-98 (part I), at 40 (2011).

[33] *Id.* at 39 ("The decisions reflect a growing sense that questionable patents are too easily obtained and are too difficult to challenge. Recent decisions by the Federal Circuit reflect a similar trend in response to these concerns. But the courts are constrained in their decisions by the text of the statutes at issue. It is time for Congress to act.") (internal footnote omitted); 35 U.S.C. § 321(c), 311.

[34] Rational Patents, Blog, IPR: Effectiveness vs. Cost (June 17, 2016), available at https://www.rpxcorp.com/2016/06/17/iprs-balancing-effectiveness-vs-cost/.

litigation abuse from non-practicing entities.[35] Despite some progress from recent court decisions and the AIA, our members still receive threats on highly suspect patents.

This activity remains a problem, and there is little return to the innovation ecosystem. Roughly half of the patent suits filed are filed by trolls,[36] and the mean legal cost of defense for small and medium size businesses is estimated to be at about $420,000.[37] A recent survey of U.S. business fond that "Patent licensing demands almost never result in technology transfer or new innovation in the computer industry, particularly when NPEs are doing the asserting."[38] In contrast, when such demands come from operating companies, computer industry representatives are willing to change their products or create new ones.[39] And ironically, there is evidence that the threat tends to come right at the point when a

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[35] The behavior of these entities is well-summarized by the FTC. *See generally* Federal Trade Commission, Patent Assertion Entity Activity: An FTC Study, at 3-5 (2016).

[36] *See* Feldman, Robin and Lemley, Mark A. "The Sound and Fury of Patent Activity," Stanford Law and Economics Olin Working Paper No. 521 n. 16 and accompanying text (citing, inter alia Christopher A. Cotropia et al., *Unpacking Patent Assertion Entities (PAEs)*, 99 Minn. L. Rev. 649, 651–52 (2014); Robin Feldman et al., *The AIA 500 Expanded: The Effects of Patent Monetization Entities*, 17 U.C.L.A. J. Law & Tech. 1, 37 (2013).). *See also generally* Colleen V. Chien, *Patent Trolls by the Numbers* (Santa Clara Univ. Legal Studies Research, Working Paper No. 08-13, 2013), http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2233041.

[37] Feldman, Patent Demands and Initial Public Offerings, 19 Stan. Tech. L. Rev. 52, 56 (2015) available at https://repository.uchastings.edu/cgi/viewcontent.cgi?referer=&httpsredir=1&article=2417&context=faculty_scholarship.

[38] Feldman, Robin and Lemley, Mark A. "The Sound and Fury of Patent Activity," Stanford Law and Economics Olin Working Paper No. 521 at (2018) at 6, available at https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3195988).

[39] *See id.* at 51.

small business is about to expand and at one of its most vulnerable points—when it's seeking to enter the public capital markets.[40] Despite the overall healthy picture of the software business, troll activity represents a tax on innovation. That tax is obviously a problem for large businesses but is an even bigger one for small ones.

SIIA fully supports efforts to improve patent quality. Mr. Chairman, we commend you for helping to ensure that the PTO has the tools to do its job and maintain patent quality. SIIA supports your legislation, the BIG Data for IP Act, (H.R. 5887) which ensures that the PTO keeps control over collected user fees, and will help the PTO give examiners access to more prior art. This kind of bipartisan, practical approach to legislation will only improve and strengthen our intellectual property system. At the same time, SIIA strongly opposes proposals, such as the STRONGER Patents Act (S.1390/H.R. 5340) and the recently introduced Restoring America's Leadership in Innovation Act (H.R. 6264) that would roll back both Supreme Court decisions and the advances made through the AIA. Both would eviscerate the IPR process right and the Supreme Court's advancements to the patent system at the time when they are showing some success in improving patent quality and lowering the amount of NPE litigation.

B. Copyright

If a healthy patent system represents the engine of invention, then copyright is the engine of expression. Like its patent cousin, the copyright system is firing on all cylinders, and its

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[40] *See* Robin Feldman, Patent Demands and Initial Public Offerings, 19 Stanford Tech. L. Rev. 52, 54 (2016) (noting that the author's "results provide evidence of a tactical strategy among monetizers to pursue demands against companies during one of the most public and vulnerable periods of a company's development —the completion and aftermath of its IPO. The results were particularly striking for companies in the information technology industry that went public."), available at https://repository.uchastings.edu/cgi/viewcontent.cgi?referer=&httpsredir=1&article=2417&context=faculty_scholarship.

purpose is to harness the forces of capitalism to foster creativity. In 2016, the core copyright industries, defined as motion pictures, books, periodicals, software and video games, contributed $1.2 trillion dollars to the U.S. economy, or 6.88 percent of GDP.[41] Those industries have grown faster than the economy generally, and employees in the core copyright industries are 21 percent better compensated than workers in other industries.[42]

Copyright has also been around for a long time Congress passed the first Act in 1790, which protected the reproduction published maps, books and charts.[43] The modern copyright act protects any "original" work of authorship from the moment of fixation and grants the copyright owner the exclusive right to reproduce, distribute, adapt, publicly perform and display its works.[44] Unlike a patent, the copyright's existence does not depend on administrative action—it attaches automatically.

But there is an important limitation: the registration of a copyright is a prerequisite for filing a suit in federal court.[45] The main problem with the copyright system right now is not the substance of protection, but the administration of the registration and record-keeping process. Registration itself is not a terribly burdensome process. It can take ten months or more for the copyright office to issue a registration—an eternity in a world of

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41 Stephen Siwek, Copyright Industries in the U.S. Economy: The 2016 Report, at 5 (2017), available at https://iipa.org/reports/copyright-industries-us-economy/.

42 Siwek, *supra*, at 8, 11.

43 1 Stat. 124 (1790).

44 17 U.S.C. §§ 102, 106 (scope of protection and list of exclusive rights, respectively).

45 17 U.S.C. § 411. Registration before infringement commences also entitles the copyright owner to statutory damages and attorneys' fees. 17 U.S.C. § 412.

digital infringement.[46] Records reflecting registration and recordation of copyright ownership also enables the ready licensing of works of all kinds—from photographs to articles, and motion pictures.

As the Office responsible for administering all matters relating to copyright, few other government offices are more important to the growth of creativity and commercial activity in our nation than the U.S. Copyright Office. The ability of our nation's independent creators and small and large businesses to promptly register and record their copyright interests with the Office, and of the public to obtain copyright information that enables them to license copyrighted works creates new industries and spurs the economy, which in turn assists our global competitiveness and technological leadership.

Despite the critical nature of the services provided by the Office, many of these services have failed to keep pace with technology and the marketplace. While the Office should be held accountable for its shortcomings to some extent, in truth many of these deficiencies have been caused by many years of budgetary neglect and structural deficits that would make it difficult for any agency to merely keep pace, to say nothing about modernization.

Many of the challenges confronted by the Office can be traced back to the fact that the Copyright Office resides in the legislative branch, within and under the "direction and supervision" of the Library of Congress. As a department of the Library, the Office is obligated to use the Library's information technology systems, which are antiquated, incompatible and impractical in regard to the Office's underlying objectives and mission.[47]

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[46] U.S. Copyright Office, Registration Processing Times, available at https://www.copyright.gov/registration/docs/processing-times-faqs.pdf.

[47] See Hearing, The U.S. Copyright Office: Its Functions and Resources, House Comm. on the Judiciary, Feb. 15 2016, Testimony of the Software and Information Industry Association (Keith Kupferschmid, VP

SIIA's members, whether database companies, business-to-business publications, or specialized publishers, depend on these rights. For them—and SIIA--modernization of the Office is a top legislative priority. We supported S. 1695, narrowly tailored legislation which made the Register a presidential appointee, as well as broader legislation that takes the Office out of Library control.

II. Trademarks and Trade Secret Protection

Patents and copyrights are exclusively federal intellectual property—the states cannot interfere with the federal scheme. But there are other kinds of IP—also very important to SIIA members—trademarks and trade secrets—that are protected by both state and federal law, and which are important to SIIA members as well as almost any other kinds of business. In what follows, I will very briefly mention their federal aspects.

Unlike patents and copyrights, the federal trademark and trade secret statutes emanate from Congress's power under the Commerce clause in Article I, section 8 clause 3. In general terms, they protect intangible assets from misappropriation.

A. Trade Secrets

A trade secret is among the most common types of intellectual property protection. In order to be treated as a trade secret, its owner must take reasonable steps to ensure its confidentiality, and the information has to have some independent economic value.[48] Famous examples include Coca Cola's secret

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for Intellectual Property and General Counsel), available at https://judiciary.house.gov/wp-content/uploads/2016/02/Kupferschmid-SIIA-Testimony.pdf.

[48] *See* 18 U.S.C. § 1839(3); *see also generally* Jaeger, 1 Trade Secrets Law § 3:34 (describing the definition of trade secret under the Uniform Trade Secrets Act).

formula, the recipe for Mrs. Fields Chocolate Chip Cookies, and how books get onto the New York Times bestsellers list.[49]

For SIIA's members, trade secrets remain an important component of intellectual property protection. Trade secrets law protects customer lists and source code—two of our members' crown jewels. SIIA supported enactment of the Defend Trade Secrets Act of 2016, which provided nationwide discovery and a federal remedy for trade secret misappropriation. We have also opposed the mandatory disclosure of source code as a condition of doing business in foreign countries.

B. Trademark Protection

Trademark protection has existed—and continues to exist--as a matter of common law for hundreds of years. Federal trademark protection accrues simply by being the first person to use a word in association with particular goods or services, and it prohibits others from adopting confusingly similar marks.[50]

The trademark can (but does not have to be) registered with the U.S. PTO through an administrative process that is not as difficult as a patent application, but still can be quite complicated. A trademark owner applies to the office for a registration, supplying a drawing of the mark and examples of how that mark is being used in commerce. A trademark examiner then will look at the samples as well as other registered marks to determine whether the applicant has met the statutory requirements, including avoiding confusion with other registered marks being used for the same general kinds of businesses. Correspondence typically ensues, and the process typically takes six months to a

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[49] 10 Trade Secrets We Wish We Knew, available at https://money.howstuffworks.com/10-trade-secrets3.htm.

[50] Famous trademarks (e.g., household names) are also protected from dilution, which does not require a showing of confusion. *See generally* 15 U.S.C. § 1125(c) (federal dilution statute); 4 McCarthy on Trademarks and Unfair Competition § 24:67 (5th ed.) (providing overview).

year. [51] A business that gets that registration enjoys certain advantages, including nationwide priority, the ability to stop infringing imports at the border, and presumptions as to validity.[52]

For small businesses, this can be quite important. Trademarks ensure that the producer of a good under a brand is associated with its quality. That goodwill is among the most valuable assets of a business, and trademark law protects it from free-riding.

III. Conclusion

All of these laws—patent, copyright, trademark and trade secrets—work together to create incentives that spur our members' creativity. We hope that this overview has been helpful to the Committee.

Thank you again for the opportunity to present our views.

Respectfully submitted,

Christopher A. Mohr

Vice President for Intellectual Property and General Counsel

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[51] *See, e.g.,* Section 1(a) Timeline, available at https://www.uspto.gov/trademark/trademark-timelines/section-1a-timeline-application-based-use-commerce (PTO describing time frames for different parts of the trademark application process when the applicant is using the mark in commerce).

[52] *See generally* 3 McCarthy on Trademarks and Unfair Competition § 19:9 (5th ed.) (describing the benefits of federal registration).