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Summer 2016 Vol. 14, Issue 3

A review of developments in Intellectual Property Law



## Supplemental Examination: Potential Benefits vs. Guaranteed Risks

By Eric R. Moran, Aaron V. Gin, Ph.D.,  
and Sanat Bhole

The America Invents Act of 2011 introduced supplemental examination of patents as a post-grant process intended to limit expensive and unpredictable inequitable conduct litigation<sup>1</sup> and improve patent quality.<sup>2</sup> As codified, 35 U.S.C. § 257(c)(1) states:

A patent shall not be held unenforceable on the basis of conduct relating to information that had not been considered, was inadequately considered, or was incorrect in a prior examination of the patent if the information was considered, reconsidered, or corrected during a supplemental examination of the patent.<sup>3</sup>

The statute allows the owner of an issued patent to provide to the U.S. Patent and Trademark Office (“USPTO” or “Office”) items of information (e.g., patents, publications, or other materials) that were not previously considered in an effort to “inoculate” itself against future charges of inequitable conduct and build a stronger case for validity.

For all of its potential benefits, however, supplemental examination may also introduce new risks and uncertainties. By analyzing USPTO data about the number of requests, the pendency of proceedings, and the frequency of finding a substantial new question of patentability (“SNQP”), this article seeks to identify trends that will help patent owners

thoughtfully weigh the risks and rewards of supplemental examination.<sup>4</sup>

### The Procedure

A supplemental examination requires a patent examiner to make a threshold determination as to whether a new item of information raises an SNQP. A new item will raise an SNQP if, “a reasonable examiner would consider the prior art, patent, or printed publication important in deciding whether or not the claim is patentable.”<sup>5</sup> If the examiner determines that the new material raises an SNQP, the examiner orders an *ex parte* reexamination to

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determine if the patent remains valid.<sup>6</sup> If an SNQP is not found or the patent is deemed valid upon reexamination, the patent is protected from allegations of inequitable conduct as to the information considered during the supplemental examination.

Those considering supplemental examination should note that rejections of the request itself are commonplace, and likely due to non-compliance with USPTO requirements. Since the USPTO began accepting applications for supplemental examination on September 16, 2012, approximately 29% have not received a filing date, as illustrated in Figure 1.<sup>7</sup> Accordingly, patent holders interested in supplemental examination should understand what is required to submit a proper request.

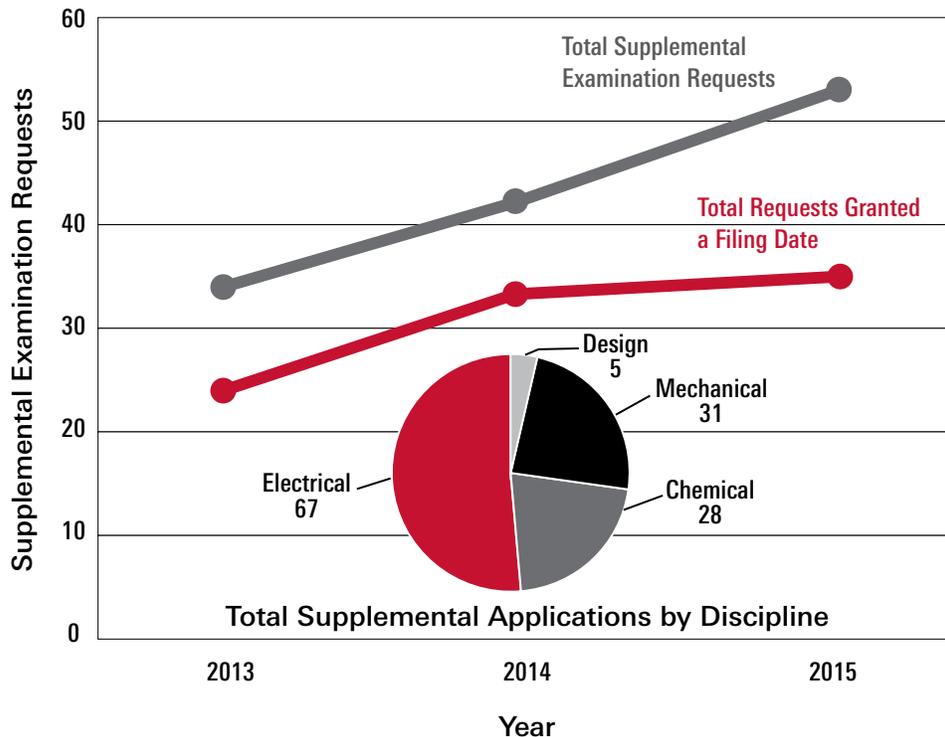


Figure 1: Supplemental Examinations by Year and Discipline.<sup>8</sup>

To comply with regulations, a supplemental examination must be filed by an owner having the entire right, title, and interest in the patent and should include the following elements:<sup>9</sup>

- An identification of the patent for which supplemental examination is requested;
- A list of the items of information that are requested to be considered, reconsidered, or corrected;
- A list identifying any other prior or concurrent post-patent Office proceedings;
- An identification of each claim of the patent for which supplemental examination is requested;
- A separate, detailed explanation of the relevance and manner of applying each item of information to each claim of the patent for which supplemental examination is requested;
- A copy of the patent for which supplemental examination is requested;
- A copy of each item of information;
- A summary of the relevant portions of any submitted document over 50 pages in length;
- An identification of the owner(s) of the entire right, title, and interest in the patent requested to be examined; and
- The supplemental examination fee of \$16,500 (if an SNQP is not found, the USPTO will refund \$12,100).<sup>10</sup>

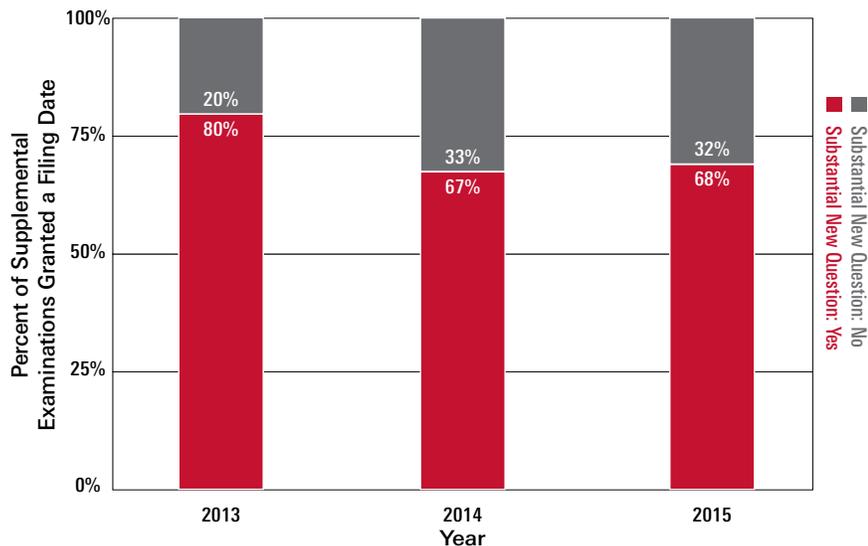
If a request for supplemental examination lacks one or more of these elements, the Office may deem the request non-compliant and require the patent owner to file a corrected request. The patent owner will have a specified period (“generally 15 days”) to file the corrected request.<sup>11</sup> The corrected request must address each and every identified defect. If the corrected request is deemed proper by the Office, the filing date of the supplemental examination request will be the receipt date of the corrected request.<sup>12</sup>

Absent “extraordinary circumstances,” the patent owner will only have one opportunity to correct the original request.<sup>13</sup> If a proper corrected request is not filed or not timely received, the Office will not grant the request for supplemental examination and will terminate the proceedings.<sup>14</sup>

While the opportunity to file a corrected request may exist, requesters are advised to file a proper request for supplemental examination on the first-filing. An improperly filed request may add months to the examination process and will result in the loss of the date of original deposit as a filing date.<sup>15</sup>

Within three months of the filing date of a proper request, a patent examiner will conduct the supplemental examination and issue a certificate indicating whether the information presented in the request raises an SNQP.<sup>16</sup> If so, the USPTO will order an *ex parte* reexamination of the patent, which need not be limited to patents and printed publications. By statute, the patent owner may not file a statement about any of the SNQPs or an amendment to the patent claims until after the first action on the merits.<sup>17</sup> If an SNQP is not found or a reexamination certificate is issued, the patent can no longer be deemed unenforceable due to inequitable conduct with respect to the identified items of information.

A significant number of supplemental examinations result in an SNQP, however. As shown in Figure 2, over the first three years, approximately 70% of all accepted applications were deemed to raise at least one SNQP.<sup>18</sup> Therefore, patent owners must determine if the benefits of “immunity” outweigh the potential for invalidity.



**Figure 2: Rates of Finding a Substantial New Question in Supplemental Examination, By Year.<sup>19</sup>**

Finally, as illustrated in Table 1, the USPTO required approximately 12 months, on average, to complete a supplemental examination.<sup>20</sup> Since this timeframe includes requests that raised an SNQP as well as those that did not, the actual amount of time for receiving a final certificate may vary considerably. If an SNQP is not found, a final certificate may be obtained within a few months, directly after the Examiner reports the result. However, if an SNQP is found, an *ex parte* reexamination will be required.<sup>21</sup> In fiscal year 2015, the USPTO required approximately 25 months, on average, to issue an *ex parte* reexamination certificate.<sup>22</sup> Therefore, in some cases, the entire process may require more than 2 years to complete.

	2013	2014	2015	Average
Average Months to SE SNQP - Yes	2.20	2.08	1.66	1.98
Average Months to SE SNQP - No	2.44	1.97	1.38	1.93
Average Months to SE Order	3.26	3.70	2.91	3.29
Average Months to SE FAOM	3.54	4.68	3.65	3.62
Average Months to SE NIRC	8.65	7.99	9.22	8.62
Average Months to SE/EP Certificate	N/A	14.62	9.77	12.20

**Table 1: Pendency of Supplemental Examination (SE) Proceedings by Year.<sup>23</sup>**

## Impact on Inequitable Conduct

As stated above, 35 U.S.C. § 257(c) mandates that a patent cannot be held unenforceable in litigation based on information considered, reconsidered, or corrected during a supplemental examination.<sup>24</sup> Such protection is unique to supplemental examination, as neither *ex parte* reexamination nor *inter partes* review grant immunity to successful patent owners.<sup>25</sup> Accordingly, supplemental examination may provide a useful means of preventing inequitable conduct allegations after a patent has been issued.

However, immunity takes effect only upon conclusion of the supplemental examination proceeding. As a result, supplemental examination cannot be used to defend against an allegation of inequitable conduct that has been raised in litigation with regard to an item of information submitted in a still-pending supplemental examination.<sup>26</sup>

**For all of its potential benefits, however, supplemental examination may also introduce new risks and uncertainties.**

Consequently, given the length of supplemental examination proceedings, it may be possible for an adverse party to learn of a supplemental examination during litigation proceedings and raise new allegations of inequitable conduct based on references listed in the supplemental examination.<sup>27</sup> Through either litigation discovery or by searching USPTO records, the adverse party may obtain access to the items of information and remarks filed with the request for supplemental examination. Under such a scenario, if new allegations are raised before the close of the supplemental examination proceeding, the requester may lose the benefit of 35 U.S.C. § 257(c)(1) protection with regard to those new allegations. Accordingly, a patent owner should carefully weigh the possibility of allegations of inequitable conduct in pending litigation against the benefits of future immunity.

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## Conclusion

With only three years of data, it may be difficult to discern the long-term impact of supplemental examination on patent litigation and prosecution. However, the increasing number of requests suggests a growing interest in the procedure in these first few years. It is evident that the potential benefits of supplemental examination should be weighed carefully against the risks. Specifically a patent owner should:

1. Determine whether the risk of finding an SNQP is worth the potential benefit of immunity;
2. Determine whether the length of supplemental examination proceedings introduces an undue risk of inequitable conduct allegations being brought in pending litigation; and
3. Ensure that all elements of the request for supplemental examination are meticulously completed so as to reduce the risk of rejection.

By considering these factors and their associated risks, one can best utilize this new post grant process.

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### Endnotes

- 1 157 Cong. Rec. S5319 (daily ed. Sept. 6, 2011) (statement of Sen. Kyle) (“[E]ven minor and inadvertent errors in the patent application process can lead to expensive and very unpredictable . . . inequitable conduct litigation.”).
- 2 157 Cong. Rec. S1097 (daily ed. Mar. 2, 2011) (statement of Sen. Hatch) (“This process enhances the quality of patents, thereby promoting greater certainty for patentees and the public.”).
- 3 35 U.S.C. § 257(c)(1) (2014).
- 4 U.S. Patent and Trademark Office, Performance and Accountability Report Fiscal Year 2015 (2015), <http://www.uspto.gov/sites/default/files/documents/USPTOFY15PAR.pdf>; U.S. Patent and Trademark Office, Reexamination Operational Statistics (2015), [http://www.uspto.gov/sites/default/files/documents/Website\\_Operational\\_Statistics.pdf](http://www.uspto.gov/sites/default/files/documents/Website_Operational_Statistics.pdf).
- 5 M.P.E.P. § 2242.
- 6 35 U.S.C. § 257(a).
- 7 U.S. Patent and Trademark Office, Performance and Accountability

Report Fiscal Year 2015 (2015), <http://www.uspto.gov/sites/default/files/documents/USPTOFY15PAR.pdf>.

- 8 *See id.*
- 9 37 C.F.R. §§ 1.601(a)-1.601(b).
- 10 37 C.F.R. § 1.610(b); U.S. Patent and Trademark Office, <http://www.uspto.gov/learning-and-resources/fees-and-payment/uspto-fee-schedule> (last visited July 8, 2016).
- 11 M.P.E.P. § 2812.03.
- 12 *Id.*
- 13 *Id.* at § 2812.04.
- 14 *Id.*
- 15 *Id.* at § 2812.02.
- 16 35 U.S.C. § 257(a).
- 17 *Id.* at § 257(b); M.P.E.P. § 2823(2).
- 18 U.S. Patent and Trademark Office, Performance and Accountability Report Fiscal Year 2015 (2015), <http://www.uspto.gov/sites/default/files/documents/USPTOFY15PAR.pdf>.
- 19 *See id.*
- 20 U.S. Patent and Trademark Office, Reexamination Operational Statistics (2015), [http://www.uspto.gov/sites/default/files/documents/Website\\_Operational\\_Statistics.pdf](http://www.uspto.gov/sites/default/files/documents/Website_Operational_Statistics.pdf).
- 21 35 U.S.C. § 257(a).
- 22 U.S. Patent and Trademark Office, Reexamination Operational Statistics (2015), [http://www.uspto.gov/sites/default/files/documents/Website\\_Operational\\_Statistics.pdf](http://www.uspto.gov/sites/default/files/documents/Website_Operational_Statistics.pdf).
- 23 *See id.*; In Table 1, FAOM is an abbreviation for First Action on the Merits, NIRC is an abbreviation for Notice of Intent to Issue a Reexamination Certificate, and EP is an abbreviation for *ex parte*.
- 24 35 U.S.C. § 257(c)(1).
- 25 Merely citing a previously undisclosed reference in an *ex parte* reexamination request does not make a reference “immaterial.” Furthermore, even where two reexamination proceedings of a patent resulted in certificates and a finding that the claims were patentable as amended, a court may still make an adverse inference of intent to deceive. *Ohio Willow Wood Co. v. Alps S., LLC*, 813 F.3d 1350 (Fed. Cir. 2016).
- 26 35 U.S.C. § 257(c)(2)(B).
- 27 M.P.E.P. § 2803.02 (“After a filing date has been accorded the request, supplemental examination files are open to inspection by the general public.”)

# 2016 Chambers USA Favorably Ranks McDonnell Boehnen Hulbert & Berghoff LLP Among Top Law Firms in Intellectual Property

McDonnell Boehnen Hulbert & Berghoff LLP (“MBHB”) has been favorably ranked among top law firms in the 2016 legal directory *Chambers USA: America’s Leading Lawyers for Business* in the category of “Intellectual Property.” The latest annual survey of the U.S. legal market is published by the respected organization Chambers and Partners (“Chambers”). In addition, MBHB partner Daniel A. Boehnen is ranked as a legal industry leader in the category of “Intellectual Property” within the 2016 edition of *Chambers USA*.

# Trade Secrets in the Spotlight Again: the EU Directive

By Paula S. Fritsch, Ph.D.  
and Joshua R. Rich

May 2016 was a banner month for trade secret protection around the world. On May 11, 2016, President Obama signed the Defend Trade Secrets Act of 2016 (“DTSA”) into US law, creating a new Federal cause of action for misappropriation of trade secrets. And on May 26, 2016, the European Council formally adopted the “Directive on the protection of undisclosed know-how and business information (trade secrets) against their unlawful acquisition, use and disclosure” (“the EU Directive” or “the Directive”), requiring the EU member states to provide certain minimum protections for trade secrets.

The near-simultaneous codification of trade secret-related standards on both sides of the Atlantic reflects the increased importance of trade secrets in global economies. A driving force behind the reform in both the US and the EU was a desire to harmonize laws protecting trade secrets. In the US, trade secrets were (and still are) protected under state laws and an assortment of related federal laws, such as the Economic Espionage Act (“EEA”) and the Computer Fraud and Abuse Act (“CFAA”). However, the variations between state laws have made it difficult for trade secret owners to chase misappropriators across state laws and to collect evidence from third parties located out-of-state or overseas. The existing federal laws did not provide much more help, relegating aggrieved trade secret owners to seeking criminal sanctions under the EEA or twisting their civil claims into the ill-fitting paradigm of the CFAA.

Prior to the implementation of the EU Directive, the national laws of EU member states provided varying levels of protection for trade secrets – with some countries having specific trade secret laws and others providing a patchwork of protection under unfair competition, tort, or contract laws. This made enforcement across the EU difficult for trade secret owners, owing to the variations in what qualified for trade secret protection and what amounted to an improper acquisition, use, or disclosure of trade secrets. Cross-jurisdictional

enforcement was also complicated by the lack of uniformity in the remedies available for such misappropriation, misuse, or improper disclosure. According to the European Council, the differing laws had led to a “weakening of the overall deterrent effect of the relevant rules” and “Union-wide innovation-related inefficiencies.”<sup>1</sup>

While the goal of US and EU reforms was to harmonize national laws, the result has been a standardization of trade secret protection across the Atlantic.

## The EU Directive

The European Commission first introduced a harmonizing trade secret directive in November 2013. After much debate, the EU Directive was adopted in May 2016 and entered into force on July 5, 2016. The EU member states now have two years to implement the Directive as national law. Wholly new laws will be required in some countries, whereas for others, existing statutes may be modified to conform to the Directive.

As noted, while the EU Directive sets a minimum standard of protection, individual member states are free to implement higher standards in their national laws.<sup>2</sup>

## Trade Secret Definition

The EU Directive defines a trade secret as information that (i) “is secret in the sense that it is not, as a body or in the precise configuration and assembly of its components, generally known among or readily accessible to persons within the circles that normally deal with the kind of information in question;” (ii) “has commercial value because it is secret;” and (iii) “has been subject to reasonable steps under the circumstances, by the person lawfully in control of the information, to keep it secret.”<sup>3</sup>

The requirement that a trade secret have “commercial value” is narrower than the existing definition of confidential information in some member states. Moreover, the “reasonable steps . . . to keep it secret” requirement will be new for some member states. That provision may be the subject of early interpretation by the Court of Justice

of the European Union (“CJEU”), and will presumably vary based on the trade secret’s value to the trade secret owner and others, the threats faced by the trade secret owner, and the costs of protecting the trade secret from those threats.

## Lawful and Unlawful Acts

The EU Directive sets forth categories of lawful and unlawful acts with respect to trade secrets.

The acquisition of a trade secret is unlawful when accomplished by (a) unauthorized access to, appropriation of, or copying of any items containing the trade secret that are lawfully under the trade secret holder’s control; or (b) any other conduct considered contrary to honest commercial practices.<sup>4</sup> Acquisition of a trade secret is also unlawful when the person acquiring the trade secret knew or should have known that the trade secret was being acquired from someone who had obtained or was disclosing the trade secret unlawfully.<sup>5</sup> The use or disclosure of a trade secret is unlawful when carried out by a person who (a) acquired the trade secret unlawfully; or (b) is in breach of a confidentiality agreement or any other duty not to disclose or to limit the use of the trade secret.<sup>6</sup> Use or disclosure of a trade secret is also unlawful when the person using or disclosing the trade secret knew or should have known that the trade secret was obtained from someone who had obtained or had disclosed the trade secret unlawfully.<sup>7</sup> In addition, the production, offering, or placing on the market of infringing goods is unlawful, as is the importation, export, or storage of infringing goods for those purposes, if the person carrying out such activities knew or should have known that the trade secret was being used unlawfully.<sup>8</sup>

Activities that otherwise could be deemed to be unlawful acquisition, use, or disclosure of trade secrets are exempted if the activities were carried out (a) exercising the right to freedom of expression and information; (b) to reveal misconduct, wrongdoing, or illegal activity “for the purpose of protecting the general public interest;” (c) by workers to their representatives

*(continued on page 6)*

as necessary for representation of the workers in accordance with EU or national law; or (d) “for the purpose of protecting a legitimate interest recognized by the Union or national law.”<sup>9</sup> Those acts deemed lawful include acquisition of a trade secret by (a) independent discovery or creation; (b) reverse engineering (unless contractually prohibited); (c) exercise of workers’ rights; or (d) any other practice which conforms with honest commercial practices.<sup>10</sup> In addition, the acquisition, use, or disclosure of a trade secret shall be considered lawful to the extent that such acquisition, use, or disclosure is required or allowed by EU or national law.<sup>11</sup>

Of note, the EU Directive does not define the term “for the purpose of protecting the general public interest,” so it will be up to the member states and/or the CJEU to provide guidance on the contours of this whistleblower exception. Similarly, the EU Directive does not define “honest commercial practices,” meaning that the CJEU will likely be called upon to provide guidance on the boundaries of such practices.

There is further protection for employees under the Directive to protect employee mobility within the market. The Directive specifically states that its provisions shall not “offer any ground for restricting the mobility of employees.”<sup>12</sup> Furthermore, the Directive states that its provisions shall not restrict an employee’s use of “experience and skills honestly acquired in the normal course of employment.”<sup>13</sup> This is another phrase that was left undefined in the Directive, meaning the CJEU will undoubtedly be asked to interpret it in due time.

### *Limitation Period*

Under the EU Directive, the statute of limitations for actions for unlawful acquisition, use, or disclosure of trade secrets is a maximum of six years.<sup>14</sup> However, member states can shorten the limitations period, determine when the time period begins, and establish circumstances under which the period can be interrupted or suspended.<sup>15</sup>

### *Protection of Trade Secrets during Litigation*

Currently, many member states do not provide for adequate confidentiality protections when a trade secret owner initiates litigation for misappropriation of its trade secrets, thereby reducing the attractiveness of litigation to remedy such unlawful actions. The EU Directive fixes

these shortcomings by providing measures to preserve the confidentiality of trade secrets “which the competent judicial authorities have, in response to a duly reasoned application by an interested party, identified as confidential.”<sup>16</sup>

The protective measures provided in the Directive include, at least, (a) the option to restrict access to documents containing and hearings concerning the trade secrets to “a limited number of persons,” including at least one natural person from each party; and (b) a prohibition on the use or disclosure of any confidential trade secret learned of as a result of an individual’s participation in a legal proceeding relating to the trade secret.<sup>17</sup> These individuals are subject to a confidentiality obligation that survives termination of the litigation.<sup>18</sup>

In addition, the EU Directive provides that portions of any judicial decision containing trade secrets be removed or redacted prior to being made available to anyone other than the limited number of persons with access to the confidential trade secrets.<sup>19</sup>

### *Remedies*

The EU Directive provides for a broad range of civil remedies, but no criminal sanctions. Member states remain free to impose criminal sanctions and civil remedies beyond those provided in the Directive.

Under the Directive, courts can impose provisional and precautionary remedies including injunctions and seizure or delivery up of suspected infringing goods, or alternatively require the lodging of guarantees by the alleged infringer to avoid such measures.<sup>20</sup>

Following a judicial finding of misappropriation, the EU Directive allows the court to award damages and also impose an injunction, impose corrective measures with respect to the infringing goods (including recall, “depriving the infringing goods of their infringing quality,” and destruction or withdrawal of the goods from the market), and/or require destruction or delivery up of documents or things containing or embodying the trade secret.<sup>21</sup> Damages should be appropriate for the actual prejudice suffered as a result of the infringement, and should be determined after considering appropriate factors such as the negative economic consequences, including lost profits, that the trade secret owner suffered and any unfair profits made by the infringer.<sup>22</sup> In

some cases, it will also be appropriate to consider non-economic factors such as the moral prejudice caused to the trade secret holder as a result of the infringement.<sup>23</sup> Alternatively, damages may be set as a lump sum that is, at a minimum, the amount of royalties or fees that would have been due if the infringer had been granted authorization to use the trade secret.<sup>24</sup> The Directive does not address enhancement of damages for intentional infringement, but it does allow member states to limit an employee’s liability for damages to its employer where the employee is found to have acted without intent.<sup>25</sup>

As an alternative to these injunctive and corrective remedies, a court can award pecuniary compensation if requested to do so by the infringing party, provided that the infringer can demonstrate that (a) it neither knew nor should have known that the trade secret was obtained from another person who was using or disclosing it unlawfully; (b) execution of the other measures would cause the infringer disproportionate harm; and (c) pecuniary compensation appears to be reasonably satisfactory.<sup>26</sup> If pecuniary compensation is ordered as an alternative to an injunction, it will be limited to the amount for a royalty that would have been payable had the infringer been granted authorization to use the trade secret.<sup>27</sup>

## **Relationship to the DTSA**

As the EU Directive adopted standards that draw EU law more in line with U.S. law, the DTSA adopted standards that are more in line with EU law. The specifics of the DTSA have been addressed in Snippets,<sup>28</sup> Snippets Alerts,<sup>29</sup> and MBHB webinars,<sup>30</sup> but there are at least four important ways in which it is more like EU law than previous state trade secret laws.

First, the DTSA standardizes US trade secret law far more than was existent before. The vast majority – but not all – of the states have adopted the Uniform Trade Secrets Act (“UTSA”). However, the UTSA has not been adopted in some critical commercial venues (including New York and Massachusetts). Moreover, the adoptions of the UTSA have not all been uniform. Accordingly, just as the EU Directive is intended to provide greater certainty of trade secret law throughout the EU, the DTSA provides greater uniformity of trade secret law in the U.S.

Second, the DTSA includes an *ex parte* seizure provision, similar to the provisional measures of the EU Directive, that is based on the *Anton Pillar* case. An *Anton Pillar* order,

named for the U.K. case in which such an order was first entered, allows for a seizure of the fruits of misappropriation early in a case, before severe damages can be incurred. While the DTSA's provision has very specific limitations and requirements for the entry of an *ex parte* seizure order that are not present in the EU Directive,<sup>31</sup> the purposes and basic outlines of the two provisions are similar.

Third, the DTSA does not include "inevitable disclosure" as a cognizable basis for a claim of trade secret misappropriation. Unlike the jurisprudence of several states, but like the EU Directive, the DTSA does not allow a trade secret owner to proceed based on a theory that an individual will inevitably disclose trade secrets if put in a parallel office for a competitor. Here, the underlying theories of the DTSA and the EU Directive are different: the DTSA refuses to assume disclosure as a basis for a claim of misappropriation, while the Directive views the issue as one of workers' rights. Nonetheless, the result is the same and both require actual proof of misappropriation.

Fourth, the DTSA incorporates whistleblower protections not found in the UTSA, but recognized as important in the EU Directive. Both the DTSA and EU Directive allow for the disclosure of trade secrets to governmental entities for the public good without any threat of liability for trade secret misappropriation.<sup>32</sup> Indeed, the DTSA insulates whistleblowers from liability under any federal or state trade secret law for disclosure of trade secrets either to a governmental authority or in a court pleading filed under seal. Thus, both the DTSA and EU Directive recognize the importance of workers' rights and disclosure for the public good as important counterbalances to trade secret owners' rights.

However, there are some critical distinctions between the DTSA and the EU Directive. The definition of a trade secret is broader under the DTSA than under the EU Directive, as it includes information that has potential economic value (not just actual economic value), lessening the quantum of proof that an owner must present. As discussed above (and in more detail in earlier Snippets articles and webinars), the *ex parte* seizure provisions of the DTSA have far more specific requirements and structure than the Directive's broad requirements for provisional remedies. In addition, there are far more prohibitions on enforcement of trade secrets rights under the EU Directive (such as public interest or workers' rights exclusions) than under the DTSA. Unlike the six-year statute of limitations under the

EU Directive, the DTSA has a three-year limitations period (although the Directive allows member states to shorten the limitations period). Finally, the DTSA permits enhanced damages for willful and malicious misappropriation, whereas the EU Directive has no such provision.

## Conclusion

The EU Directive and DTSA were independently powerful steps towards the harmonization of trade secret law. Together, they show that the law of trade secrets is being increasingly – and quickly – harmonized. The Directive is a critical step in bringing the EU in line with US trade secret law, which will help comfort commercial entities in marketing goods and services in the EU.

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## Endnotes

- 1 EU Directive, Recital (8).
- 2 See *id.* at ch. I, art. 1, para. 1.
- 3 *Id.* at ch. I, art. 2, para. 1.
- 4 *Id.* at ch. II, art. 4, para. 2.
- 5 *Id.* at ch. II, art. 4, para. 4.
- 6 *Id.* at ch. II, art. 4, para. 3.
- 7 *Id.* at ch. II, art. 4, para. 4.
- 8 *Id.* at ch. II, art. 4, para. 5; *id.* at ch. I, art. 2, para. 4 (Definition of "infringing goods").
- 9 *Id.* at ch. II, art. 5.
- 10 *Id.* at ch. II, art. 3, para. 1; *id.* at ch. II, art. 4, para. 3(c).
- 11 *Id.* at ch. II, art. 3, para. 2.
- 12 *Id.* at ch. I, art. 1, para. 3.
- 13 *Id.* at para. 3(b).
- 14 *Id.* at ch. III, sec. 1, art. 8, para. 2.
- 15 *Id.* at ch. III, sec. 1, art. 8, para. 1.
- 16 *Id.* at ch. III, sec. 1, art. 9, paras. 1-2.
- 17 *Id.*
- 18 *Id.* at ch. III, sec. 1, art. 9, para. 1.
- 19 *Id.* at ch. III, sec. 1, art. 9, para. 2.
- 20 *Id.* at ch. III, sec. 2, art. 10.
- 21 *Id.* at ch. III, sec. 2, art. 12, para. 1-2; *id.* at ch. III, sec. 2, art. 14.
- 22 *Id.* at ch. III, sec. 2, art. 14.
- 23 *Id.* at paragraph 2.
- 24 *Id.*
- 25 *Id.* at paragraph 1.
- 26 *Id.* at ch. III, sec. 2, art. 13, para. 3.
- 27 *Id.*
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# The Impact of 3D Printing on Intellectual Property Rights

By Sydney R. Kokjohn and Colin Wright

The term 3D printing encompasses a number of different additive manufacturing methods that enable the production of physical objects without the need for any specific tooling. 3D printing has, for many years, been forecast as the next revolutionary technology,<sup>1</sup> and the growing 3D printing industry is widely estimated to continue expanding rapidly.<sup>2</sup> As 3D printing changes the way that companies (and consumers) manufacture articles, it will also have a significant impact on how enterprises can protect their intellectual property and enforce their rights.

## Intellectual Property Procurement

Businesses that make, sell, or distribute 3D printers, parts, accessories and computer aided design (CAD) files have the same opportunities to obtain intellectual property protection as those in other industries. These companies can trademark their brands, copyright their creative works, and patent their technology so long as their intellectual property meets the ordinary requirements for protection. Companies can also copyright original works and patent non-obvious products that are manufactured using 3D printing. Likewise, methods of 3D printing that address challenges unique to the 3D printing process may also be patentable.

However, because of the ability of unsophisticated actors to easily copy 3D printed articles and the uncertainty behind how courts will interpret and enforce other intellectual property protection for 3D printing, companies that manufacture using 3D printing may want to rely on trade secret protection. If a certain object is printed using a sophisticated method that required considerable effort to develop, that method may be best protected as a trade secret. Furthermore, the specific CAD files used to print objects should be closely guarded as trade secrets, because their dissemination could result in perfect copies of the objects.<sup>3</sup>

## Protecting IP from Unauthorized 3D Printing

Anyone producing or branding objects that can be 3D printed<sup>4</sup> is susceptible to intellectual property infringement by unauthorized manufacturers. However, the strategy for combating infringement that utilizes 3D printing varies considerably depending on the infringing party. Addressing infringement by a competitor, a customer, or a consumer may each require a different approach.

### *Infringement by Competitors*

Protecting patents, trademarks, or copyrights against large-scale infringement by competitors that use 3D printing to manufacture the unauthorized articles is not inherently different from guarding against infringement that uses other forms of manufacturing. However, forms of intellectual property that can be obtained quickly, such as copyrights and design patents, may become more valuable for protecting against shorter production times and more accurate copies.<sup>5</sup>

### *Customers Making Replacement Parts*

One area where 3D printing is already thriving is in printing replacement parts. Rather than purchasing the replacements from the original manufacturer, some customers print their own replacement parts. To combat this, certain replaceable parts may be individually protectable with copyrights, design patents or utility patents. Of course, suing a customer for replacing broken parts may not be a sound business strategy for many companies. Therefore, alternative methods to address this issue may be preferable. For example, companies may find it beneficial to work with their customers to allow easy replacement of parts using 3D printing, rather than trying to prevent the customers from making the replacements.

### *Consumers Sharing Infringing Files over the Internet*

One area of concern for intellectual property owners is the prospect of 3D printers becoming

household items and consumers being able to manufacture goods in their own homes. Professional-quality CAD files, whether stolen or recreated by hobbyists, might be shared over the internet to any consumer with a 3D printer, creating widespread infringement. However, even in this situation, there are strategies available for protecting intellectual property.

Copyright and trademark rights should extend to 3D CAD files of objects that use the underlying intellectual property. Thus, the storing and transfer of the file itself is likely an act of infringement regardless of whether the object is ever printed.<sup>6</sup> In contrast, the rights in a patented product are unlikely to extend to cover a CAD file that can be used to create the product.<sup>7</sup> To address this weakness in patent rights within the 3D printing arena, innovators may wish to pursue patent protection of the CAD files themselves,<sup>8</sup> which would make the creation of a stored copy of the CAD file an act of direct infringement.

Policing infringement will depend on the type of intellectual property involved. Removing files that infringe copyrights from large file-sharing sites should be governed by the Digital Millennium Copyright Act (DMCA), which provides a safe harbor for the file-sharing service and a procedure for having the file removed. In contrast, for trademark and patent rights, the file-sharing services have no safe harbor under current law. Thus, sites that store protected files on a server in the United States could be found liable for direct infringement of either of these rights. The threat of trademark or patent litigation could result in U.S. based file-sharing services to strictly monitor the files uploaded by their users.

On the other hand, the importation of files covering patented products will be difficult to police. It is unlikely that United States patent law will construe either the storage of these files in foreign locations or the act of selling the data (without any physical media) as direct infringement of the patent. Moreover, even if the patent specifically covers the stored CAD file, a recent Federal Circuit case ruled that the International Trade Commission (ITC) could not prevent importation of such files.<sup>9</sup> The

court emphasized that the ITC only has the power to prevent the importation of “articles” that infringe, and ruled that the electronic transmission of data does not constitute the importation of an article.<sup>10</sup> The transmission of patented CAD files from foreign countries might warrant inducement liability, but only if the party transmitting the file is aware that the file is directed to a patent protected article. Even then, preventing the transmission of the offending files will only be possible through district court litigation, rather than a faster ITC proceeding.

## Liability for Companies in the 3D Printing Industry

While companies in the 3D printing industry face familiar requirements to obtain intellectual property rights, they might face unique challenges to avoid liability for infringing the rights of others. Making, selling, and using 3D printers will invoke the same liability as performing these actions with any product, but companies in the 3D printing industry might also engage in certain activities that increase liability risks of *indirect* infringement based on the acts of their customers.

Indirect infringement occurs when a party contributes to or induces another to perform the infringing action.<sup>11</sup> Thus, a consumer’s use of a 3D printer to create items that infringe someone’s intellectual property rights can raise a question as to whether the company that sold the 3D printer contributed to or induced the infringement. United States courts have not yet widely addressed the issue of indirect infringement in the context of 3D printing. However, both Congress and the courts have been addressing analogous copyright infringement of music and video files for years. Below we discuss how certain activities might impact liability risks of indirect infringement for companies in the 3D printing industry.

### Producing, Distributing, or Selling 3D Printers

Companies that simply manufacture, distribute, and retail 3D printers should be safe from any liability risks resulting from the actions of their customers. The law concerning both patents and copyrights allows entities to sell technology without being liable for indirect infringement, so long as the technology has substantial non-infringing uses and the company does not encourage infringement.<sup>12</sup> Trademark law also

allows innocent manufacture and distribution of products that might be used to infringe trademarks, only finding liability for sales to people known to be infringing the trademarks.<sup>13</sup> However, companies that promote their 3D printers for infringing uses, or encourage customers to infringe will risk infringement liability for inducement, which applies to patents, trademarks and copyright.<sup>14</sup>

### Hosting Websites with Digital Files for Consumer Download

Certain businesses may wish to provide customers with CAD files to encourage use of 3D printers. Creating such files in-house should not impose any unique intellectual property liability risks, but providing a file-sharing service for users could increase risks if those users are sharing files that infringe intellectual property rights. In particular, if the file-sharing service stores uploaded files for its users or distributes the files to other users, it could be liable as a direct infringer. In the context of copyright, the act of creating a copy of an uploaded file is an act of direct infringement. However, to shield internet-based enterprises from potentially enormous liability, Congress passed the DMCA in 1998, which provides a safe harbor for online service providers.<sup>15</sup> So long as the service provider takes certain actions to remove infringing works and police repeat offenders, the provider is not liable for the uploaded content of its user base.

However, the DMCA only applies to copyright, and there is no statutory equivalent safe harbor for trademark or patent infringement. Distributing CAD files of counterfeit products may result in direct trademark infringement, even if done unwittingly. Direct patent infringement for hosting CAD files may also be possible if the files themselves are patent protected, though most patents do not yet specifically protect such files.<sup>16</sup> A finding of indirect infringement for providing a file-sharing service is less likely, unless the company involved is knowingly inducing or profiting off the infringing activity of its users.<sup>17</sup>

## Conclusion

As 3D printing technology continues to become more prevalent, companies that are impacted by the technology should pay close attention to how it influences their intellectual property liabilities and rights. Those in the industry

should be careful not to promote the use of 3D printers to infringe the rights of others, and anyone manufacturing small products should consider tailoring their intellectual property strategy to address easy copying of their products.

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# Pay Now or Pay Later – Challenges Facing Spotify, Tidal, and Other Media Streaming Services Following a Series of Copyright Infringement Lawsuits

By Jae Y. Pak

Spotify USA Inc. (“Spotify”), the popular music streaming service with over 100 million active users and 30 million paying subscribers, continues to grow as an industry leader.<sup>1</sup> Spotify launched in 2006 and reached over 20 million paying subscribers as of June 2015, and has added another 10 million over a nine-month span.<sup>2</sup> Spotify’s music database currently includes over 30 million songs.<sup>3</sup> In December 2015, Spotify was sued for \$150 million in a class action suit in the Central District of California for allegedly streaming music without paying royalties to musicians.<sup>4</sup> Within weeks, a similar \$200 million class action suit was filed against Spotify in the same district.<sup>5</sup> Other music streaming services, such as Jay-Z’s Tidal, have also been subject to similar lawsuits for unpaid royalties.<sup>6</sup>

While these lawsuits focus on compulsory licenses and royalties under the Copyright Act<sup>7</sup>, music streaming services are left with a difficult decision to either allocate their resources to comply with the Act or pay for it later in future litigation. This article provides an overview of the *Spotify* and *Tidal* cases, summarizes the applicable copyright law at issue, and provides a technological solution that may help avoid future lawsuits.

## Multiple Lawsuits Filed Against Spotify For Unpaid Royalties

David Lowery, the lead singer and composer of more than 150 songs for rock bands Camper Van Beethoven and Cracker, filed a class action copyright infringement lawsuit against Spotify on December 28, 2015, in the Central District of California.<sup>8</sup> Lowery, on behalf of himself and other musicians, asserted that its mechanical rights for registered musical compositions were infringed by Spotify’s unlicensed or unauthorized reproduction or distribution of

those compositions.<sup>9</sup> Pursuant to 17 U.S.C. § 504(c), the class plaintiffs seek statutory damages ranging from \$750 to \$30,000 or up to \$150,000 per infringed work for willful infringement.<sup>10</sup> All in all, the class seeks at least \$150 million from Spotify.<sup>11</sup>

Eleven days later, well-known singer-songwriter Melissa Ferrick filed a similar class action lawsuit against Spotify in the same district.<sup>12</sup> Ferrick seeks at least \$200 million in statutory damages on behalf of herself and other musicians.<sup>13</sup> On May 23, 2016, the district court consolidated these two Spotify cases and designated *Lowery* as the lead case.<sup>14</sup> Plaintiffs filed a consolidated complaint a month later.<sup>15</sup>

**Moving forward, musicians and streaming services may need to work together to solve the problem of lack of easily accessible ownership information.**

## Jay-Z’s Tidal – “Different owner, same game”

In an effort to improve streaming audio quality, a Swedish tech company, Aspiro, launched its own subscription-based music streaming service, Tidal, in October 2014.<sup>16</sup> Within a few months, rap mogul Jay-Z acquired Aspiro and Tidal for about \$56 million through his holding company, Project Panther Bidco, Ltd.<sup>17</sup> A year after its launch, Tidal had over 3 million paying subscribers, and claims to have over 4.2 million paying subscribers as of July 2016.<sup>18</sup>

Despite its efforts and aspirations “to re-establish the value of music,”<sup>19</sup> Tidal has been subject to copyright lawsuits similar to those filed against Spotify. On February 27, 2016, representatives of the band The American Dollar filed a class action lawsuit in the Southern District of New York, alleging that Tidal failed to license or pay royalties for streaming their music.<sup>20</sup> Plaintiffs sought statutory damages of up to \$150,000 for willful infringement of each of their 118 copyrighted works.<sup>21</sup> Plaintiffs added, “[i]ronically when Defendant [Jay-Z] purchased the TIDAL Music Service in 2015, it claimed it would be the first streaming service to pay the artists. Different owner, same game.”<sup>22</sup> Plaintiffs, however, dropped the case for unspecified reasons, and filed its notice of voluntary dismissal under Rule 41 of the Federal Rules of Civil Procedure on June 2, 2016.<sup>23</sup>

## Copyright Act and Royalties - Who Gets Paid?

The dispute between the musicians and streaming services centers on Section 115 of the Copyright Act.<sup>24</sup> Understanding Section 115 may require some background on royalties. There are generally two forms of royalties that apply on a per song basis: composition royalties for publishing companies and songwriters, and sound recording royalties for record labels and performing artists.<sup>25</sup> Spotify already has licenses to pay sound recording royalties to record labels and artists, but does not have direct licenses to pay composition royalties to the publishing companies and songwriters.<sup>26</sup> By law, Spotify can pay such royalties either through a direct license or a compulsory license under the Copyright Act.<sup>27</sup>

Known as mechanical rights, Section 115 allows anyone to make and distribute reproductions of songs if they obtain a compulsory license and pay the statutory fee.<sup>28</sup>

As part of a compulsory license, Section 115 requires streaming services to serve a Notice of Intent (NOI) to the publishing company or songwriter (or the Copyright Office if unknown), thirty days before releasing their song on the streaming service.<sup>29</sup> Additionally, the statutory fee must be paid through the Copyright Office.<sup>30</sup> Currently, the rates for downloading songs are 9.1 cents per song or 1.75 cents per minute of playing time.<sup>31</sup> For interactive streaming of music, however, the rates are much more complicated.<sup>32</sup> To help streamline the process, the Harry Fox Agency provides charts to calculate the royalty rates for streaming services like Spotify.<sup>33</sup>

## Spotify Acts First, Apologizes Later

In the Spotify case, Plaintiffs alleged that Spotify failed to negotiate directly with the publishing companies or serve an NOI in accordance with the Act. If true, Spotify infringed under Section 115, and the remaining issue in dispute would be damages (*e.g.*, the number of songs infringed and whether Spotify willfully infringed).

Some musicians sympathize with Spotify because of the difficulty in identifying the songwriter of a song that may share the same title with hundreds of other songs in a database with over 30 million songs.<sup>34</sup> Lack of ownership information puts a heavy burden on streaming services like Spotify and Tidal, as its database and number of subscribers continue to grow. Spotify may have made a calculated business decision not to comply with Section 115 to avoid such a burden. In March 2016, Spotify reached an agreement with the National Music Publishers Association to pay publishers between \$16-25 million in unpaid royalties.<sup>35</sup> Lowery, however, contends that Spotify is using the agreement to try to cut class members out of the current class action lawsuit.<sup>36</sup> Indeed, the agreement forces claimants to waive “any claims” related to their works.<sup>37</sup>

Moving forward, musicians and streaming services may need to work together to solve the problem of lack of easily accessible ownership information. One proposed solution is to require the publishing companies to provide metadata identifying ownership information for every track sent to Spotify.<sup>38</sup> This solution, however, does not address the millions of songs already in Spotify’s database that lack ownership information. Without a concrete technical

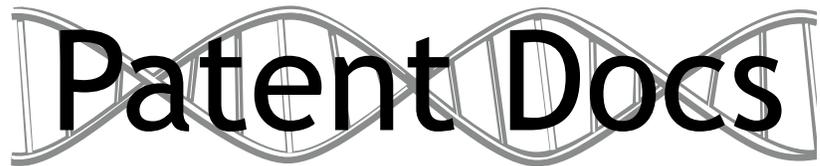
solution to identify and track ownership information of songs, streaming services must make a business decision to either allocate their resources to abide by the law (and possibly increase subscription fees) or pay for it later in future litigation. For the time being, Spotify appears to have chosen the latter.

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# Intellectual Property and the Venture-Funded Startup

By Michael D. Anderson  
and Alexander D. Georges

One of the most commonly used buzzwords by the media and investors is the term “startup,” which is generally used to describe an entrepreneurial venture with the goals of rapid growth and immediate impact on a market. Although startups typically aim to disrupt a market through innovation, startups also sometimes refrain from pursuing intellectual property (IP) protection due to limited funding or other possible reasons. However, despite potential costs, startups can benefit from obtaining IP rights. Not only can IP protection potentially block others from negatively impacting the startup, it can also be seen as valuable property rights by investors. A startup can even potentially monetize IP rights through licenses or sales.

To enable growth and expansion into new markets, a startup may seek funding from investors, such as venture capital from venture capitalists (VCs). More specifically, venture capital is a type of private equity provided at early stages of a startup, which appears to have potential for high growth. When selecting startups for investments, VCs typically do not view patents and other forms of IP as an indication of the strength of a startup’s technology, but rather as an underlying asset of an overall investment.<sup>1</sup> In some cases, a young company may have as much as ninety percent of its value tied into intangible assets, such as IP.<sup>2</sup> Accordingly, VCs often look at a startup’s IP rights as a safeguard against uncertainty associated with investing and tend to prefer when the IP of prototypes produced by the startup is protected.<sup>3</sup> VCs want to make sure that a startup owns its IP to avoid potential lawsuits or risk of lawsuits that can often arise. This includes checking to see that the startup itself, not the founders, owns the IP rights. Because VCs often look at a startup’s IP portfolio as an important step when deciding whether or not to invest, the startup can increase chances of receiving initial funding, as well as the overall amount received, by pursuing IP protection.<sup>4</sup>

At the same time, it is important to

recognize that all forms of IP do not present equal value to a startup. More specifically, focusing upon patents and trademarks, each type of IP protection can protect different aspects of the startup and have different associated costs with obtaining them. Therefore, VCs may value a startup’s patents and trademarks differently as discussed below.

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## Patents

A patent represents a set of exclusive rights granted to an inventor or assignee for a limited period in exchange for a detailed public disclosure of an invention.<sup>5</sup> While requiring the public disclosure of the invention can allow others to understand and build upon the invention, the patent also benefits the owner of the patent by providing rights to exclude others from making or selling the invention for a limited amount of time. Although a patent can create a monopoly limited in time for a given invention, the patent also affords the owner with the right to lease or sell rights to the claimed invention to others.

There are two types of patents: (i) utility and (ii) design. A utility patent is the more common type that is available to those who “invent[] or discover[] any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof.”<sup>6</sup> Startups aiming to protect new functional aspects of a product can pursue protection via a utility patent. For example,

a mobile application developer may use a utility patent to protect her unique way of operating an application. Utility patents can be further divided into two subsets: (i) products and (ii) processes.<sup>7</sup> Products represent a group that includes machines, compositions of matter, manufacture, computer-readable media, architectural designs and buildings, food products, biological matter, etc.<sup>8</sup> Conversely, a process is “an operation or series of steps leading to a useful result.”<sup>9</sup> In order for a process to be patentable, the process must be either “tied to a particular machine or apparatus,” or “transform[] a particular article into a different state or thing,” and cannot simply correspond to an abstract idea or mental process.<sup>10</sup>

Patents for protecting processes have recently become more controversial after the Supreme Court held in *Alice Corp. v. CLS Bank International* that claims about a computer-implemented, electronic escrow service for facilitating financial transactions are abstract ideas ineligible for patent protection.<sup>11</sup> With help from the media coverage of the *Alice* decision, many people believed that the decision made software ineligible for patent protection. However, subsequent decisions by courts and the Patent Office have further clarified that software can still be patented in a limited manner.<sup>12</sup> For many software-based startups, the ability to patent their ideas has not changed much in view of the *Alice* decision. Now, software-based inventions face more scrutiny, but nevertheless may still be patentable. For example, with respect to user interface (UI) patents under *Alice*, claims directed to graphing a curve on a user interface were found to be patent-eligible while a claim directed to building and displaying a user interface was not patent-eligible.<sup>13</sup> Thus, as one example, displaying functional aspects of a UI were found patent-eligible. Therefore, in contrast to the understanding of many, software based startups should still consider patent protection for their business.

Returning back to patents generally, the other type is a design patent that can protect “any new, original and ornamental design for an article of manufacture.”<sup>14</sup> Unlike a utility patent,

a design patent protects a non-functional design and must be “inseparable from the article to which it is applied, and cannot exist alone merely as a scheme of ornamentation.”<sup>15</sup> For example, the same mobile application developer who sought utility patent protection for the functionality of an application may also seek design patent protection for the design of the application, such as a novel UI layout.

When considering IP protection, a startup should consider whether to pursue utility patents, design patents, or both. Traditionally, startups that pursue and obtain patent protection are often viewed more favorably by investors. Particularly, patent protection can make a startup appear to have long term growth prospects and can encourage VCs to increase the startup’s valuation.<sup>16</sup> In fact, startups that obtain patent protection prior to receiving VC funding often receive more financing overall from investors.<sup>17</sup> The investors may view the patent protection as security that the startup is less likely to fail.<sup>18</sup> Additionally, patents have been viewed as a positive signal for valuations to offset potential weaknesses, such as an inexperienced founding team, lack of high profile VC funding, and the startup being in early fundraising rounds.<sup>19</sup> The correlation between patents and funding does not appear only in one technological area, as the effect has been seen in both the biotechnology<sup>20</sup> and the semiconductor industries.<sup>21</sup> Further, when a venture-backed startup reaches the initial public offering (IPO) stage, the ownership of patents is reflected in the speed at which a company makes it to an IPO<sup>22</sup>, the performance of the business<sup>23</sup>, and longevity of the business after IPO.<sup>24</sup>

## Trademarks

A trademark is an identifiable mark, such as a sign, logo, design, or expression that distinguishes products or services of a particular source from those of others.<sup>25</sup>

A trademark can be obtained and owned by an individual, company, or any legal entity through use and maintaining exclusive rights over the trademark. A trademark is only effective in a class associated with a particular field of commerce in which the trademark is registered.

Startups should factor the differences in protection provided by trademarks and patents when pursuing IP protection. Particularly, a startup that serves the general public directly is more likely to benefit from trademark

protection to protect the connection with consumers. This differs from startups that operate upstream and tend to sell technology to other businesses. These startups may benefit from patents that can exclude others from making or selling their patented technology.

VCs often access a startup’s trademark protection and potential plans before investing. Although patent protection can indicate the value of a startup’s technology, trademarks can show the overall plans of the startup, including strategies for marketing and growth goals.<sup>26</sup> Trademark applications (or registrations) can indicate the industries in which a young startup operates (or intends to operate).<sup>27</sup> However, the correlation between trademark applications and the value of VC-backed startups is not linear.<sup>28</sup> The relationship between trademark applications and the value is more like a bell curve, which may indicate that a startup with too many trademarks and trademark applications has spread itself too thin or cannot focus upon a particular path.<sup>29</sup> Similarly, a lack of trademarks may show that a business is not yet ready for a commercial product.<sup>30</sup> These are a few considerations that a startup should consider when pursuing trademark protection.

## Conclusion

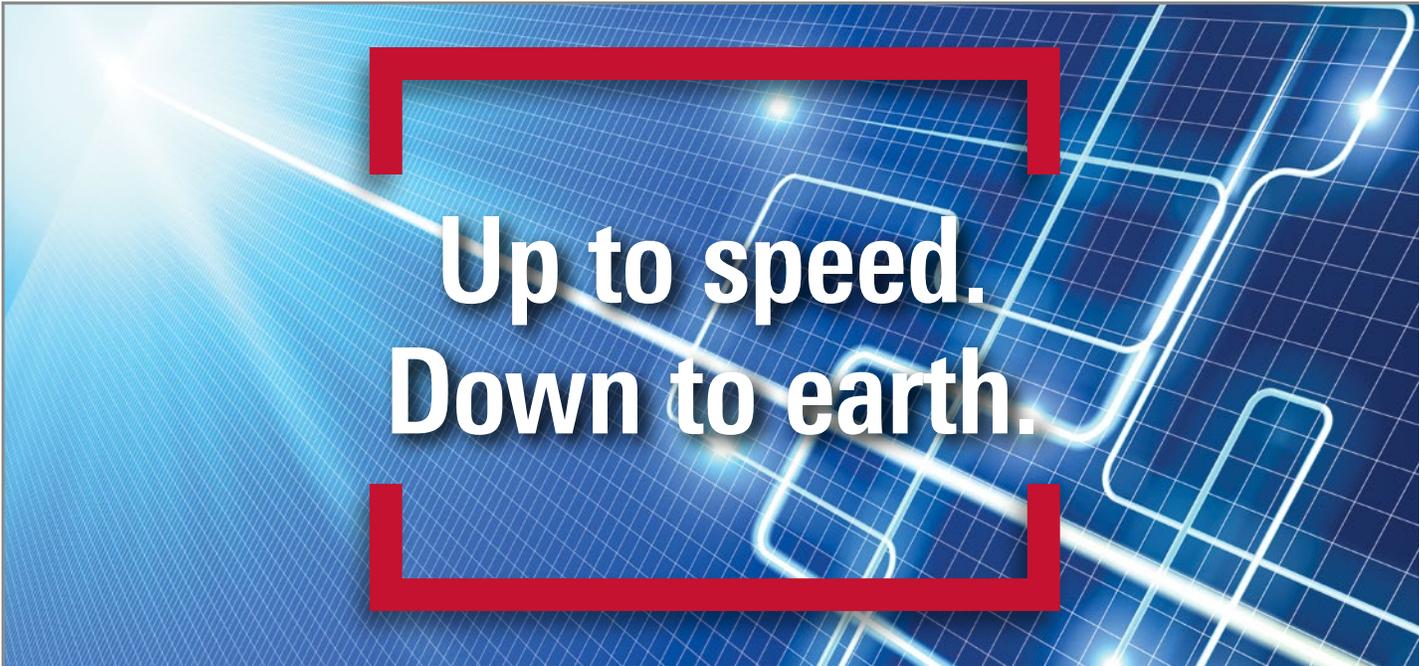
For a nascent startup, IP protection can serve as a powerful tool for protecting potential growth as well as helping to secure venture funding. Both patent and trademark protection are correlated with increased venture funding and likelihood of business success. Although obtaining IP has associated costs that may be off-putting to startups, the investment generally has a positive return when viewed against future fundraising and longevity. Having a solid IP portfolio can also help promote a future sale of the startup.

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## Endnotes

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