
THE END USER'S PREDICAMENT: USER STANDING IN PATENT LITIGATION

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The traditional parties in patent litigation are technologically savvy competitors. Yet recently, patent owners have begun hauling end users—including farmers, small cafés, and podcasters—into patent disputes. This Article shows that end users, unlike competitors, cannot take proactive measures to protect their interests in defending against patent enforcement. The standing doctrine impedes end users’ access to federal court to challenge a patent’s validity in a declaratory judgment action. At the same time, standing and timing requirements prevent end users from taking advantage of the new procedures created under the America Invents Act to challenge patents at the U.S. Patent and Trademark Office (“PTO”).

This Article argues that although standing requirements impose a significant obstacle for competitors as well as end users, the unique characteristics of end users place them in a particular predicament. First, the U.S. Court of Appeals for the Federal Circuit requires that plaintiffs filing a declaratory judgment suit show that they undertook “meaningful preparations” to use the patented technology. Yet since users “use” but do not “make” technology, they often do not engage in complex preparations. Second, the Federal Circuit requires plaintiffs to point to enforcement acts by the patentee, known as the reasonable apprehension test. Users, however, are usually part of a large group, and those users who have been sued or threatened with suit are not necessarily the ones with the motivation and resources to file declaratory judgment suits. Third, patent enforcement against other similarly situated parties is more likely to chill a user’s engagement with a patented technology than a competitor’s engagement because users usually lack the technological sophistication to assess the validity of a patent threat. Fourth, the standing doctrine does not protect users because it assumes competitors will defend them. Yet the involuntary appearance of thousands of users on the defense side of patent litigation underscores the fallacy of this assumption. Fifth, end users typically enter patent conflicts late in the life of the patent. By that point, most procedures at the PTO—the forum to challenge patents outside federal court—are unavailable to them.

This Article concludes that although end users’ current standing status is unclear, end users should qualify for standing under the Federal Circuit’s currently diluted reasonable apprehension test. This Article also concludes that end users can satisfy the meaningful preparations test because they do not need complex preparations, which fulfills the immediacy criteria of the test.

INTRODUCTION

Traditionally, patent conflicts involved technologically savvy or scientifically sophisticated parties like IBM, Google, or Pfizer.¹ These parties make

¹ For some examples, see generally *Teva Pharm. USA, Inc. v. Pfizer, Inc.*, 395 F.3d 1324, 1326-27 (Fed. Cir. 2005) (chronicling Pfizer’s defense against Teva’s declaratory judgment action and seeking a determination that Teva’s generic drug did not infringe Pfizer’s patent); *TecSec, Inc. v. IBM Corp.*, 763 F. Supp. 2d 800, 803 (E.D. Va. 2011) (summarizing IBM’s

technologically sophisticated arguments on a range of different issues. They may argue that a patented technology is not novel or that a competing technology infringed their patented technology.² Yet the patent landscape has changed in recent years. Surprisingly, end users—including farmers, patients, podcasters, and small cafés—play an increasingly larger role in patent conflicts.³

Parties to litigation often have unequal resources and sophistication. Yet procedurally, at least, the legal system seeks to place them on equal footing.⁴ End users, however, fare worse than most litigants.⁵ End users and patent owners are inherently unequal. End users lack the technological sophistication that is

defense against a patent infringement claim); *IP Innovation L.L.C. v. Google, Inc.*, 661 F. Supp. 2d 659, 662 (E.D. Tex. 2009) (summarizing Google's defense against a patent infringement claim).

² See, e.g., *Trintec Indus., Inc. v. Top-U.S.A. Corp.*, 295 F.3d 1292, 1294-95 (Fed. Cir. 2002) (litigating a novelty challenge to a patented method for producing multicolor faces for watches, clocks, thermometers, and other instruments); *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 970-71, 976 (Fed. Cir. 1995) (litigating the scope of claims in an infringement suit of a patent on an inventory control system for dry cleaning stores); Sean B. Seymore, *Rethinking Novelty in Patent Law*, 60 DUKE L.J. 919, 929-40 (2011) (discussing possession in novelty patent challenges).

³ Gaia Bernstein, *The Rise of the End User in Patent Litigation*, 55 B.C. L. REV. 1443, 1452-61 (2014). Although there are some reports indicating that end users have been a part of patent litigation during certain historical periods, there is little doubt that a change is indeed taking place. See, e.g., *Abusive Patent Litigation: The Impact on American Innovation and Jobs, and Potential Solutions: Hearing Before the Subcomm. on Courts, Intellectual Prop. & the Internet of the H. Comm. on the Judiciary*, 113th Cong. 9-11 (2013) [hereinafter *Hearing on Abusive Patent Litigation*] (statement of Mark Chandler, Senior Vice President and General Counsel, Cisco Systems, Inc.) (testifying that the problem of Patent Assertion Entity lawsuits has now spread to customers); Colleen Chien & Edward Reines, *Why Technology Customers Are Being Sued En Masse for Patent Infringement and What Can Be Done*, 49 WAKE FOREST L. REV. 235, 241 (2014) (“[C]ustomer suits have been, until recently, relatively uncommon . . .”); Gerard N. Magliocca, *Blackberries and Barnyards: Patent Trolls and the Perils of Innovation*, 82 NOTRE DAME L. REV. 1809, 1819-25 (2007) (describing the patent trolls of the nineteenth century that enforced agricultural patents); Scott Shane, *How to Neuter Patent Trolls*, BLOOMBERG BUSINESSWEEK (Mar. 26, 2013), <http://www.businessweek.com/articles/2013-03-26/how-to-neuter-patent-trolls> [<http://perma.cc/8BWS-5GGC>] (describing Patent Assertion Entity suits against small businesses as a new trend). See generally Christopher Beauchamp, *The First Patent Litigation Explosion*, 125 YALE L.J. 848 (2016) (describing litigation against users in the mid-nineteenth century).

⁴ See *Lassiter v. Dep't of Soc. Servs.*, 452 U.S. 18, 28 (1981) (“[A]s our adversary system presupposes, accurate and just results are most likely to be obtained through the equal contest of opposed interests . . .”); William B. Rubenstein, *The Concept of Equality in Civil Procedure*, 23 CARDOZO L. REV. 1865, 1873-84 (2002) (discussing how the pursuit for procedural equality encourages accurate resolution of legal disputes within our adversarial system).

⁵ See Bernstein, *supra* note 3, at 1446-47.

essential to understanding and litigating patent disputes.⁶ They are also often individuals or small companies without the financial resources necessary to withstand the exorbitant expense of patent litigation.⁷ Unfortunately, on top of this inherent inequality, the patent system places end users at a substantial procedural disadvantage.

Patent litigation can take two forms: (1) a patent owner can sue for infringement, or (2) a potential infringer can take proactive measures by seeking a declaratory judgment of patent invalidity or noninfringement.⁸ While patentees hale end users into court as defendants or force them to settle out of court, end users, unlike competitors, are limited in their ability to take proactive measures to defend against infringement lawsuits and to resolve uncertainty regarding potential infringement. End users lack effective access to federal courts because, in recent cases, the Court of Appeals for the Federal Circuit has refused to grant most users standing to file patent declaratory judgment actions.⁹

Who are these end users? End users are parties that use patented technology for personal consumption and in business.¹⁰ But most importantly, they are strictly users. They do not manufacture or directly sell the technology. They may incorporate the technology into their businesses, but they often know little about it or even of its existence.¹¹ In recent years, patent owners have sued and threatened to sue large numbers of end users. Patent Assertion Entities (“PAEs”), who do not manufacture or sell patented technology but instead make revenue by enforcing patents, have sued and threatened to sue thousands of users.¹² For example, one PAE sued and threatened to sue thousands of small businesses, claiming that anyone who uses a particular office scanner to scan

⁶ *Id.* at 1463-65.

⁷ *Id.* at 1483-85.

⁸ See 35 U.S.C. § 271(a) (2012) (specifying the conduct that constitutes patent infringement); KIMBERLY A. MOORE, PAUL R. MICHEL & TIMOTHY R. HOLBROOK, PATENT LITIGATION AND STRATEGY 21, 50 (3d ed. 2008) (discussing the two typical forms of patent litigation and describing declaratory judgment actions).

⁹ See, e.g., *Organic Seed Growers & Trade Ass’n v. Monsanto Co.*, 718 F.3d 1350, 1359-60 (Fed. Cir. 2013); *Ass’n for Molecular Pathology v. U.S. Patent & Trademark Office*, 689 F.3d 1303, 1319-20, 1323 (Fed. Cir. 2012), *rev’d on other grounds sub nom.* *Ass’n for Molecular Pathology v. Myriad Genetics, Inc.*, 133 S. Ct. 2107 (2013).

¹⁰ Bernstein, *supra* note 3, at 1462.

¹¹ *Id.*

¹² See Tracie L. Bryant, *The America Invents Act: Slaying Trolls, Limiting Joinder*, 25 HARV. J.L. & TECH. 687, 691-92 (2012) (describing PAEs’ strategy of joining multiple unrelated defendants); Chien & Reines, *supra* note 3, at 242-44 (discussing mass lawsuits by PAEs against technology customers); Mark A. Lemley & A. Douglas Melamed, *Missing the Forest for the Trolls*, 113 COLUM. L. REV. 2117, 2123, 2126 (2013) (describing the growing trend of PAE lawsuits and different PAE models); Stijepko Tokic, *The Role of Consumers in Detering Settlement Agreements Based on Invalid Patents: The Case of Non-Practicing Entities*, 2012 STAN. TECH. L. REV. 2, 5 (stating that there have been cases where PAEs sued over twenty defendants in one lawsuit).

documents infringes the PAE's patent.¹³ PAEs, however, are not the only patent owners suing end users. Monsanto, a company that owns a patent for genetically engineered seeds, sued and threatened to sue thousands of farmers who used these seeds in violation of their licensing agreements.¹⁴ Emergent technologies, such as the three-dimensional printer ("3D printer"), may also make consumers the target of patent infringement litigation. The 3D printer can replicate items as diverse as prosthetic hands and bridal dresses, and enables individuals and small businesses to produce products at home or in-house.¹⁵ Consumers' ability to purchase 3D printers for reasonable prices and make the items they desire is likely to expose many more users to potential patent infringement liability.¹⁶

Even as end users are pulled in greater numbers into patent conflicts, they are restricted in their ability to take proactive defensive measures. Standing requirements impose strict constraints on parties seeking declaratory judgments to clarify the legality of their use of patented technology. The standing doctrine functions to ensure that courts hear only actual "cases" and "controversies."¹⁷ Infringers or potential infringers may bring declaratory judgment suits in patent cases to declare that a patent is invalid.¹⁸ Yet the Federal Circuit, unlike the

¹³ Joe Mullin, *Patent Trolls Want \$1000—For Using Scanners*, ARS TECHNICA (Jan. 2, 2013, 9:30 AM), <http://arstechnica.com/tech-policy/2013/01/patent-trolls-want-1000-for-using-scanners/> [<https://perma.cc/8TUS-6R38>] (describing a small IT services business that received demand under threat of litigation to pay \$1000 per employee for a license to use scan-to-email features on all office scanners); Steven Salzberg, *Did You Scan and Email That Document? You Might Owe \$1000 to a Patent Troll*, FORBES (Aug. 5, 2013, 8:00 AM), <http://www.forbes.com/sites/stevensalzberg/2013/08/05/did-you-scan-and-email-that-document-you-might-owe-1000-to-a-patent-troll/#44a5073428a8> [<https://perma.cc/MD56-Z4RW>].

¹⁴ *Bowman v. Monsanto Co.*, 133 S. Ct. 1761, 1764-65 (2013); *Organic Seed Growers*, 718 F.3d at 1353; *see also* Jeremy N. Sheff, *Self-Replicating Technologies*, 16 STAN. TECH. L. REV. 229, 235-38 (2013).

¹⁵ *See* Dorian Geiger, *Something Old (Bridal Wear) Meets the New (3-D Printing)*, N.Y. TIMES, Apr. 19, 2015, at ST16 (discussing experimentation by designers and companies in creating clothing and accessories using 3D printers); Jacqueline Mroz, *Hand of a Superhero: 3-D Printing Prosthetic Hands That Are Anything but Ordinary*, N.Y. TIMES, Feb. 16, 2015, at D1 (discussing potential of 3D printing for advancing prosthetic limb technology).

¹⁶ *See* Deven R. Desai & Gerard N. Magliocca, *Patents, Meet Napster: 3D Printing and the Digitization of Things*, 102 GEO. L.J. 1691, 1694 (2014) (referring to the "shadow of infringement liability" currently hanging over those using 3D printers); Davis Doherty, *Downloading Infringement: Patent Law as a Roadblock to the 3D Printing Revolution*, 26 HARV. J.L. & TECH. 353, 359 (2012). *See generally* Skyler R. Peacock, Note, *Why Manufacturing Matters: 3D Printing, Computer-Aided Designs, and the Rise of End-User Patent Infringement*, 55 WM. & MARY L. REV. 1933 (2014).

¹⁷ *See* U.S. CONST. art. III, § 2; *DaimlerChrysler Corp. v. Cuno*, 547 U.S. 332, 341 (2006) ("If a dispute is not a proper case or controversy, the courts have no business deciding it, or expounding the law in the course of doing so.")

¹⁸ For discussions of patent declaratory judgment suits, *see generally* Chester S. Chuang, *Offensive Venue: The Curious Use of Declaratory Judgment to Forum Shop in Patent*

Supreme Court, has interpreted the standing doctrine quite narrowly.¹⁹ The Federal Circuit requires a plaintiff to show that it suffered an injury in fact by demonstrating first, that the patentee acted affirmatively to enforce its patent rights, creating a reasonable apprehension of suit, and second, that the plaintiff engaged in “meaningful preparation to conduct potentially infringing activity.”²⁰ End users have significant challenges meeting this standard.²¹

End users also face other obstacles. In addition to the standing requirements, which preclude end users from accessing federal courts, end users cannot effectively take advantage of the new procedures that the America Invents Act (“AIA”) instituted for challenging patents in the U.S. Patent and Trademark Office (“PTO”).²² Although two of the procedures—third-party submission and post-grant review—do not impose limiting standing requirements,²³ both have narrow time frames for challenging patents. The latest date for challenging a patent under these procedures is nine months after the grant of the patent.²⁴ Since

Litigation, 80 GEO. WASH. L. REV. 1065, 1067-68 (2012) (discussing the relationship between declaratory judgment actions and forum shopping); Megan M. La Belle, *Patent Law as Public Law*, 20 GEO. MASON L. REV. 41, 73-82 (2012) [hereinafter La Belle, *Patent Law as Public Law*] (discussing recent developments in patent standing doctrine); Megan M. La Belle, *Patent Litigation, Personal Jurisdiction, and the Public Good*, 18 GEO. MASON L. REV. 43, 45-47 (2010) (discussing declaratory judgment actions and personal jurisdiction); Amelia Smith Rinehart, *Patent Cases and Public Controversies*, 89 NOTRE DAME L. REV. 361, 365-83 (2013) (discussing development of the standing doctrine in declaratory judgment actions).

¹⁹ See *MedImmune, Inc. v. Genentech, Inc.*, 549 U.S. 118, 127 (2007) (“Basically, the question in each case is whether the facts alleged, under all the circumstances, show that there is a substantial controversy, between parties having adverse legal interests, of sufficient immediacy and reality to warrant the issuance of a declaratory judgment.” (quoting *Md. Cas. Co. v. Pac. Coal & Oil Co.*, 312 U.S. 270, 273 (1941))).

²⁰ *Ass’n for Molecular Pathology v. U.S. Patent & Trademark Office*, 689 F.3d 1303, 1318 (Fed. Cir. 2012), *rev’d on other grounds sub nom. Ass’n for Molecular Pathology v. Myriad Genetics, Inc.*, 133 S. Ct. 2107 (2013).

²¹ See, e.g., *Organic Seed Growers & Trade Ass’n v. Monsanto Co.*, 718 F.3d 1350, 1360-61 (Fed. Cir. 2013) (holding that the farmers suing did not meet the standard); *Ass’n for Molecular Pathology*, 689 F.3d at 1319 (finding that only one physician had standing among a large group of patients and physicians seeking declaratory judgment to render a patent on a breast cancer genetic mutation invalid).

²² Leahy-Smith America Invents Act, Pub. L. No. 112-29, 125 Stat. 284 (2011) (codified in scattered sections of 35 U.S.C.).

²³ See 35 U.S.C. § 122(e)(1) (2012) (imposing no standing restrictions on participation in the third-party submission procedure); *id.* § 321(a) (imposing no standing requirement to petition for a post-grant review of a patent); *id.* § 325(a) (prohibiting a post-grant review only where petitioner has already filed a civil suit challenging the validity of the patent); PTO Post-Grant Relief, 37 C.F.R. § 42.201 (2016) (providing that any person who is not the patent owner may institute a post-grant proceeding if they have not filed a civil action challenging the patent or are not estopped by a prior action).

²⁴ See 35 U.S.C. § 122(e) (providing that third-party submission is limited to the earlier of (1) the date of allowance, or (2) the later of six months from the publication of the application

these procedures are available only early in the life of the patent, they do not provide an effective forum for end users to challenge patents. At that point, the technology usually has not yet reached the market and end users are unaware of its existence.²⁵ A third PTO procedure—covered business method review—requires that plaintiffs meet the same standing requirements needed to file a declaratory judgment motion in federal court.²⁶ Therefore, end users are largely denied access to this procedure. Finally, a fourth procedure, inter partes review, provides both flexible standing requirements and permits filing a petition later in the life of the patent.²⁷ This would seem to make inter partes review a feasible avenue for end users to challenge patents. However, the grounds for challenging patents under this procedure are limited when compared to both other PTO procedures and motions for declaratory judgment.²⁸ Furthermore, the Federal Circuit has imposed standing requirements similar to those used for suits for declaratory judgments on appeals from the Patent Trial and Appeal Board (“PTAB”).²⁹ Consequently, end users that can challenge patents using the inter partes review procedure are unlikely to have standing to appeal to the Federal Circuit, which makes this option even less attractive.

Although current standing requirements for challenging patents in federal court create obstacles for both competitors and users, these requirements are especially problematic for end users. This Article uncovers the unique characteristics that place end users in this difficult position. First, unlike competitors, end users “use” but do not “make” technology. The Federal Circuit’s standing requirements consider whether a plaintiff undertook “meaningful preparations,” that is, overt acts of preparations for manufacture or

or the date of the first rejection by the examiner); *id.* § 321(c) (providing that a petition for post-grant review may only be filed within nine months of the date a patent is granted or reissued).

²⁵ Bernstein, *supra* note 3, at 1475.

²⁶ 37 C.F.R. § 42.302(a) (stating a party may only file for covered business method review if it was sued or charged with infringement of that patent, and imposing the substantial controversy standing requirement of filing a declaratory judgment motion in federal court); *see also* Tex. Ass’n of Realtors v. Prop. Disclosure Techs., LLC, No. CBM2015-00069, Paper 15, at 10 (P.T.A.B. July 28, 2015) (denying standing in petition for covered business method review after applying the federal courts’ standing requirements for declaratory judgment).

²⁷ *See* 35 U.S.C. § 311 (establishing inter partes review of patents); *id.* § 311(c) (providing that parties may challenge a patent from nine months after issued until it expires); *id.* § 315(a)(1), (b) (prescribing that any party other than the patent owner may challenge the patent owner’s patent, unless that party was served with an infringement complaint more than a year before petitioning or has filed a civil action challenging the validity of the patent).

²⁸ *See id.* § 311(b) (providing that parties using inter partes review may challenge patents only on the grounds of novelty and obviousness and only based on patents and prior patent applications).

²⁹ *See* Consumer Watchdog v. Wis. Alumni Research Found., 753 F.3d 1258, 1260-61 (Fed. Cir. 2014).

sale.³⁰ Yet users usually engage with technology more simplistically, and in a way that does not require executing the intricate steps and preparations required to make or market a technology.³¹

Second, users are plentiful and diverse. They are usually part of a large group of similarly situated individuals or businesses, such as a group of patients taking a certain medication. Since a group of users is typically large, those particular users sued or threatened by patentees are not necessarily the ones with the motivation and financial resources needed to sue to invalidate a patent.³² Yet the Federal Circuit focuses on enforcement acts by the patentee. It requires that a plaintiff demonstrate that a patentee's enforcement action imposes an objective risk of harm, as opposed to a subjective chilling effect, even if such a chilling effect is the result of genuine fear.³³ Users who were not directly sued or threatened need to overcome the obstacle of meeting this standard by proving that their fear of suit is objectively sound, even when such fear results from a massive enforcement campaign against similarly situated users, and not from a direct enforcement action.

Third, users generally lack technological sophistication regarding the patented technology they use. Even competitors who are technologically sophisticated are often uncertain as to whether a cease and desist letter or a lawsuit is based on a valid patent and an actual case of infringement. But users who lack the in-house technological expertise needed to understand these issues are in a particularly precarious position. Since end users tend to be less technologically savvy, patent enforcement is much more likely to chill end users' engagement with a patented technology than that of competitors. Users' lack of knowledge increases their subjective chill, an effect that significantly influences their actions but that does not qualify them for standing. As users witness massive enforcement campaigns against other similarly situated users, many users choose to automatically pay licensing fees or to discontinue use of the technology altogether.³⁴

Fourth, users have become involuntary players in patent litigation. The technological cycle includes invention, innovation (i.e., successful commercial application of the technology), and diffusion (i.e., widespread dissemination of the technology).³⁵ However, the U.S. patent system tends to neglect the

³⁰ See *Ass'n for Molecular Pathology v. U.S. Patent & Trademark Office*, 689 F.3d 1303, 1318 (Fed. Cir. 2012), *rev'd on other grounds sub nom. Ass'n for Molecular Pathology v. Myriad Genetics, Inc.*, 133 S. Ct. 2107 (2013).

³¹ See *infra* Section III.A.

³² See *infra* Section III.C.

³³ *Organic Seed Growers & Trade Ass'n v. Monsanto Co.*, 718 F.3d 1350, 1360 (Fed. Cir. 2013).

³⁴ See *infra* Section III.D.

³⁵ See EVERETT M. ROGERS, *DIFFUSION OF INNOVATIONS* 11 (5th ed. 2003) (defining diffusion as the process by which an innovation is communicated through certain channels over time among the members of a social system); F.M. SCHERER, *INNOVATION AND GROWTH:*

dissemination stage.³⁶ Unsurprisingly then, users, who take a prominent role in the dissemination stage, are not among the entities that the Patent Act protects for purposes of standing. Yet recent changes in litigation practices, which have drawn thousands of users into patent conflicts, underscore the fallacy of ignoring the dissemination stage and its central players. Users are in need of protection under the Patent Act because they are now involuntarily embroiled in patent conflicts.³⁷

Fifth, end users typically enter patent conflicts later in the life of a patent, once the technology is marketed and becomes commercially successful.³⁸ End users differ from competitors, who are often aware of the technology earlier in its life cycle.³⁹ Competitors may be aware of a technology as early as when it is developed. Two important PTO proceedings, third-party submission and post-grant review, which provide an alternative forum to federal court for challenging a patent, are available only very early in the life of the patent. Users, who are usually not even aware of the technology at that point, therefore have limited ability to challenge patents at the PTO.⁴⁰

The unique status of end users places them in a particular predicament. Existing case law is unclear as to whether and under what circumstances users can qualify for standing.⁴¹ Scholars have recently argued for relaxing standing requirements for declaratory judgment actions.⁴² While lowering standing requirements would alleviate the end user's predicament, this Article shows that users can qualify for standing under existing Federal Circuit doctrine if properly applied. First, this Article reviews the case law and shows that when the Federal Circuit operated under the totality of circumstances framework in *MedImmune, Inc. v. Genentech, Inc.*,⁴³ it repeatedly applied the reasonable apprehension test

SCHUMPETERIAN PERSPECTIVES 8-21 (1984) (distinguishing between invention and innovation); Robert P. Merges, *Commercial Success and Patent Standards: Economic Perspectives on Innovation*, 76 CALIF. L. REV. 803, 807 (1988) (discussing the distinction between invention and innovation).

³⁶ Gaia Bernstein, *In the Shadow of Innovation*, 31 CARDOZO L. REV. 2257, 2291 (2010).

³⁷ See *infra* Section III.B.

³⁸ See Bernstein, *supra* note 3, at 1475.

³⁹ See *id.* at 1474-75.

⁴⁰ See *infra* Section IV.A.

⁴¹ See *infra* Part II.

⁴² See Michael J. Burstein, *Rethinking Standing in Patent Challenges*, 83 GEO. WASH. L. REV. 498, 503, 534 (2015); Russell W. Jacobs, *In Privity with the Public Domain: The Standing Doctrine, the Public Interest, and Intellectual Property*, 30 SANTA CLARA HIGH TECH. L.J. 415, 417, 457-58 (2014); La Belle, *Patent Law as Public Law*, *supra* note 18, at 53-54, 57, 95; Rinehart, *supra* note 18, at 392-400; Nicholas D. Walrath, *Expanding Standing in Patent Declaratory Judgment Actions to Better Air Public Policy Considerations*, 88 N.Y.U. L. REV. 476, 503 (2013). See generally John F. Duffy, *Response, Standing to Challenge Patents, Enforcement Risk, and Separation of Powers*, 83 GEO. WASH. L. REV. 628 (2015) (analyzing and critiquing Burstein's proposal).

⁴³ 549 U.S. 118 (2007).

in a significantly more flexible way. Under this application of the reasonable apprehension test, users should qualify for standing in three instances: (1) when they are caught in a dilemma between using a technology and exposing themselves to a patent infringement suit, (2) when they abstain from use of the technology to avoid potential liability, or (3) when they take other action to avoid liability, such as payment of royalties.⁴⁴ Specifically, this Article shows that even users who were not directly threatened by the patentee should qualify for standing. Second, this Article shows that users can qualify for standing under the meaningful preparations test. Users, unlike manufacturers or sellers of technology, require relatively little preparatory activity to start utilizing a technology and therefore satisfy the immediacy criteria of the test. This Article highlights, however, that in applying the meaningful preparations test, courts should consider a user's intent to use the technology instead of requiring overt acts of manufacture or sale, which are inherently absent in user cases.

Now, to be sure, end users' unequal footing in the patent playing field cannot be remedied by adjustments to the standing doctrine alone. The entry of the end user into the patent scene requires a combination of reforms. Such reforms would include: facilitating attorney fee shifting in end user cases,⁴⁵ expanding the customer suit exception,⁴⁶ and changing contractual provisions to incorporate more frequent use of indemnification procedures between manufacturers and customers.⁴⁷ Nevertheless, firming the ground for end user standing is important. In most cases, end users lack the resources and motivation necessary to sue for declaratory judgment. However, in some cases, and these may be cases involving patents that affect the lives of many, users who gain standing could sue for declaratory judgment to invalidate patents.

This Article proceeds as follows: Part I highlights the growing role of the end user in patent litigation. Part II analyzes the strict standing requirements for filing a declaratory judgment action in patent litigation. Part III identifies the unique characteristics of end users that place them in a particularly difficult position when trying to qualify for standing. Part IV shows that the alternative forum for challenging patents—the PTO—is largely unavailable to end users. Part V shows how users can nevertheless establish standing under current Federal Circuit standing doctrine.

I. THE GROWING ROLE OF END USERS IN PATENT CONFLICTS

Traditionally, two players dominated the patent landscape: the patent owner and the competitor. Patent owners sued competitors for infringement and, at

⁴⁴ See *infra* Section V.B.1.

⁴⁵ I proposed this in a previous article. Bernstein, *supra* note 3, at 1488-99.

⁴⁶ See generally Brian J. Love & James C. Yoon, *Expanding Patent Law's Customer Suit Exception*, 93 B.U. L. REV. 1605 (2013) (proposing expanding the customer suit exception as a solution to PAE lawsuits against customers).

⁴⁷ Bernstein, *supra* note 3, at 1481.

times, competitors proactively filed suits for declaratory judgment of patent invalidity or noninfringement.⁴⁸ This, however, has been changing in recent years. End users are appearing in growing numbers both in the midst and in the shadows of the patent litigation playing field.⁴⁹ End users are entities that use patented technology for either personal consumption or business. Although they may incorporate the technology into a product or service that they offer to customers, end users do not manufacture or sell the technology directly. They are strictly users. They usually know little about the technology, and sometimes, may not even know of its existence.⁵⁰ These users, who are usually, but not always, small companies or individuals, are taking on an increasingly prominent role in patent conflicts.⁵¹

End users increasingly appear as defendants in patent litigation, mostly in lawsuits initiated by PAEs.⁵² Some end users do not end up in court, but still find themselves entangled in patent conflicts when they receive demand letters from PAEs.⁵³ PAEs do not manufacture or sell patented technology, but instead make money by purchasing patents and enforcing them.⁵⁴ One business strategy employed by PAEs is to threaten a large number of alleged infringers.⁵⁵ Consequently, PAEs have been suing end users who are customers of the manufacturers or suppliers of the infringing technology.⁵⁶ For example, one PAE sent thousands of infringement letters and initiated many lawsuits against users of Wi-Fi technology. This included businesses that offered Wi-Fi to their customers, such as bakeries, restaurants, and cafés.⁵⁷ Another PAE sent multiple

⁴⁸ *Id.* at 1466-67. Even doctrines that regulate the patented technology's postmarket entry focus only on the actions of the patentee and competitor. See Gaia Bernstein, *Incentivizing the Ordinary User*, 66 FLA. L. REV. 1275, 1282-87 (2014) (discussing the patent misuse and compulsory license doctrines).

⁴⁹ Bernstein, *supra* note 3, at 1452-61 (discussing the growth of end user involvement in patent litigation).

⁵⁰ *Id.* at 1462.

⁵¹ *Id.* at 1453-54, 1463.

⁵² *Id.* at 1453-55.

⁵³ *Id.* at 1455-58.

⁵⁴ See Bryant, *supra* note 12, at 690-91 (“[A PAE] is ‘non-practicing’ because it does not manufacture products or otherwise make use of the invention.”).

⁵⁵ See *id.*; Chien & Reines, *supra* note 3, at 242-44; Lemley & Melamed, *supra* note 12, at 2123, 2126; Tokic, *supra* note 12, at 1, 5.

⁵⁶ Colleen Chien, *Startups and Patent Trolls*, 17 STAN. TECH. L. REV. 461, 477-78 (2014); Chien & Reines, *supra* note 3, at 240-41.

⁵⁷ *In re Innovatio IP Ventures, LLC Patent Litig.*, 921 F. Supp. 2d 903, 907, 909 (N.D. Ill. 2013) (stating that Innovatio has sent more than 8000 infringement letters and filed twenty-three lawsuits to enforce its patent rights in Wi-Fi technology).

infringement letters to individuals using allegedly patented podcasting technology, among them comedian Adam Carolla.⁵⁸

While PAEs pull large numbers of end users into patent conflicts, they are not the only patentees suing and threatening end users. In fact, patentees who are not PAEs have sued end users in recent, highly conspicuous patent cases. The Supreme Court decided one of these cases, *Bowman v. Monsanto Co.*,⁵⁹ in 2013. Monsanto owns patents on genetically engineered seeds that are resistant to herbicide.⁶⁰ Monsanto is by no account a PAE, because it manufactures and sells its patented technology. Yet Monsanto launched a massive enforcement campaign against end users. It sued over 800 farmers who had purchased its seeds and then reused them by harvesting seeds from their crops to replant the next year.⁶¹

With the introduction of the 3D printer, end users are likely to appear in even greater numbers as defendants in patent litigation. 3D printers can replicate three-dimensional products as diverse as prosthetic hands and bridal dresses.⁶² Some of these printers are currently available for purchase for less than \$1000.⁶³ 3D printers give consumers and businesses the opportunity to make items at home or in-house.⁶⁴ Once individuals and small businesses can independently make items, they are increasingly likely to be exposed to patent liability.⁶⁵ A similar trend occurred in copyright litigation when digitization of copyrighted materials on the Internet exposed users to increased copyright liability. For example, digitization and the availability of large repositories of music on the Internet gave individual users easy access and means of copying that did not exist before. Owners of music copyrights reacted by suing individual users for copyright infringement.⁶⁶

⁵⁸ Press Release, Elec. Frontier Found., EFF Files Challenge with Patent Office Against Troll's Podcasting Patent (Oct. 16, 2013), <https://www.eff.org/press/releases/eff-files-challenge-patent-office-against-trolls-podcasting-patent> [<https://perma.cc/T7M2-LKDL>].

⁵⁹ 133 S. Ct. 1761 (2013).

⁶⁰ *See id.* at 1764.

⁶¹ *Id.* at 1764-65 (describing reuse of the seeds by the farmers); *Organic Seed Growers & Trade Ass'n v. Monsanto Co.*, 718 F.3d 1350, 1353 (Fed. Cir. 2013) ("Between 1997 and 2010, Monsanto brought some 144 infringement suits for unauthorized use of its seed. Approximately 700 other cases were settled without litigation."); *see also* Sheff, *supra* note 14, at 235-38.

⁶² *See* Geiger, *supra* note 15, at ST16; Mroz, *supra* note 15, at D1.

⁶³ Nick Bilton, *Disruptions: On the Fast Track to Routine 3-D Printing*, N.Y. TIMES: BITS (Feb. 17, 2013, 11:00 AM), <http://bits.blogs.nytimes.com/2013/02/17/disruptions-3-d-printing-is-on-the-fast-track/> [<https://perma.cc/6M4B-FPAU>].

⁶⁴ Desai & Magliocca, *supra* note 16, at 1697-99.

⁶⁵ *See id.* at 1714-15; Doherty, *supra* note 16, at 359; Peacock, *supra* note 16, at 1934 ("[E]nd-user appropriation of the manufacturing process has the potential to astronomically increase the instances of patent infringement.").

⁶⁶ *See generally* Justin Hughes, *On the Logic of Suing One's Customers and the Dilemma of Infringement-Based Business Models*, 22 CARDOZO ARTS & ENT. L.J. 725 (2005)

End users' larger role is not limited to the defense side. In recent years, end users also took affirmative steps to challenge patent validity by filing suits for declaratory judgments. In *Ass'n for Molecular Pathology v. Myriad Genetics, Inc.*,⁶⁷ another end user case that reached the Supreme Court, patients and physicians sued to invalidate Myriad's breast cancer gene patents.⁶⁸ Similarly, in *Organic Seed Growers & Trade Ass'n v. Monsanto Co.*,⁶⁹ organic farmers, who had not been sued by Monsanto, filed suit for declaratory judgment seeking a declaration that Monsanto's patents were invalid.⁷⁰ The organic farmers took proactive measures because they were concerned that Monsanto would sue them as it had sued many other farmers.⁷¹ These end users were reacting to both extensive enforcement campaigns against end users and to the spread of patents of dubious validity.⁷² Yet all these end users, whether farmers, patients, physicians, or others, faced a similar problem: courts rarely find that end users meet the standing requirements for filing declaratory judgment suits.⁷³

II. STANDING FOR DECLARATORY JUDGMENT IN FEDERAL COURT

This Part describes the standing doctrine generally, the relationship between standing and declaratory judgment actions, and the standing requirements that the Federal Circuit applies to motions to file declaratory judgment suits in patent

(discussing the music industry's lawsuits against individuals who downloaded music on the Internet).

⁶⁷ 133 S. Ct. 2107 (2013).

⁶⁸ *Id.* at 2114; Complaint at 3-14, 29-30, *Ass'n for Molecular Pathology v. U.S. Patent & Trademark Office*, 669 F. Supp. 2d 365 (S.D.N.Y. 2009) (No. 09 Civ. 4515) [hereinafter Complaint, *Ass'n for Molecular Pathology*].

⁶⁹ 718 F.3d 1350 (Fed. Cir. 2013).

⁷⁰ *Id.* at 1352-54.

⁷¹ *See id.* at 1353-54; First Amended Complaint at 1, *Organic Seed Growers & Trade Ass'n v. Monsanto Co.*, 851 F. Supp. 2d 544 (S.D.N.Y. 2012) (No. 11-cv-2163-NRB).

⁷² *See* John R. Allison, Mark A. Lemley & David L. Schwartz, *Understanding the Realities of Modern Patent Litigation*, 92 TEX. L. REV. 1769, 1787 fig.4 (2014) (finding that approximately forty-two percent of final decisions on patent validity result in a judgment of invalidity). Older studies also report large percentages of invalidity findings. *E.g.*, John R. Allison & Mark A. Lemley, *Empirical Evidence on the Validity of Litigated Patents*, 26 AIPLA Q.J. 185, 205 (1998) (reporting a forty-six percent invalidity rate for patent validity challenges litigated to judgments at trial); Kimberly A. Moore, *Judges, Juries, and Patent Cases—An Empirical Peek Inside the Black Box*, 99 MICH. L. REV. 365, 390-91 (2000) (reporting a thirty-three percent invalidity rate for patent validity challenges litigated to judgments at trial); *see also* JAMES BESSEN & MICHAEL J. MEURER, PATENT FAILURE: HOW JUDGES, BUREAUCRATS, AND LAWYERS PUT INNOVATORS AT RISK 160-63 (2008) (reporting on invalidity of patents that are not litigated or are resolved before a decision on the merits).

⁷³ *E.g.*, *Organic Seed Growers*, 718 F.3d at 1360-61 (dismissing the case for lack of standing); *Ass'n for Molecular Pathology v. U.S. Patent & Trademark Office*, 689 F.3d 1303, 1319 (Fed. Cir. 2012), *rev'd on other grounds sub nom.* *Ass'n for Molecular Pathology v. Myriad Genetics, Inc.*, 133 S. Ct. 2107 (2013).

actions. It shows that the Federal Circuit's standards are higher than the Supreme Court's standards for the same actions. It then turns to examine the Federal Circuit's application of its standards to end users, highlighting the difficulty for end users to qualify under these heightened requirements.

A. *The Standing Doctrine in Patent Declaratory Judgment Actions*

Article III of the Constitution provides that federal courts may only hear actual "cases" and "controversies."⁷⁴ The standing doctrine aims to implement this constitutional mandate⁷⁵ by focusing on whether a plaintiff has suffered an injury in fact that is concrete and imminent.⁷⁶ The main goal of both the constitutional mandate and the standing doctrine is to ensure true adversity between litigants. In other words, every litigant should have a stake in winning. Courts should not issue advisory opinions. True adversity improves the courts' ability to evaluate the consequences of their actions because legal questions are resolved in a concrete, factual context.⁷⁷ True adversity also ensures that litigants have an incentive to effectively advocate their positions and sharpen issues before the court.⁷⁸ Moreover, it helps courts allocate their scarce resources to those most concerned with the outcome of the dispute.⁷⁹

⁷⁴ U.S. CONST. art. III, § 2.

⁷⁵ See *DaimlerChrysler Corp. v. Cuno*, 547 U.S. 332, 341 (2006) ("If a dispute is not a proper case or controversy, the courts have no business deciding it, or expounding the law in the course of doing so.").

⁷⁶ *Lujan v. Defs. of Wildlife*, 504 U.S. 555, 560 (1992).

⁷⁷ *Valley Forge Christian Coll. v. Ams. United for Separation of Church & State, Inc.*, 454 U.S. 464, 472 (1982) (stating that the injury and redressability requirements "tend[] to assure that the legal questions presented to the court will be resolved, not in the rarified atmosphere of a debating society, but in a concrete factual context conducive to a realistic appreciation of the consequences of judicial action"); *Baker v. Carr*, 369 U.S. 186, 204 (1962) (stating that appellants need to allege "such a personal stake in the outcome of the controversy as to assure that concrete adverseness which sharpens the presentation of issues"); see also *Flast v. Cohen*, 392 U.S. 83, 95 (1968); Heather Elliott, *The Functions of Standing*, 61 STAN. L. REV. 459, 461, 469-471 (2008); Richard H. Fallon, Jr., *Of Justiciability, Remedies, and Public Law Litigation: Notes on the Jurisprudence of Lyons*, 59 N.Y.U. L. REV. 1, 14 (1984) (noting that requiring injury in fact "helps frame issues in a factual context suitable for judicial resolution"); Gene R. Nichol, Jr., *Injury and the Disintegration of Article III*, 74 CALIF. L. REV. 1915, 1927 (1986) (arguing that the existence of an injury in fact requirement increases the quality of decision-making by providing context to courts' decisions).

⁷⁸ *Baker*, 369 U.S. at 204.

⁷⁹ *Friends of the Earth, Inc. v. Laidlaw Envtl. Servs. (TOC), Inc.*, 528 U.S. 167, 191 (2000) ("Standing doctrine functions to ensure, among other things, that the scarce resources of the federal courts are devoted to those disputes in which the parties have a concrete stake."); see also ERWIN CHERMERINSKY, *FEDERAL JURISDICTION* § 2.2 (3d ed. 1999) (stating that one of the reasons for federal courts to prohibit giving advisory opinions is that "advisory opinions might be requested in many instances in which the law ultimately would not pass" and where "judicial review is unnecessary, a waste of political and financial capital"). Commentators

Under the standing doctrine, courts generally examine whether a plaintiff meets certain requirements.⁸⁰ First, a plaintiff must show that he has suffered, or is under threat of suffering, an injury in fact that is concrete and particularized and actual or imminent, as opposed to conjectural or hypothetical.⁸¹ Second, a plaintiff needs to demonstrate “a causal connection between the injury and the conduct complained of,” and thus, “the injury has to be ‘fairly . . . trace[able] to the challenged action of the defendant.’”⁸² Finally, a plaintiff must show that a favorable judicial decision will prevent or redress the injury.⁸³

Standing problems are particularly common in anticipatory or preventive adjudication, where a plaintiff seeks to avoid future harm rather than to collect damages for past harm.⁸⁴ The Declaratory Judgment Act provides that where an actual controversy exists, a court may declare the rights and any other legal relations of an interested party, even if the parties seek no further relief.⁸⁵ These cases deal with threatened future injuries that are probabilistic in that they may not occur.⁸⁶ In the context of patent litigation, infringers or potential infringers may bring declaratory judgment suits to declare that a patent is invalid or to declare noninfringement.⁸⁷ In patent declaratory judgment suits, plaintiffs often

have identified an additional goal of the standing doctrine: the preservation of the separation of powers. By confining jurisdiction to “concrete and particularized” disputes, the standing doctrine prevents courts from assuming a policymaking role, a role delegated to the political branches of government. See Elliott, *supra* note 77, at 461-62, 467, 475; Eugene Kontorovich, *What Standing Is Good For*, 93 VA. L. REV. 1663, 1673-74 (2007) (describing the standing doctrine’s goal of separation of powers). Under the separation of powers rationale, if a plaintiff has an injury that is “undifferentiated and common to all members of the public,” then he has a “generalized grievance” that he should pursue by “political, rather than judicial, means.” *FEC v. Akins*, 524 U.S. 11, 35 (1998) (Scalia, J., dissenting) (quoting *United States v. Richardson*, 418 U.S. 166, 176-77 (1974)).

⁸⁰ See F. Andrew Hessick, *Standing, Injury in Fact, and Private Rights*, 93 CORNELL L. REV. 275, 276 (2008); Jonathan Remy Nash, *Standing’s Expected Value*, 111 MICH. L. REV. 1283, 1284-85 (2013); Cass R. Sunstein, *What’s Standing After Lujan? Of Citizen Suits, “Injuries,” and Article III*, 91 MICH. L. REV. 163, 193 (1992).

⁸¹ *Lujan*, 504 U.S. at 560.

⁸² *Id.* at 560-61 (quoting *Simon v. E. Ky. Welfare Rights Org.*, 426 U.S. 26, 41-42 (1976)).

⁸³ *Id.* at 561.

⁸⁴ Samuel L. Bray, *Preventive Adjudication*, 77 U. CHI. L. REV. 1275, 1300 (2010) (stating that standing doctrine limits preventive adjudication); see also Hessick, *supra* note 80, at 291 (stating that standing evolved partly because of the creation of actions such as declaratory judgment); La Belle, *Patent Law as Public Law*, *supra* note 18, at 73 (stating that although standing problems occur in all types of cases, they are more common in cases that involve anticipatory adjudication).

⁸⁵ 28 U.S.C. § 2201(a) (2012).

⁸⁶ See F. Andrew Hessick, *Probabilistic Standing*, 106 NW. U. L. REV. 55, 56-57 (2012).

⁸⁷ See 28 U.S.C. § 2201(a); Lisa A. Dolak, *Power or Prudence: Toward a Better Standard for Evaluating Patent Litigants’ Access to the Declaratory Judgment Remedy*, 41 U.S.F. L. REV. 407, 410-11 (2007).

sue before the patentee acts to enforce its patent or before the plaintiffs commit potentially infringing activity.⁸⁸ If the court declares a patent invalid or finds noninfringement, the challenger may freely use the technology.⁸⁹

The Federal Circuit has traditionally applied high standards for meeting standing in patent declaratory judgment actions. It requires plaintiffs to satisfy a two-prong test: (1) a plaintiff must show that it had an objectively reasonable apprehension of suit; and (2) a plaintiff must show that it produced, or made meaningful preparations to produce, an allegedly infringing product.⁹⁰ The Supreme Court, however, does not require that patent declaratory judgment plaintiffs bear the same burden. In 2007, the Supreme Court in *MedImmune, Inc. v. Genentech, Inc.*⁹¹ applied a lower, more flexible standard to determine if a plaintiff had standing to pursue a patent declaratory judgment suit. The Supreme Court held that a plaintiff must show that, under the totality of circumstances, there exists a substantial controversy between parties that have “adverse legal interests, of sufficient immediacy and reality to warrant the issuance of a declaratory judgment.”⁹² As will be discussed, the Federal Circuit has applied the *MedImmune* decision somewhat inconsistently. But overall, the Federal Circuit’s application of the decision has affected its implementation of its standing requirements.⁹³

B. *End Users and the Federal Circuit’s Standing Doctrine*

Recently, two groups of end user plaintiffs litigated cases in the Federal Circuit. In both cases, the end user litigants did not fare well.⁹⁴ These cases shed

⁸⁸ See La Belle, *Patent Law as Public Law*, *supra* note 18, at 73.

⁸⁹ See *id.* at 61.

⁹⁰ See *Shell Oil Co. v. Amoco Corp.*, 970 F.2d 885, 887 n.2 (Fed. Cir. 1992) (describing the two-prong test for determining actual controversy); La Belle, *Patent Law as Public Law*, *supra* note 18, at 74 (noting that the Federal Circuit has been using this two-prong test for many years); Rinehart, *supra* note 18, at 365-80 (discussing the evolution of the standing doctrine in declaratory judgment actions).

⁹¹ 549 U.S. 118, 127 (2007).

⁹² *Id.* (quoting *Md. Cas. Co. v. Pac. Coal & Oil Co.*, 312 U.S. 270, 273 (1941)).

⁹³ See *infra* Part V.

⁹⁴ The Federal Circuit did, however, recently grant standing to direct purchasers in a *Walker Process* claim. *Ritz Camera & Image, LLC v. Sandisk Corp.*, 700 F.3d 503, 508 (Fed. Cir. 2012) (“[W]e hold that Ritz’s status as a direct purchaser gives it standing to pursue its *Walker Process* claim . . .”). But a *Walker Process* claim is essentially a hybrid patent-antitrust claim. As such, a plaintiff must show that the defendant procured the patent by committing fraud on the PTO and must also prove all the elements necessary to establish an antitrust Sherman Act monopolization charge. *Id.* at 505-06. The court held that even direct purchasers who have no standing to bring a declaratory judgment action may bring suit in a *Walker Process* claim because it is an antitrust claim. *Id.* at 507-08. Since the court based its holding on the antitrust aspects of the case, this result does not seem to affect the Federal Circuit’s declaratory judgment standing doctrine.

light on the ways in which the Federal Circuit's standing doctrine applies to the unique circumstances of users.

First, in *Ass'n for Molecular Pathology*, a group of physicians, patients, and medical organizations sued to invalidate Myriad Genetics' patents on BRCA 1 and BRCA 2, two breast cancer genetic mutations.⁹⁵ Citing *MedImmune*, the Federal Circuit held that only one plaintiff—Dr. Harry Ostrer—had standing.⁹⁶ The court explained that to show standing, a plaintiff must satisfy three elements. First, a plaintiff must show that he “suffered an injury in fact—an invasion of a legally protected interest which is (a) concrete and particularized, and (b) actual or imminent, not conjectural or hypothetical.”⁹⁷ Second, “a causal connection between the injury and the conduct complained of” must exist.⁹⁸ In other words, the injury has to be fairly traceable to the defendant's challenged action. Third, it must be “likely,” instead of merely “speculative,” that a favorable decision will redress the injury.⁹⁹

In applying the first prong of the standing test, the court in *Ass'n for Molecular Pathology* held that to show an injury in fact, a plaintiff must allege: “(1) an affirmative act by the patentee related to the enforcement of his patent rights, and (2) meaningful preparation to conduct potentially infringing activity.”¹⁰⁰ The court concluded that only three of the plaintiffs, all physicians, qualified under the first prong because Myriad had affirmatively acted against them when it sent them cease and desist letters.¹⁰¹ The patients and organizations that did not receive such letters did not qualify because Myriad had not affirmatively acted against them. The court explained that a party does not meet the first prong of this test when it merely learns of an adversely held patent or even when it believes it is at risk of infringing that patent.¹⁰²

The court then held that only one plaintiff—Dr. Ostrer—qualified under the meaningful preparations part of the test because only he had the resources and expertise, and only he had stated an intention to actually and immediately engage in infringing activities.¹⁰³ The other doctors, on the other hand, only said that they would consider resuming testing.¹⁰⁴

⁹⁵ *Ass'n for Molecular Pathology v. U.S. Patent & Trademark Office*, 689 F.3d 1303, 1308-09 (Fed. Cir. 2012), *rev'd on other grounds sub nom.* *Ass'n for Molecular Pathology v. Myriad Genetics, Inc.*, 133 S. Ct. 2107 (2013).

⁹⁶ *Id.* at 1319, 1323.

⁹⁷ *Id.* at 1318 (quoting *Lujan v. Defs. of Wildlife*, 504 U.S. 555, 560 (1992)).

⁹⁸ *Id.* (quoting *Simon v. E. Ky. Welfare Rights Org.*, 426 U.S. 26, 41-42 (1976)).

⁹⁹ *Id.* (quoting *Simon*, 426 U.S. at 38, 43).

¹⁰⁰ *Id.* (first citing *SanDisk Corp. v. STMicroelecs., Inc.*, 480 F.3d 1372, 1380-81 (Fed. Cir. 2007); and then citing *Cat Tech LLC v. TubeMaster, Inc.*, 528 F.3d 871, 880 (Fed. Cir. 2008)).

¹⁰¹ *Id.* at 1319.

¹⁰² *Id.* at 1319-20.

¹⁰³ *Id.* at 1319-21.

¹⁰⁴ *Id.* at 1320.

In *Organic Seed Growers*, the Federal Circuit dismissed the case for lack of standing.¹⁰⁵ Monsanto, the owner of a patent on a genetically engineered seed, had been vigorously enforcing its patents against farmers who reused the seeds in violation of their licensing agreements.¹⁰⁶ Plaintiffs, mostly consisting of organic crop growers who did not purchase Monsanto's patented genetically engineered seeds, sued for declaratory judgment. The organic crop growers argued that should the wind blow Monsanto's patented seeds into their fields, they would also be sued by Monsanto.¹⁰⁷ In response, Monsanto refused to sign a covenant not to sue with the organic crop growers. Instead, it declared on its website that it did not intend to sue farmers whose fields had trace amounts of its patented seeds. Monsanto did not allege that the plaintiffs infringed its patents and throughout the litigation, it specifically assured the plaintiffs that it did not intend to sue them.¹⁰⁸

The Federal Circuit in *Organic Seed Growers* elaborated on its "affirmative actions by patentee" test. It held that plaintiffs need to demonstrate that there is "a 'substantial risk' that the harm will occur, which may prompt [them] to reasonably incur costs to mitigate or avoid that harm."¹⁰⁹ The standard focuses on an objective risk of present harm or a threatened specific future harm, and not a subjective chilling effect, even if genuine.¹¹⁰ The court concluded that the organic farmers failed to meet this standard. The organic crop growers argued that their fear was based on Monsanto's aggressive enforcement campaign against many other farmers.¹¹¹ But the court held that Monsanto's website disclaimer and repeated assurances to the plaintiffs had the same effect as a covenant not to sue, which can moot a controversy between parties.¹¹² For that reason, the plaintiffs lacked standing.

In applying the meaningful preparations prong, the court elaborated that a plaintiff needs to point to the significant, concrete steps it took toward conducting infringing activity. These steps include supplying the product, marketing it, or seeking and/or entering into contracts with customers. Since the organic crop growers did not undertake any such steps, they also did not qualify under this prong.¹¹³

These cases show how the standing doctrine directly affects end users' interests by limiting their access to federal court as plaintiffs in declaratory

¹⁰⁵ *Organic Seed Growers & Trade Ass'n v. Monsanto Co.*, 718 F.3d 1350, 1360-61 (Fed. Cir. 2013).

¹⁰⁶ *See* *Bowman v. Monsanto Co.*, 133 S. Ct. 1761, 1764-65 (2013).

¹⁰⁷ *Organic Seed Growers*, 718 F.3d at 1352-54.

¹⁰⁸ *Id.* at 1354.

¹⁰⁹ *Id.* at 1355 (quoting *Clapper v. Amnesty Int'l USA*, 133 S. Ct. 1138, 1150 n.5 (2013)).

¹¹⁰ *Id.* at 1355, 1359-60.

¹¹¹ *Id.* at 1355 (referring to Monsanto's enforcement campaign of 144 suits and 700 settlements).

¹¹² *Id.* at 1356-58.

¹¹³ *Id.* at 1359-60.

judgment actions. At the same time, the standing doctrine also affects end users' interests indirectly by limiting competitors, specifically manufacturers and suppliers, from defending the interests of end users. Manufacturers and suppliers often have incentives to intervene on behalf of users who are sued for using their product or service.¹¹⁴

In some cases where PAEs sued customers, manufacturers tried to sue for declaratory judgment to invalidate the patents.¹¹⁵ Manufacturers have had varied success because the Federal Circuit has held that manufacturers do not always have standing to sue in these cases, and that each case should be determined based on the totality of circumstances.¹¹⁶ A patent suit against a manufacturer's customers, standing alone, does not confer standing on the manufacturer.¹¹⁷ A court needs to evaluate several factors in deciding whether a manufacturer has standing. First, if a manufacturer has an obligation to indemnify its customers, this weighs heavily toward a finding of standing, but a customer's request to indemnify does not create standing.¹¹⁸ Second, if a patentee's litigation strategy focuses on suing only customers and not manufacturers, this fact would weigh against a finding of standing.¹¹⁹ The case against standing is particularly strong if the patentee asserts it has no basis to sue the manufacturer, does not allege liability, and offers the manufacturer a covenant not to sue.¹²⁰ Finally, if the customers' lawsuits include claim charts that do not implicate the manufacturers' products, the case for standing is even weaker.¹²¹

III. THE UNIQUE CHALLENGE OF THE END USER

The standing doctrine has generated robust academic debate. Many scholars criticize the standing doctrine's rules, its goals, and whether the doctrine's rules effectively advance its goals.¹²² Particularly, multiple scholars have criticized

¹¹⁴ See Love & Yoon, *supra* note 46, at 1624-35 (discussing manufacturers' motivations for intervening on behalf of their customers and their advantages in such litigation).

¹¹⁵ See Jerry R. Selinger & Jessica W. Young, *Suing an Infringing Competitor's Customers: Or, Life Under the Single Recovery Rule*, 31 J. MARSHALL L. REV. 19, 21-22 (1997) (describing manufacturers' attempts to sue for declaratory judgment to protect customers).

¹¹⁶ See, e.g., *Microsoft Corp. v. DataTern, Inc.*, 755 F.3d 899, 903, 906-07 (Fed. Cir. 2014) (holding that Microsoft had standing to file for declaratory judgment against a patentee who sued its customers, but only for some of the claims at issue).

¹¹⁷ See *id.* at 903.

¹¹⁸ See *id.* at 904.

¹¹⁹ See *id.* at 906-07.

¹²⁰ *Cisco Sys., Inc. v. Alta. Telecomms. Research Ctr.*, 538 F. App'x 894, 897 (Fed. Cir. 2013).

¹²¹ See, e.g., *Microsoft Corp.*, 755 F.3d at 905-07; *Cisco Sys., Inc.*, 538 F. App'x at 897.

¹²² For some critiques of the standing doctrine, see generally MARTIN H. REDISH, *THE FEDERAL COURTS IN THE POLITICAL ORDER: JUDICIAL JURISDICTION AND AMERICAN POLITICAL THEORY* 88-109 (1991) (arguing that courts' societal role extends beyond the resolution of

the degree of concreteness required to satisfy the interests of the adversary system.¹²³ This Part does not engage with the general theoretical debate surrounding the standing doctrine. Instead, it identifies the unique characteristics of end users that make it particularly difficult for them to establish standing in patent declaratory judgment suits under a doctrine formulated with only competitors in mind. These characteristics are as follows. First, users “use” but do not “make” technologies. Second, patentees have made users involuntary players on the patent playing field. Third, users are plentiful and diverse. Finally, users lack technological sophistication.

A. *Users “Use” but Do Not “Make” Technologies*

End users are either individuals using a patented technology for their personal consumption or businesses incorporating the technology into a product or service.¹²⁴ Regardless, they are strictly users. Although end users may incorporate a patented technology into a product or service that they offer to their customers, they do not make or sell the technology itself.¹²⁵ The fact that users, unlike competitors, “use” the technology but do not “manufacture” or “sell” it, is critical for the standing analysis.

A person may be liable for “using” patented technology in the same way that she may be liable for “manufacturing” or “selling” it.¹²⁶ As discussed previously, the Federal Circuit considers a plaintiff’s meaningful preparations when determining whether a plaintiff has standing to sue.¹²⁷ The focus on meaningful

individual conflicts); Hessick, *supra* note 80, at 277-78 (“[T]he restriction on a litigant’s ability to seek redress in the courts for a violation of a private right is ahistorical and unjustified”); David A. Logan, *Standing to Sue: A Proposed Separation of Powers Analysis*, 1984 WIS. L. REV. 37; Mark V. Tushnet, Comment, *The “Case or Controversy” Controversy: The Sociology of Article III: A Response to Professor Brilmayer*, 93 HARV. L. REV. 1698, 1705 (1980) (arguing that the legitimate purposes of standing law are not “well served by embodiment in a doctrine of standing”); Steven L. Winter, *The Metaphor of Standing and the Problem of Self-Governance*, 40 STAN. L. REV. 1371 (1988) (discussing the negative consequences of focusing on the kind of private legal disputes allowed under the doctrine of standing).

¹²³ See, e.g., Akhil Reed Amar, *Law Story*, 102 HARV. L. REV. 688, 718 n.154 (1989) (reviewing PAUL M. BATOR ET AL., *HART AND WECHSLER’S THE FEDERAL COURTS AND THE FEDERAL SYSTEM* (3d ed. 1988)) (arguing that “[a]ny legitimate interest in guaranteeing adverse presentation of issues can easily be handled” without the standing doctrine); William A. Fletcher, *The Structure of Standing*, 98 YALE L.J. 221, 247-48 (1998) (arguing that the current formulation of the standing doctrine is not an effective protection against advisory opinions).

¹²⁴ Bernstein, *supra* note 3, at 1462.

¹²⁵ *Id.* at 1461.

¹²⁶ Under the Patent Act, anyone who “makes, uses, offers to sell, or sells any patented invention” could be liable for infringement. 35 U.S.C. § 271(a) (2012).

¹²⁷ *Organic Seed Growers & Trade Ass’n v. Monsanto Co.*, 718 F.3d 1350, 1359-60 (Fed. Cir. 2013); *Ass’n for Molecular Pathology v. U.S. Patent & Trademark Office*, 689 F.3d 1303,

preparations poses a particular hurdle for end users because they merely use a patented technology. The Federal Circuit elaborated that a plaintiff must allege significant concrete steps to conduct infringing activity, such as supplying the product, marketing it, or seeking and/or entering into contracts with customers.¹²⁸ Users usually do not engage in any of these enumerated activities.¹²⁹ Furthermore, manufacturing a technology, or even directly selling a technology, usually requires significantly more preparation than mere use. Take, for example, Wi-Fi technology. The competitor who seeks to manufacture and sell such technology would require months or even years to figure out how to assemble and manufacture it on a commercial scale. Compare this to a small café that purchases Wi-Fi technology that it can quickly install and use.¹³⁰ The competitor is more likely to be able to meet the plain application of the meaningful preparations test than the user because manufacturing and direct selling require a complex array of actions.

B. *Users Have Become Involuntary Players in Patent Litigation*

According to the traditional view, consumers have standing under antitrust but not patent law.¹³¹ Commentators highlight the differences between patent law and antitrust law to show that their respective standing requirements further their goals by providing standing to the parties the laws seek to protect.¹³² Under the traditional view of patent law, the goal of the Patent Act is to promote

1318 (Fed. Cir. 2012), *rev'd on other grounds sub nom.* Ass'n for Molecular Pathology v. Myriad Genetics, Inc., 133 S. Ct. 2107 (2013).

¹²⁸ *Organic Seed Growers*, 718 F.3d at 1360 (describing an instance in which the Federal Circuit permitted a declaratory judgment action to proceed where the plaintiff “had already marketed the product, had responded to supply requests, and wished to enter supply contracts with customers”).

¹²⁹ See Bernstein, *supra* note 3, at 1462.

¹³⁰ This example is derived from a massive enforcement campaign against end users launched by one PAE—Innovatio—to enforce its patent on Wi-Fi technology. See *In re Innovatio IP Ventures, LLC Patent Litig.*, 921 F. Supp. 2d 903, 906-07, 909 (N.D. Ill. 2013); Bernstein, *supra* note 3, at 1456.

¹³¹ Under antitrust law, market participants who are competitors, purchasers, or sellers are generally the parties who have standing. However, additional parties may also have standing under certain circumstances. See 2A PHILLIP E. AREEDA ET AL., *ANTITRUST LAW* ¶ 348, at 202 (3d ed. 2007) (stating that “consumers almost always have the correct incentives for suit” while “rivals do not”); 1 JOHN J. MILES, *HEALTH CARE & ANTITRUST LAW: PRINCIPLES AND PRACTICE* § 9:7, at 9-82 to -85 (Supp. 2014); Burstein, *supra* note 42, at 526-32 (stating that consumers usually do not experience the kind of injury that gives rise to standing under patent law because complaints about price are the province of antitrust and not patent law).

¹³² Some commentators define these considerations as matters of prudential standing separate from Article III standing. See, e.g., Burstein, *supra* note 42, at 526. Yet, because the Federal Circuit applies the Article III framework to all matters, I adopt its analytical framework.

innovation.¹³³ Because the promotion of innovation is the agreed-upon goal, commentators generally conclude that patent law is concerned with competitors, not consumers. Therefore, consumers (or users) are not entitled to standing under patent law.¹³⁴

The traditional analysis, however, narrowly construes the goals of the patent system. The mission of the Intellectual Property Clause of the Constitution is to promote progress.¹³⁵ Progress entails the implementation of the full technological cycle, which comprises three stages: (1) invention, (2) innovation, and (3) diffusion.¹³⁶ The first stage is invention—the technical discovery stage. The second stage is innovation—the first commercially successful application of a technological innovation. Finally, the third stage is diffusion (or dissemination)—widespread adoption of the technology.¹³⁷ Yet legal scholars, legislators, judges, and the public tend to conflate the first two stages of the cycle—the act of invention and/or creation—with innovation.¹³⁸ Furthermore, although the overall mandate of the patent system is to promote progress, there is a tendency to ignore the final stage of the technological cycle—the diffusion (or technological adoption) stage.¹³⁹ Consequently, patent law doctrines usually

¹³³ See Bernstein, *supra* note 36, at 2262-73; Burstein, *supra* note 42, at 530-31 (“This purpose is reflected both in the constitutional grant of authority to Congress to promulgate a patent act ‘[t]o promote the Progress of Science and useful Arts,’ and in the text and structure of the Patent Act itself.” (quoting U.S. CONST. art. I, § 8, cl. 8)).

¹³⁴ Burstein, *supra* note 42, at 534-36; see also CHRISTINA BOHANNON & HERBERT HOVENKAMP, CREATION WITHOUT RESTRAINT: PROMOTING LIBERTY AND RIVALRY IN INNOVATION 50-55 (2012) (criticizing intellectual property law standing doctrine as compared to antitrust law standing doctrine).

¹³⁵ U.S. CONST. art. I, § 8, cl. 8.

¹³⁶ Bernstein, *supra* note 36, at 2259. See generally Malla Pollack, *What Is Congress Supposed to Promote?: Defining “Progress” in Article I, Section 8, Clause 8 of the United States Constitution, or Introducing the Progress Clause*, 80 NEB. L. REV. 754 (2001) (arguing that the Intellectual Property Clause’s mission to promote progress also covers dissemination).

¹³⁷ Bernstein, *supra* note 36, at 2272; see also ROGERS, *supra* note 35, at 11; SCHERER, *supra* note 35, at 8-21; T. Randolph Beard et al., *A Valley of Death in the Innovation Sequence: An Economic Investigation*, 18 RES. EVALUATION 343, 344-45 (2009); Merges, *supra* note 35, at 807.

¹³⁸ Bernstein, *supra* note 36, at 2273.

¹³⁹ See *id.* at 2291. Some scholars, however, have looked beyond the beginning of the technological cycle. See, e.g., Margaret Chon, *Intellectual Property and the Development Divide*, 27 CARDOZO L. REV. 2821, 2832 (2006) (emphasizing the need to focus on distributional effects); Thomas F. Cotter, *Memes and Copyright*, 80 TUL. L. REV. 331, 334 (2005) (exploring the ways in which copyright affects not just the quantity of new and distinct memes, but also the “diffusion, diversity, and quality of the resulting meme pool”); Pollack, *supra* note 136, at 758-61 (arguing that it is important to read the Progress Clause as addressing dissemination); Sara K. Stadler, *Copyright as Trade Regulation*, 155 U. PA. L.

do not consider the role of the users. Even laws designed to regulate patented technology post-market entry, such as compulsory licensing and patent misuse laws, focus on the competitor and not the user.¹⁴⁰ Thus, it is unsurprising that consumers (or users), whose roles materialize during the third stage of the technological cycle, are not among the entities that the Patent Act seeks to protect for purposes of standing.¹⁴¹

Recent changes, however, underscore the fallacy of ignoring the diffusion stage and its central players. As discussed previously, in recent years, PAEs have been suing end users who are customers of manufacturers or suppliers of alleged infringing technology.¹⁴² These suits against customers for using and adopting patented technologies have become increasingly common. They involve threats of suit as well as actual lawsuits against large numbers of customers.¹⁴³ Consequently, many end users have recently found themselves threatened by or even embroiled in patent litigation.

The proliferation of PAE lawsuits against customers highlights the integral part users play in the patent system. It shows that users need protection under the patent laws because they are now involuntarily pulled into patent conflicts. In fact, in one context, courts have determined whether to grant consumers standing by considering whether patentees have enforced patents against consumers. In *Walker Process* litigation, parties can challenge patents obtained fraudulently from the PTO under Section 2 of the Sherman Act.¹⁴⁴ And although *Walker Process* litigation is resolved mainly under antitrust principles,¹⁴⁵ the litigation sheds some light on when courts will grant consumers standing to sue

REV. 899, 913-27 (2007) (emphasizing the importance of access and the promotion of “open and populous markets” as goals of copyright law).

¹⁴⁰ See Bernstein, *supra* note 48, at 1282-87 (discussing the patent misuse and compulsory license doctrines).

¹⁴¹ But see Duffy, *supra* note 42, at 637 (arguing that consumers are the intended beneficiaries of the Patent Act).

¹⁴² Bernstein, *supra* note 3, at 1455-58 (detailing examples of recent litigation by three prominent PAEs against end users).

¹⁴³ Lemley & Melamed, *supra* note 12, at 2126 (describing a prominent group of PAEs, defined as “bottom-feeder” trolls, which threatens to sue and does sue large numbers of alleged infringers); see also Bryant, *supra* note 12, at 691-92 (describing PAEs’ strategy of joining multiple unrelated defendants); Chien & Reines, *supra* note 3, at 242-44; Tokic, *supra* note 12, at 2, 9 (stating that there have been cases where PAEs sued over twenty defendants in one lawsuit). For discussions of the recent advent of PAE suits against customers, see generally Chien, *supra* note 56; Chien & Reines, *supra* note 3.

¹⁴⁴ See Christopher R. Leslie, *The Role of Consumers in Walker Process Litigation*, 13 Sw. J.L. & TRADE AM. 281, 282-84 (2007). For a description of the *Walker Process* claim doctrine, see Gideon Mark & T. Leigh Anenson, *Inequitable Conduct and Walker Process Claims After Therasense and the America Invents Act*, 16 U. PA. J. BUS. L. 361, 394-99 (2014).

¹⁴⁵ *Ritz Camera & Image, LLC v. Sandisk Corp.*, 700 F.3d 503, 507-08 (Fed. Cir. 2012) (holding that consumers who could not bring a declaratory judgment suit could bring a *Walker Process* action because their claim was an antitrust claim).

in patent actions.¹⁴⁶ When determining standing in *Walker Process* litigation, courts consider whether there were patent enforcement actions against the consumers.¹⁴⁷ Lawsuits or threats against consumers weigh toward a finding of standing.¹⁴⁸ Thus, where consumers were involuntarily involved in a patent conflict, courts tend to grant them standing; in so doing, courts allow consumers to take initiative and challenge a patent via *Walker Process* litigation.

Patent law provides for liability for unauthorized uses of patented technologies.¹⁴⁹ Nevertheless, although there are historical reports of lawsuits against users in the nineteenth century, users did not play an integral part in patent litigation during the twentieth century and the very beginning of the twenty-first century.¹⁵⁰ The prevailing assumption was that users were unlikely to become parties in patent litigation because competitors had an incentive to challenge patents and protect their customers.¹⁵¹ However, recent events have shown that lawsuits against customers have become a reality. Furthermore, it appears that competitors have significant disincentives to sue to invalidate patents. Their preferences, therefore, do not always align with those of customers. At the same time, users do not share these disincentives.

The first disincentive to sue, which significantly affects competitors, is the Supreme Court's decision in *Blonder-Tongue Laboratories, Inc. v. University of Illinois Foundation*.¹⁵² There, the Supreme Court held that a finding of patent invalidity prevents the patentee from enforcing the patent against other alleged infringers.¹⁵³ Thus, competitors may refrain from suing to invalidate a patent because a judgment of patent invalidity may become a public good benefitting other market competitors who can then make and sell the technology without paying licensing fees.¹⁵⁴ The second disincentive to sue involves competitors' fear that challenging the patent will place their own patented technology in the

¹⁴⁶ See Leslie, *supra* note 144, at 284-85.

¹⁴⁷ See *id.* at 288.

¹⁴⁸ See *In re Ciprofloxacin Hydrochloride Antitrust Litig.*, 363 F. Supp. 2d 514, 541 (E.D.N.Y. 2005) (“[N]on-infringing consumers of patented products who may feel that they are being charged supracompetitive prices by the patentee have no cause of action to invalidate the patent.”); Leslie, *supra* note 144, at 286, 288.

¹⁴⁹ See 35 U.S.C. § 271(a) (2012) (providing that a party can be liable for “use” of a patented technology).

¹⁵⁰ *Hearing on Abusive Patent Litigation*, *supra* note 3, at 9-11; Chien & Reines, *supra* note 3, at 241; Shane, *supra* note 3. See generally Beauchamp, *supra* note 3.

¹⁵¹ See Kali N. Murray, *Rules for Radicals: A Politics of Patent Law*, 14 J. INTELL. PROP. L. 63, 79 (2006).

¹⁵² 402 U.S. 313 (1971).

¹⁵³ *Id.* at 350 (holding that a patent infringer could use issue preclusion to foreclose an infringement suit where the patent claim in question had already been declared invalid in an earlier suit); see also 6 ALBA CONTE & HERBERT B. NEWBERG, *NEWBERG ON CLASS ACTIONS* § 19:4 (4th ed. 2002).

¹⁵⁴ See Burstein, *supra* note 42, at 543-44.

same technological field at risk.¹⁵⁵ Importantly, while these are strong disincentives for competitors, they do not affect users' motivations to sue. Users, even those using the technology in business, do not directly compete in manufacturing or selling the patented technology. Therefore, when other users gain access to the previously patented technology, it rarely results in a direct loss to the user challenging the patent. Additionally, users do not have patents on technologies in the same technological field that could be endangered by a validity challenge.

C. *Users Are Plentiful and Diverse*

Users are usually part of large groups of similarly situated individuals, businesses, or both. A user may be part of a group of patients taking a certain patented prescription drug.¹⁵⁶ A user may be part of a group of businesses using a certain web technology to sell products on its website.¹⁵⁷ Regardless of the specific patented technology at issue, there are often hundreds and, more commonly, many thousands of individuals and businesses that use the technology.¹⁵⁸

¹⁵⁵ See La Belle, *Patent Law as Public Law*, *supra* note 18, at 65.

¹⁵⁶ For example, users of the drug Ciprofloxacin took action to invalidate an agreement that would delay entry of a generic alternative. See *In re Ciprofloxacin Hydrochloride Antitrust Litig.*, 544 F.3d 1323, 1327, 1329-30 (Fed. Cir. 2008). Ciprofloxacin is a popular medication taken by many, as it is used to treat a number of common infections. See Jane E. Brody, *Popular Antibiotics May Carry Serious Side Effects*, N.Y. TIMES: WELL (Sept. 10, 2012, 12:01 AM), http://well.blogs.nytimes.com/2012/09/10/popular-antibiotics-may-carry-serious-side-effects/?_r=0 [<https://perma.cc/Y96Q-8UZS>].

¹⁵⁷ For example, multiple nontechnology companies were sued or threatened with suit for using live interactive chat functions with consumers and for using consumer surveys on their websites. Complaint for Declaratory Judgment at 4-5, *Oracle Am., Inc. v. Lodsys, LLC*, No. 11-CV-00737 (E.D. Wis. June 1, 2012) [hereinafter Complaint, *Oracle America, Inc.*] (stating that Lodsys sent infringement letters to and sued Oracle customers); Complaint for Declaratory Judgment at 3-4, *Foresee Results, Inc. v. Lodsys, LLC*, No. 11-cv-03886 (N.D. Ill. June 7, 2011) [hereinafter Complaint, *Foresee Results, Inc.*] (describing cease and desist letters sent to various plaintiffs by defendant Lodsys); Josh Lowensohn, *Lodsys Files Suit Against New York Times, Five Others*, CNET (July 5, 2011, 2:27 PM), http://news.cnet.com/8301-13578_3-20076975-38/lodsys-files-suit-against-new-york-times-five-others/ [<https://perma.cc/AYZ6-U65V>] (describing Lodsys's patent enforcement actions against technology companies and retailers).

¹⁵⁸ Sometimes the numbers are even larger. For example, in 2015, there were ninety-four million iPhone users in the United States alone. Don Reisinger, *iPhones in Use in the US Rise to 94M, New Study Suggests*, CNET (May 15, 2015, 10:18 AM), <http://www.cnet.com/news/nearly-100m-iphones-in-use-in-the-us-new-study-shows/> [<https://perma.cc/JPN7-3LL8>].

Some users are individuals or small businesses with scarce resources. For example, a small café that offers its clients Wi-Fi technology is a user.¹⁵⁹ Other users are large businesses with significant economic resources, such as Starbucks, which also offers its clients Wi-Fi access.¹⁶⁰ In addition to their size, users differ in the significance they place on the allegedly patented technology. The importance they place on the technology, together with their resources, determines whether they choose to proceed to litigation.¹⁶¹ For some users, the technology is integral and irreplaceable, whereas other users prefer to forgo use of the technology altogether or switch to another technological option. Even users who decide to continue using the technology differ in their preferred course of action. Some users pay licensing fees to avoid litigation, while a small number of users proceed to litigation.¹⁶²

Patentees, even PAEs, who threaten to sue users, are unlikely to sue all such users. Groups of users can be vast and diverse. Users sued or threatened with suit are not necessarily the users who have the economic resources needed to litigate or the users with a pressing need for the technology. Consequently, users who were not threatened with suit or who were not actually sued by a patentee, but who seek to challenge a patent, must overcome a significant standing

¹⁵⁹ See *In re Innovatio IP Ventures, LLC Patent Litig.*, 921 F. Supp. 2d 903, 906 (N.D. Ill. 2013) (describing a PAE's enforcement of patents against small restaurants, bakeries, and cafés that used its allegedly patented Wi-Fi technology).

¹⁶⁰ The same PAE also sued Starbucks for use of its allegedly patented Wi-Fi technology. Complaint for Patent Infringement at 4-15, *Innovatio IP Ventures, LLC v. Starbucks Corp.*, No. 12-cv-3872 (N.D. Ill. May 18, 2012) [hereinafter Complaint, *Innovatio IP Ventures, LLC*] (alleging that Starbucks infringed Innovatio's patent in wireless technology).

¹⁶¹ Patent litigation is exorbitantly expensive. Resources thus play an important role. See Bernstein, *supra* note 3, at 1483-85 (reporting on data showing that median patent litigation costs run from \$700,000 to \$5.5 million). Users differ in their motivation because many are one-time players. See *id.* at 1466. But for some, the technology plays an important role. William O'Brien, *March-in Rights Under the Bayh-Dole Act: The NIH's Paper Tiger?*, 43 SETON HALL L. REV. 1403, 1405-06 (2013) (describing a group of patients with the genetic disease Fabry who asked the National Institutes of Health to use its march-in power to address a patented drug shortage because they had no replacement drug and had a long-term interest in its production).

¹⁶² For example, one PAE sued many public transit systems for using its allegedly patented technology for transmitting vehicle or shipment status and arrival information to cell phones, telephones, and computers. Complaint at 1-3, 6-7, *Am. Pub. Transp. Ass'n v. ArrivalStar S.A.*, No. 1:13-cv-04375 (S.D.N.Y. June 25, 2013). Most public transit systems preferred to settle rather than endure expensive litigation. Joe Mullin, *A New Target for Tech Patent Trolls: Cash-Strapped American Cities*, ARS TECHNICA (Mar. 15, 2012, 8:00 AM), <http://www.arstechnica.com/tech-policy/2012/03/a-new-low-for-patent-trolls-targeting-cash-strapped-cities> [<https://perma.cc/6MZK-XZSD>] (reporting that most public transportation authorities settled quickly, with ArrivalStar typically seeking \$50,000 to \$75,000). Yet the Port Authority of New York and New Jersey decided to litigate. *ArrivalStar S.A. v. Port Auth. of N.Y. & N.J.*, No. 11 Civ. 1808, 2012 WL 1059693, at *3 (S.D.N.Y. Mar. 29, 2012) (denying the Port Authority's motion to dismiss for failure to state a claim).

challenge. As previously discussed, the Federal Circuit has elaborated on the prong of the standing test that focuses on enforcement by the patentee. Plaintiffs need to show that there is a substantial risk that the harm will occur, which may prompt them to reasonably incur costs to mitigate or avoid the harm. The standard focuses on an objective risk of present harm or a threat of specific future harm, not a subjective chilling effect, even if genuine.¹⁶³ The Federal Circuit articulated the original reasonable apprehension of suit test with competitors, not users, in mind. This makes the standard harder for users to meet.

D. *Users Lack Technological Sophistication*

End users are generally not technologically sophisticated. They may be patients who lack knowledge regarding the drug or test they seek to use.¹⁶⁴ They may be individuals or corporations who use the technology in their businesses. But, regardless of whether they are farmers using genetically modified seeds or large companies like Starbucks using Wi-Fi technology, they differ from technological competitors in that they are not technologically savvy about the composition of the technology they use.¹⁶⁵

End users' lack of technological sophistication makes it difficult for them to handle patent infringement claims. Any party confronting a cease and desist letter or a lawsuit faces significant uncertainty as to the legitimacy of the claim. A claim may be illegitimate because either the patentee's patent is invalid or the user's use does not infringe the patent. Understanding whether a patent is valid requires an intricate understanding of the technology at issue.¹⁶⁶ Determining validity by assessing whether it meets the novelty, statutory bar, and non-obviousness prerequisites requires an understanding of the prior art, which requires an understanding of other related technologies, patents, patent applications, and publications.¹⁶⁷ Evaluating whether the used technology infringes the patent also depends on technological expertise.¹⁶⁸

¹⁶³ *Organic Seed Growers & Trade Ass'n v. Monsanto Co.*, 718 F.3d 1350, 1359-60 (Fed. Cir. 2013).

¹⁶⁴ *See, e.g., In re Ciprofloxacin Hydrochloride Antitrust Litig.*, 544 F.3d 1323, 1327, 1329-30 (Fed. Cir. 2008) (challenging an agreement between a patentee and a generic drug manufacturer regarding the drug Ciprofloxacin); Complaint, *Ass'n for Molecular Pathology*, *supra* note 68, at 3-13, 29-30 (challenging the validity of Myriad's BRCA1/BRCA2 patents).

¹⁶⁵ *See, e.g., Bowman v. Monsanto Co.*, 133 S. Ct. 1761, 1764-65 (2013) (discussing farmers who reused Monsanto's patented, genetically engineered seeds); Complaint, *Innovatio IP Ventures, LLC*, *supra* note 160, at 4-15 (alleging that Starbucks infringed Innovatio's patent in wireless technology).

¹⁶⁶ *Love & Yoon*, *supra* note 46, at 1628-29 (“[M]anufacturers are well situated to litigate the merits of a patent suit because they possess in-house knowledge and expertise relevant to the patent in suit’s validity.”); *see also* 35 U.S.C. § 112 (2012) (providing the disclosure requirement).

¹⁶⁷ *See* 35 U.S.C. §§ 102-103.

¹⁶⁸ *See Love & Yoon*, *supra* note 46, at 1628-29.

Even with technological expertise, it still often remains unclear whether a patent is valid and what the actual boundaries of the patent's claims are. In fact, one-third to nearly one-half of patents litigated to judgment are ultimately found invalid.¹⁶⁹ Furthermore, patent boundaries are quite uncertain, which makes it difficult to know which acts constitute patent infringement.¹⁷⁰ Studies have found that even after a district court construes a patent claim, the appellate court will reverse the district court's claim construction between thirty to forty percent of the time.¹⁷¹

While the legitimacy of a patentee's claim is an issue for competitors and users alike, users who lack technological expertise are at a significant disadvantage. Users do not have in-house engineers and developers who know and understand both the technology they developed and the universe of relevant technologies and publications.¹⁷² While competitors sometimes can rely on their own technological expertise to determine whether their actions infringe a valid patent, users can rarely do so. Thus, users threatened with lawsuits, or users aware that a patentee has embarked on a large enforcement campaign against other similarly situated users, are disadvantaged vis-à-vis competitors in determining the legitimacy of the allegations. Users are more likely, then, to be chilled in their use of technology than competitors.

The Federal Circuit's reasonable apprehension of suit test, which focuses on a party's objective risk rather than its subjective chill, does not account for the

¹⁶⁹ See John R. Allison, Mark A. Lemley & David L. Schwartz, *Understanding the Realities of Modern Patent Litigation*, 92 TEX. L. REV. 1769, 1787 fig.4 (2014).

¹⁷⁰ See BESSEN & MEURER, *supra* note 72, at 54-62 (describing the inherent difficulties in establishing the boundaries of patent claims); Dan L. Burk & Mark A. Lemley, *Fence Posts or Sign Posts? Rethinking Patent Claim Construction*, 157 U. PA. L. REV. 1743, 1744-46 (2009); Burstein, *supra* note 42, at 511 ("[U]ncertainty hampers potential inventors from determining precisely what actions or behavior they need to eschew to avoid infringement."); Jeanne C. Fromer, *Claiming Intellectual Property*, 76 U. CHI. L. REV. 719, 774-75 (2009).

¹⁷¹ See David L. Schwartz, *Courting Specialization: An Empirical Study of Claim Construction Comparing Patent Litigation Before Federal District Courts and the International Trade Commission*, 50 WM. & MARY L. REV. 1699, 1716 tbl.II (2009) (reporting reversal rates of thirty to forty percent in the period between 1996 and 2008); David L. Schwartz, *Practice Makes Perfect? An Empirical Study of Claim Construction Reversal Rates in Patent Cases*, 107 MICH. L. REV. 223, 240 tbl.1 (2008) (reporting that between thirty and forty percent of appealed patent cases had to be reversed, vacated, or remanded due to an error by the trial court judge in interpreting the patent claims); David L. Schwartz, *Pre-Markman Reversal Rates*, 43 LOY. L.A. L. REV. 1073, 1093 fig.A (2010) (reporting reversal rates of approximately twenty to thirty percent between 1991 and 2008). This reversal rate appears to be much higher than for other causes of action and even for other issues within patent litigation. See Ted Sichelman, *Myths of (Un)Certainty at the Federal Circuit*, 43 LOY. L.A. L. REV. 1161, 1171-73 (2010) (showing that the reversal rate for non-claim construction issues in patent litigation is eighteen percent).

¹⁷² Love & Yoon, *supra* note 46, at 1628-29 (discussing the in-house knowledge on which technological competitors can rely).

unique circumstances of users whose lack of knowledge increases their subjective chill.¹⁷³ Being unable to determine the credibility of a suit, many users choose to pay licensing fees, while others just withdraw from using the technology.¹⁷⁴ Furthermore, the chilling effect of a patent is independent of any action taken by a patent holder against a specific user.¹⁷⁵ Thus, even a user who is not threatened may change her course of action as she witnesses an enforcement campaign against other users.

IV. THE ALTERNATIVE ROUTE: END USERS BEFORE THE PTO

The Federal Circuit crafted its standing doctrine with only competitors in mind. Consequently, the doctrine raises significant challenges for users. At the same time, users, like competitors, have an alternative forum for challenging patents—the PTO. This Part examines the different avenues that users may take to challenge patents in the PTO and shows that they do not provide a real alternative for end users. The purpose of this Part is only to highlight access limits. It does not seek to analyze the appropriateness of standing requirements in PTO proceedings and appeals.¹⁷⁶ Specifically, it shows that another characteristic of end users—their late entry into patent conflicts—prevents the PTO from becoming a true alternative for end users when combined with the PTO's reliance on the Federal Circuit's standing requirements in certain PTO procedures and appeals.

A. *Standing in PTO Procedures*

The AIA created three new PTO procedures to replace the inter partes reexamination procedure: post-grant review, inter partes review, and the covered business method patent review. In addition, the AIA overhauled the third-party submission procedure. Yet, of these four procedures, only inter partes review could be a feasible alternative for end users.¹⁷⁷

¹⁷³ *Organic Seed Growers & Trade Ass'n v. Monsanto Co.*, 718 F.3d 1350, 1359-60 (Fed. Cir. 2013).

¹⁷⁴ See Bernstein, *supra* note 3, at 1447, 1470; Magliocca, *supra* note 3, at 1813 (discussing the preference of customers sued by PAEs to settle); Claire Willis, *Don't Let Patent Trolls Stop You from Using an Online Nutritional Calculator*, MENUTRINFO (June 1, 2015), <https://www.menuinfo.com/dont-let-patent-trolls-stop-you-from-using-an-online-nutritional-calculator/> [<https://perma.cc/C5U6-PQUF>] (reporting that restaurants stopped using nutritional calculator technology after receiving demand letters from patentees).

¹⁷⁵ See Burstein, *supra* note 42, at 534.

¹⁷⁶ For a discussion of the appropriateness of standing requirements in PTO proceedings, see, for example, Duffy, *supra* note 42, at 635-36.

¹⁷⁷ For a comprehensive discussion of standing under the AIA procedures, see Sapna Kumar, *Standing Against Bad Patents*, BERKELEY TECH. L.J. (forthcoming) (manuscript at 28-38) (on file with author).

1. Third-Party Submission

Congress originally created the third-party submission procedure to provide a way for the public to assist the PTO in obtaining relevant prior art necessary to evaluate whether a patent application met the novelty, statutory bar, and non-obviousness requirements.¹⁷⁸ There are no standing restrictions on participation in the third-party submission procedure.¹⁷⁹ However, end users are unlikely to avail themselves of this procedure. The main reason is that third-party submission is limited to the earlier of (1) the date of allowance of the patent, or (2) the later of (a) six months from the publication of the application, or (b) the date of the first rejection by an examiner.¹⁸⁰ This procedure therefore takes place early in the life of the patent. End users are unlikely at that point to know about the patent application and the relevance of its technology because, in most cases, the invention has not reached the market yet.¹⁸¹

2. Post-Grant Review

Congress, through the AIA, formed the PTO's post-grant review procedure to provide a more efficient and less expensive forum than the courts for a party to challenge patents after issuance.¹⁸² It created post-grant review as a forum for

¹⁷⁸ See Bradley William Baumeister, *Critique of the New Rule 1.99: Third-Party Information Disclosure Procedure for Published Pre-Grant Applications*, 83 J. PAT. & TRADEMARK OFF. SOC'Y 381, 387-88 (2001) (explaining that the public would provide the PTO with public documents that, in an ideal world, the examiner could find on his own); David J. Kappos, *Investing in America's Future Through Innovation: How the Debate over the Smart Phone Patent Wars (Re)Raises Issues at the Foundation of Long-Term Incentive Systems*, 16 STAN. TECH. L. REV. 485, 493-94 (2013) (discussing the purpose of third-party submission in the context of software patents); Kumar, *supra* note 177, at 28-32 (showing that the legislative history of the AIA confirms Congress's intent to expand third-party rights to improve patent quality).

¹⁷⁹ See 35 U.S.C. § 122(e)(1) (2012) (providing that "any third party" may submit materials).

¹⁸⁰ *Id.* § 122(e).

¹⁸¹ Bernstein, *supra* note 3, at 1475.

¹⁸² See Filip De Corte et al., *AIA Post-Grant Review & European Oppositions: Will They Work in Tandem, or Rather Pass Like Ships in the Night?*, 14 N.C. J.L. & TECH. 93, 126 (2012) (explaining that the goal of creating the post-grant review was to offer a less expensive, more efficient alternative to litigation to challenge patent validity); Susan J. Marsnik, *Will the America Invents Act Post-Grant Review Improve the Quality of Patents? A Comparison with the European Patent Office Opposition*, in *THE CHANGING FACE OF US PATENT LAW AND ITS IMPACT ON BUSINESS STRATEGY* 183, 186 (Daniel R. Cahoy & Lynda J. Oswald eds., 2013) ("For years, scholars, practitioners and government bodies have advocated instituting post-issuance administrative trial proceedings at the PTO to determine validity more efficiently than litigation." (citations omitted)).

challenging patents under the first-to-file system, i.e., patent applications filed on or after March 16, 2013.¹⁸³

There are very limited standing restrictions on filing a petition to institute a post-grant review of the patent. Generally, any person who is not the owner of the patent may institute the proceeding.¹⁸⁴ However, a party does not have standing if the party has already filed an action in federal court to challenge the patent or if the party is estopped by a prior action.¹⁸⁵

Despite having low standing requirements, like third-party submission, post-grant review is of little help to the end user. The window for filing for post-grant review is limited to the time from which a patent is granted (or a reissue patent is issued) to nine months after that date.¹⁸⁶ However, end users are likely to become involved in a patent conflict later in the life of the patent. By that point, the post-grant review window has already closed.¹⁸⁷

3. Inter Partes Review

Congress created inter partes review as an additional alternative forum to litigation.¹⁸⁸ Petitioners may challenge patents issued under both the first-to-file and first-to-invent systems.¹⁸⁹ Parties may challenge patents under inter partes review as soon as the post-grant review window closes, basically from nine months after the patent is issued until it expires.¹⁹⁰ The standing requirements for instituting an inter partes review proceeding are similar to those of post-grant review. Generally, anyone except the owner of the patent can institute the

¹⁸³ Leahy-Smith America Invents Act, Pub. L. No. 112-29, 125 Stat. 284 (2011) (codified in scattered sections of 35 U.S.C.); *see also* Rochelle Cooper Dreyfuss, *Giving the Federal Circuit a Run for Its Money: Challenging Patents in the PTAB*, 91 NOTRE DAME L. REV. 235, 241-46 (2015) (discussing which patents can be challenged under post-grant review).

¹⁸⁴ 35 U.S.C. § 321(a) (providing that any person who is not the patent owner may file to institute a post-grant review of a patent).

¹⁸⁵ *Id.* § 325(a), (e); 37 C.F.R. § 42.201 (2015).

¹⁸⁶ 35 U.S.C. § 321(c).

¹⁸⁷ Bernstein, *supra* note 3, at 1475-76.

¹⁸⁸ *See generally* Melissa F. Wasserman, *The Changing Guard of Patent Law: Chevron Deference for the PTO*, 54 WM. & MARY L. REV. 1959 (2013) (arguing that the creation of post-grant review and inter partes review appoints the PTO as the interpreter of core patentability standards, instead of the courts).

¹⁸⁹ 37 C.F.R. § 42.102(a)(1), (2); *see also* Dreyfuss, *supra* note 183, at 248 (discussing which patents can be challenged under inter partes review).

¹⁹⁰ 35 U.S.C. § 311(c) (allowing a petition for inter partes review to “be filed after the later of either (1) the date that is 9 months after the grant of a patent; or (2) if a post-grant review is instituted . . . , the date of the termination of such post-grant review”); *see also* Jeffrey P. Kushan, *The Fruits of the Convolution Road to Patent Reform: The New Invalidity Proceedings of the Patent and Trademark Office*, 30 YALE L. & POL’Y REV. 385, 405 (2012) (describing the timing relationship between post-grant review and inter partes review).

proceeding.¹⁹¹ There are two exclusions, however, under which a party does not qualify for standing. First, if a patentee filed an infringement suit against a party more than a year before that party filed its petition.¹⁹² Second, if a party has filed a civil action in federal court challenging the validity of the patent.¹⁹³ In addition, the PTO may not permit an inter partes review action unless there is a reasonable likelihood that the petitioner would prevail with respect to at least one of the challenged patent's claims.¹⁹⁴

Notwithstanding these restrictions, inter partes review appears suitable for end users seeking to proactively challenge patents. The second exclusion is unlikely to affect end users because, unlike competitors, they are less likely to file a civil action in federal court. The timing of the inter partes review proceedings is also more suitable for end users. Parties can challenge a patent under inter partes review from nine months after the patent's issuance until the patent's expiration.¹⁹⁵ The proceeding is, therefore, available at a time in which end users are more likely to use the patented technology and become involved in a patent dispute.¹⁹⁶

At the same time, the scope of inter partes review is quite narrow. By the time an end user can feasibly participate in a PTO proceeding, her options are quite limited. Under inter partes review, parties may challenge the validity of the patent only under Sections 102 and 103 (for novelty and non-obviousness). When they do this, they may only rely on patents and prior patent applications.¹⁹⁷ As such, many of the grounds permitted under post-grant review are no longer available. A party may no longer challenge a patent based on a lack of utility, a lack of patentable subject matter, or a failure to meet the requirements of definiteness, enablement, and written description.¹⁹⁸ Furthermore, parties cannot challenge the novelty and non-obviousness of the patent based on prior use or publications.¹⁹⁹

Despite these limitations, Brian Love's study, which analyzes the initial data on inter partes reviews, shows that technology purchasers (i.e., end users) are

¹⁹¹ 35 U.S.C. § 311(a).

¹⁹² *Id.* § 315(b).

¹⁹³ *Id.* § 315(a)(1).

¹⁹⁴ *Id.* § 314(a).

¹⁹⁵ *Id.* § 311(c).

¹⁹⁶ Bernstein, *supra* note 3, at 1477.

¹⁹⁷ 35 U.S.C. § 311(b) (limiting the grounds for challenging a patent's validity in inter partes review); *see also* De Corte et al., *supra* note 182, at 121 (explaining that the grounds for challenging a patent are much narrower under inter partes review than under post-grant review); Dreyfuss, *supra* note 183, at 248 (“[T]he limit on the grounds for invalidation [under inter partes review] means that the patent holder and its post-issuance investment are exposed to invalidation on this standard only with respect to issues that could not easily be determined soon after issuance (and only with the use of materials that can be easily put into evidence).”).

¹⁹⁸ Bernstein, *supra* note 3, at 1477.

¹⁹⁹ *Id.*

responsible for 6.4% of inter partes petitions.²⁰⁰ Although a small percentage, this demonstrates that inter partes review is a way for some end users to invalidate patents.²⁰¹

4. Covered Business Method Review

Congress established an eight-year transitory proceeding under the AIA that is designed to provide a less costly forum to challenge business method patents.²⁰² Similar to the inter partes review, parties may challenge patents under both the first-to-invent and first-to-file systems.²⁰³ Under this procedure, petitioners may challenge a broad array of patents on business methods for financial products.²⁰⁴

Nevertheless, parties that seek to use the covered business method review face significant challenges. Standing is quite limited. A party may only file a petition for covered business method review if “the petitioner, the petitioner’s real party-in-interest, or a privy of the petitioner has been sued for infringement of the patent or has been charged with infringement under that patent.”²⁰⁵ This means that there is an actual controversy concerning an infringement of a covered business method patent that would entitle the petitioner to standing in federal court.²⁰⁶ The PTAB reiterated in *Texas Ass’n of Realtors v. Property Disclosure*

²⁰⁰ Brian J. Love, *Inter Partes Review as a Shield for Technology Purchasers: A Response to Gaia Bernstein’s The Rise of the End-User in Patent Litigation*, 56 B.C. L. REV. 1075, 1085 tbl.2 (2015).

²⁰¹ *See id.* (showing that ninety-one percent of inter partes petitions are filed by manufacturers). Love also suggests that some manufacturers file on behalf of customers. *Id.* at 1088 n.42 (showing that approximately fifteen percent of inter partes review procedures were filed by manufacturers with at least one customer facing a lawsuit). This indicates that inter partes review enables manufacturers to protect end user interests.

²⁰² This proceeding went into effect on September 16, 2012 and is applicable only to petitions filed on or by September 16, 2020. *See Leahy-Smith America Invents Act*, Pub. L. No. 112-29, § 18 (a)(2), (3)(A), 125 Stat. 284, 330 (2011) (codified in scattered sections of 35 U.S.C.); Jeff Kettle, *Congress Giveth and Taketh Away: A Look at Section 18 of the America Invents Act and the Review of Business Method Patents*, 94 J. PAT. & TRADEMARK OFF. SOC’Y 201, 214 (2012).

²⁰³ Dreyfuss, *supra* note 183, at 248.

²⁰⁴ The definition of business methods that parties can challenge includes: “a method or corresponding apparatus for performing data processing or other operations used in the practice, administration, or management of a financial product or service” 37 C.F.R. § 42.301(a) (2015). However, this procedure does not apply to “technological inventions,” which are defined as patents that claim a novel and unobvious technological feature that “solves a technical problem using a technical solution.” *Id.* § 42.301(b). At the same time, the PTAB has been willing to consider a variety of different cases under this definition. *See Dreyfuss, supra* note 183, at 248.

²⁰⁵ 37 C.F.R. § 42.302(a).

²⁰⁶ *Id.*

*Technologies, LLC*²⁰⁷ that a party needs to meet the standing requirements for federal court in order to bring a covered business method review claim.²⁰⁸ Thus, end users face similar challenges in filing a petition for covered business method review as they do for declaratory judgment actions in federal court.

B. *Standing to Appeal PTO Decisions*

Inter partes review appears to be the only PTO procedure feasibly available to the end user. Although a petitioner in an inter partes review is limited in the grounds it can raise to challenge a patent, the procedure is available when the end user is most likely to be implicated in the patent dispute and when the end user can easily qualify for standing. Yet as Rochelle Dreyfuss has warned, “the ultimate success of the system depends heavily on the Federal Circuit’s approach to reviewing PTAB decisions.”²⁰⁹ And, unfortunately, the Federal Circuit has recently limited the right to appeal PTAB decisions, making inter partes review a far less appealing option for end users.²¹⁰

In *Consumer Watchdog v. Wisconsin Alumni Research Foundation*, Consumer Watchdog, an inter partes review petitioner, appealed a PTAB decision.²¹¹ Consumer Watchdog is a not-for-profit consumer charity representing taxpayers and consumers.²¹² It filed an inter partes review petition challenging a patent relating to human embryonic stem cell research.²¹³ While Consumer Watchdog itself is not a competitor or licensee, it alleged that the patentee’s aggressive assertion of the patent had severely burdened taxpayer-

²⁰⁷ No. CBM2015-00069, Paper 15 (P.T.A.B. July 28, 2015).

²⁰⁸ *Id.* at 8 (“[E]ach of Petitioner’s underlying assertions . . . are individually and collectively inadequate under an ‘all-circumstances’ framework to confer standing to bring a declaratory judgment action in federal court.”). For examples of recent PTAB application of standing requirements, see *Ocean Tomo, LLC v. Patent Ratings, LLC*, No. CBM2015-00157, Paper 17, at 8-10 (P.T.A.B. Jan. 26, 2016) (denying standing where the patentee did not sue the petitioner on a specific patent despite a business and litigation relationship between the parties based on other patents); *Ebay Inc. v. Purple Leaf, LLC*, No. CBM2015-00051, Paper 22, at 16-19 (P.T.A.B. July 30, 2015) (interpreting *Molecular Pathology* standards to grant standing where petitioner was not charged with infringement of the patent, but was accused of infringement during a meeting).

²⁰⁹ Dreyfuss, *supra* note 183, at 258.

²¹⁰ See generally *Consumer Watchdog v. Wis. Alumni Research Found.*, 753 F.3d 1258, 1260 (Fed. Cir. 2014) (denying right to appeal based on lack of standing). Love’s study on usage of inter partes review was conducted in 2014 before the *Consumer Watchdog* decision. See Love, *supra* note 200, at 1080. The restriction of the appeal option may have affected usage since then.

²¹¹ *Consumer Watchdog*, 753 F.3d at 1260.

²¹² *Id.*

²¹³ *Id.*

funded research. It voiced a concern that the patent broadly preempted uses of human embryonic stem cells, particularly for research.²¹⁴

The Federal Circuit decided that Consumer Watchdog did not have standing to appeal the PTAB decision.²¹⁵ The court held that an injury, for standing purposes, “must be more than a general grievance or abstract harm.”²¹⁶ The Federal Circuit ruled that Consumer Watchdog had not identified a particularized, concrete interest in the patentability of the patent at issue.²¹⁷ The court explained that Consumer Watchdog did not engage in any activity involving embryonic stem cells that could form the basis for an infringement claim. Nor did Consumer Watchdog express intent to engage in such activity. Furthermore, it did not claim to be a current or prospective licensee or to have any other connection to the patent.²¹⁸ The court specifically stated that although the Patent Act generally grants any third party the right to standing in an inter partes review proceeding, the Act guarantees neither a particular outcome nor the right to appeal.²¹⁹

The *Consumer Watchdog* decision involved a nonprofit organization and not an end user. Yet it appears that the Federal Circuit imposed standing requirements similar to those applied to motions for declaratory judgment on appeals from PTAB procedures. The court, however, did indicate that future panels may need to decide whether legislative provisions that estop parties filing for inter partes review from later litigating the same issue in federal court constitute injury for standing purposes.²²⁰ It remains unclear then whether an end user who has not engaged in infringing activity or in meaningful preparations would fare differently than Consumer Watchdog. For those reasons, the inter partes review option is not as appealing for an end user as it may appear at first blush.

V. OPENING THE DOOR FOR END USER STANDING

In recent years, scholars concerned with how difficult it is to qualify for standing as a competitor have called for lowering declaratory judgment standing requirements in patent cases. While making standing requirements more flexible would alleviate the end user's predicament, this Part focuses on existing doctrine. Instead of calling for broad reform, this Part highlights how users can establish standing even under current Federal Circuit standing doctrine. This Part shows that when the Federal Circuit appropriately interprets the reasonable

²¹⁴ *Id.*

²¹⁵ *Id.* at 1263; *see also* Kumar, *supra* note 177, at 33-37.

²¹⁶ *Consumer Watchdog*, 753 F.3d at 1261 (first citing *Hollingsworth v. Perry*, 133 S. Ct. 2652, 2662 (2013); and then citing *City of Los Angeles v. Lyons*, 461 U.S. 95, 101 (1983)).

²¹⁷ *Id.* at 1263.

²¹⁸ *Id.* at 1261.

²¹⁹ *Id.* at 1262.

²²⁰ *See id.*

apprehension of suit and meaningful preparations requirements, as it has in quite a few competitor cases, end users can qualify for standing.²²¹

While this Part shows how end users can establish standing under the Federal Circuit's standing doctrine, it does not argue that facilitating user access to federal court would motivate many end users to sue for declaratory judgment suits. In fact, most end users would balk at the expense of patent litigation even if the relevant patented technology were central to their lives or business.²²² At the same time, some end users would go ahead and sue if they were granted standing, and these suits may, in fact, involve patents that influence a large number of individuals and businesses.

This Part does not claim, either, that granting end users standing would itself resolve the end user's unequal footing in the patent legal arena. The inclusion of end users as new players in the patent landscape requires a series of adjustments. Other reforms would include: facilitating the grant of attorney's fees in end user cases,²²³ expanding the customer suit exception,²²⁴ and changing contractual practices to increase use of indemnification clauses between customers and manufacturers. Yet despite the need for a comprehensive set of reforms, granting end users standing would be an important step toward elevating end users to a more equal procedural position in patent litigation.

A. *Calls for Reforming Patent Law's Standing Doctrine*

The patentee's traditional litigation adversaries—its competitors—are also struggling to meet the Federal Circuit's high standing requirements. In reaction to this, scholars have recently called for expanding standing to sue for declaratory judgment actions.²²⁵ This movement gave rise to two strands of thought: (1) those seeking expansion under a public law paradigm, and (2) those seeking to reconceptualize the existing private law paradigm.²²⁶

²²¹ *But cf.* Duffy, *supra* note 42, at 639-40 (arguing that consumers may currently lack a cause of action for access to federal court because of the limits of the Declaratory Judgment Act).

²²² *See id.* at 644 (arguing that expenses limit the benefits of broader standing).

²²³ *See* Bernstein, *supra* note 3, at 1488-99 (advocating fee-shifting reform in patent end user litigation).

²²⁴ *See generally* Love & Yoon, *supra* note 46.

²²⁵ This literature differs from the literature that analyzes standing for those seeking to enforce patents. *See generally* Roger D. Blair & Thomas F. Cotter, *The Elusive Logic of Standing Doctrine in Intellectual Property Law*, 74 TUL. L. REV. 1323 (2000); Xuan-Thao Nguyen, *Patent Prudential Standing*, 21 GEO. MASON L. REV. 17 (2013).

²²⁶ American law distinguishes between public and private rights. Put simply, individuals vindicate private rights, while the government enforces violations of public rights. This distinction, however, has evolved over time and become more ambiguous. *See* Burstein, *supra* note 42, at 509 (analyzing standing within the private law framework); Hessick, *supra* note 80, at 286-87; La Belle, *Patent Law as Public Law*, *supra* note 18, at 41 (developing a public law paradigm). Although this Article focuses on standing before federal courts, another

One group of scholars, whose main advocate is Megan La Belle, argues that the Federal Circuit should shift to a public law paradigm.²²⁷ They emphasize that the patent system's intended primary beneficiary was always the public, not the parties before the court.²²⁸ Particularly, these scholars argue that patent validity disputes implicate the rights of many people other than those before the court. Although not present at trial, competitors, consumers, and the public all have a stake in a patent case's outcome.²²⁹ Furthermore, pointing to the Supreme Court's decision in *Blonder-Tongue*, they argue that in declaratory judgment actions, the remedy—a declaration of patent invalidity—is a public good because it benefits the public at large. Once a court declares a patent invalid, the patentee cannot enforce the patent against anybody. Competitors of the patent owner and consumers of the patented technology who were not parties to the litigation benefit as much as the party who challenged the patent.²³⁰

Under the private law paradigm, declaratory judgment suits deal with future injuries, which may or may not occur.²³¹ The role of the standing doctrine, then, is to determine the threshold of risk for justiciability.²³² Michael Burstein

important critique by Sapna Kumar focuses on creating standing for third parties to bring challenges before the PTAB by adding a *qui tam* provision to the AIA. Kumar, *supra* note 177, at 40-43.

²²⁷ Some scholars have endorsed the public law paradigm. *See generally* Jacobs, *supra* note 42; La Belle, *Patent Law as Public Law*, *supra* note 18 (arguing that patents fit within the public law litigation paradigm); Rinehart, *supra* note 18 (discussing patent cases as public controversies); Walrath, *supra* note 42 (arguing “patent litigation lacks sufficient consideration of public policy concerns”).

²²⁸ *See* La Belle, *Patent Law as Public Law*, *supra* note 18, at 50 (“[A]ny benefit that patents confer on individuals is secondary to the public’s interest in our patent system.”).

²²⁹ *See id.* at 95.

²³⁰ *See* *Blonder-Tongue Labs., Inc. v. U. of Ill. Found.*, 402 U.S. 313, 350 (1971); La Belle, *Patent Law as Public Law*, *supra* note 18, at 53-54 (arguing that parties who didn’t participate in patent litigation often benefit just as much as parties that did participate); Walrath, *supra* note 42, at 503 (“[T]he Supreme Court has encouraged such suits because the public benefits when bad patents are invalidated.”). Proponents of the public law paradigm raise two additional arguments. First, they argue that patent validity is not about private rights, but about whether a governmental agency—the PTO—made a mistake when it issued the patent. *See* La Belle, *Patent Law as Public Law*, *supra* note 18, at 52. Second, they point to the public interest nature of certain patent litigations in which plaintiffs seek to protect the public domain by challenging patents that apply broadly across categories of patents. Jacobs, *supra* note 42, at 417, 428.

²³¹ *See* Hessick, *supra* note 86, at 56 (discussing the probabilistic nature of future injuries).

²³² There are different views regarding the appropriate threshold for justiciability. *See, e.g., id.* at 67 (arguing that “no matter how small the risk,” all claims qualify “[s]o long as (1) the challenged activity increases the plaintiff’s risk of suffering harm and (2) a judicial order could stop the challenged activity, thereby removing the increased risk of harm”); Jonathan Remy Nash, *Standing and the Precautionary Principle*, 108 COLUM. L. REV. 494, 511-15 (2008) (arguing for the incorporation of the precautionary principle into standing doctrine,

advocates extending standing requirements in patent disputes under the private law paradigm.²³³ Burstein argues that the Federal Circuit has failed to see that an injury exists from the very existence of a patent.²³⁴ When patents' validity or scope are uncertain, as is often the case, their mere existence creates uncertainty and risk that deters investments. The risk itself then constitutes the injury because it inhibits people from engaging in conduct they would have otherwise engaged in.²³⁵

B. *Enabling End User Standing Under Current Doctrine*

Two recent end user cases, *Organic Seed Growers & Trade Ass'n and Ass'n for Molecular Pathology*, highlighted the difficulties that end users face under the Federal Circuit's standing doctrine. Yet while reforming current standing requirements would alleviate the end user's predicament, this Section shows that courts can grant users standing even under the Federal Circuit's current doctrine. Specifically, this Section shows that even users who were not directly threatened by the patentee and did not engage in overt acts to prepare to use the technology should be able to establish standing under proper application of the reasonable apprehension of suit and meaningful preparations tests. This Section will point to appropriate applications of Federal Circuit standing doctrine and will highlight how courts could adjust interpretations of current standing doctrine to accommodate this competitor-gearred doctrine to user characteristics.

It is important to clarify, however, that while this Article defines the end user broadly and makes no claim that all users look alike, it acknowledges that some end users look more like competitors than others. For example, some end users are innovators who have sophisticated understandings of the technology and may even change the design of a patented product or process to improve it for their needs.²³⁶ Another type of end user is one who incorporates a patented

under which states would have standing to sue for uncertain risks of potentially catastrophic and irreversible injury).

²³³ See Burstein, *supra* note 42, at 498 ("Allowing challenges by a broader range of plaintiffs will result in more socially valuable validity litigation.").

²³⁴ *Id.* at 500, 509.

²³⁵ *Id.* at 503.

²³⁶ See generally ERIC VON HIPPEL, *DEMOCRATIZING INNOVATION* 70-72 (2005) (describing the innovative user); Yochai Benkler, *Coase's Penguin, or, Linux and The Nature of the Firm*, 112 YALE L.J. 369 (2002) (describing peer production projects through which many individuals cooperate together to create); William W. Fisher III, *The Implications for Law of User Innovation*, 94 MINN. L. REV. 1417 (2010) (discussing legal conflicts between user innovators and producers); Dan Hunter & F. Gregory Lastowka, *Amateur-to-Amateur*, 46 WM. & MARY L. REV. 951, 954 (2004) ("[C]opyright's former consumers are now the creators, producers, and disseminators of content . . ."); Katherine J. Strandburg, *Users as Innovators: Implications for Patent Doctrine*, 79 U. COLO. L. REV. 467 (2008) (distinguishing the user-innovator from the prevailing conception of the seller-innovator in patent law and focusing on research tools inventions).

technology into a central function of their business. Although they may not know as much about the technology as the manufacturer, they may still have significant technological sophistication regarding the technology because they are so dependent on it. Take, for instance, a large frozen yogurt store chain, which supplies its product to customers using one type of frozen yogurt-making machine. The business is highly dependent on the machine, and therefore develops considerable technological expertise regarding its operation. These users may not resemble competitors as much as user-innovators, but they may still share fewer characteristics with the classical end user.

And yet, while not all users look alike, identifying in each case how much a user resembles a competitor is of diminished importance for standing analysis. If a user looks more like a competitor than a typical user, he will likely have an easier time gaining standing, and his predicament will be alleviated. The more a user looks like the typical user, the more the user will benefit from the analysis below.

1. Reasonable Apprehension of Suit

The Federal Circuit has traditionally required a declaratory judgment plaintiff to show that it has an objectively reasonable apprehension of suit.²³⁷ Yet end users are unique in that they are diverse and plentiful, and that those who are sued often are not those with the motivation and resources to file for declaratory judgment. Consequently, strict application of the reasonable apprehension prong, which requires direct enforcement in the form of threat letters against the user, is likely to prevent most users from qualifying for standing. At the same time, the principle underlying the *MedImmune* decision, and Federal Circuit decisions that interpreted the reasonable apprehension prong within the *MedImmune* framework, point to a far less stringent standard that many users will be able to meet.²³⁸

Under the *MedImmune* rationale, declaratory judgment is justified under three circumstances: (1) if a party is doing something that is likely to bring coercive action by the patentee, such as manufacturing, selling, or using a potentially infringing technology; (2) if a party is not doing something to avoid coercive action by the patentee, such as avoiding manufacturing or using a potentially infringing technology; or (3) if a party is doing something to prevent coercive action, such as paying the patentee royalties. The Court underscored that declaratory judgment is justified in these cases so that parties are not forced to choose between avoiding what they believe is their legal right and risking liability in an infringement action.²³⁹ For end users, the purpose of declaratory

²³⁷ See La Belle, *Patent Law as Public Law*, *supra* note 18, at 74 (noting that the Federal Circuit has required reasonable apprehension for many years).

²³⁸ See Duffy, *supra* note 42, at 629 (discussing the importance and difficulty in establishing the necessary degree of enforcement risk for establishing standing).

²³⁹ See *MedImmune, Inc. v. Genentech, Inc.*, 549 U.S. 118, 128-30 (2007) (stating that the purpose of the Declaratory Judgment Act was to avoid forcing a plaintiff to choose between

judgment is to resolve their dilemma between avoiding using a technology they believe they have a right to use and using the technology, but risking liability in an infringement action.

The relationship between the parties in *MedImmune* qualified under the third category—the party petitioning for declaratory judgment was doing something to prevent coercive action.²⁴⁰ In that case, petitioner received a threat letter from the patentee, paid royalties to avoid exposure to patent infringement liability, and then sued for declaratory judgment. Since petitioner was paying royalties, there was no threat of suit at stake.²⁴¹ Yet the Court's holding that petitioner had standing clarified that refusal to pay could have exposed the petitioner to treble damages and attorney's fees, and that petitioner did not need to take that risk before seeking declaratory judgment.²⁴²

The court in *Ass'n for Molecular Pathology*, one of two recent cases that involved users, focused on direct enforcement and required an affirmative act by the patentee to enforce its patent rights.²⁴³ Following this strict application of the test, the court found that only plaintiffs who received cease and desist letters qualified under this prong.²⁴⁴ Yet where the Federal Circuit properly applied the *MedImmune* framework, it interpreted the reasonable apprehension test much more pragmatically.²⁴⁵ And although these cases involved competitors and not users, they shed light on the appropriate interpretation of the reasonable apprehension of suit test.

In *Micron Technology, Inc. v. MOSAID Technologies, Inc.*,²⁴⁶ the Federal Circuit emphasized in the aftermath of *MedImmune* that satisfaction of the reasonable apprehension of suit test was no longer a necessary criterion.²⁴⁷ The court explained that the purpose of a declaratory judgment is to provide parties relief from delay and uncertainty regarding their legal rights. It noted that competitors no longer have to choose between risking liability for patent

“abandoning his rights or risking prosecution”). The Court analogized its decision to cases in which an individual sought declaratory judgment that a state law was unconstitutional, even when the petitioner had refrained from breaking that law and state action was therefore not pending. *Id.* at 129 (citing *Steffel v. Thompson*, 415 U.S. 452, 459 (1974)).

²⁴⁰ *Id.* at 122.

²⁴¹ *See id.* at 128.

²⁴² *Id.* at 129.

²⁴³ *Ass'n for Molecular Pathology v. U.S. Patent & Trademark Office*, 689 F.3d 1303, 1318 (Fed. Cir. 2012), *rev'd on other grounds sub nom.* *Ass'n for Molecular Pathology v. Myriad Genetics, Inc.*, 133 S. Ct. 2107 (2013).

²⁴⁴ *Id.* at 1316 (holding that sending cease and desist letters constitutes an affirmative act).

²⁴⁵ *See id.* at 1319-20.

²⁴⁶ 518 F.3d 897 (Fed. Cir. 2008).

²⁴⁷ *Id.* at 901 (providing that the reasonable apprehension test should be replaced by an evaluation of whether “all the circumstances” show a controversy).

infringement and abandoning their activities.²⁴⁸ In that case, the court found the petitioner had standing where the patentee sent the petitioner letters demanding royalty payments, but enforced its patents only against competitors, and not against the petitioner. After sending these initial letters, the patentee did not threaten the petitioner for the four years preceding the petitioner's filing for declaratory judgment.²⁴⁹ The court also relied on the patentee's public statements and annual reports as confirmation of its intent to continue its aggressive litigation strategy.²⁵⁰

In 2011, the Federal Circuit went even further by holding that *MedImmune* rejected the "reasonable apprehension of imminent suit" standard.²⁵¹ Most importantly, in the 2014 case *Danisco U.S. Inc. v. Novozymes A/S*,²⁵² the Federal Circuit found standing where the patentee did not affirmatively accuse the petitioner's products of infringing its patent.²⁵³ The court stated that a lack of direct accusations and threats is not dispositive.²⁵⁴ It held that Article III does not mandate that the declaratory judgment defendant has threatened litigation or taken other action to enforce its patent rights for a justiciable controversy to exist.²⁵⁵ The court highlighted *MedImmune*'s totality of circumstances test and explained that the dispositive question was whether the petitioner demonstrated a substantial risk that the harm would occur.²⁵⁶ The court found that the petitioner had standing because the patentee repeatedly asserted that its patent covered the same subject matter as petitioner's product.²⁵⁷ Furthermore, the patentee did not issue a covenant not to compete or promise not to sue petitioner.²⁵⁸ The court also noted the relevance of patent litigation history as

²⁴⁸ *Id.* at 902; *see also* *Cat Tech LLC v. TubeMaster, Inc.*, 528 F.3d 871, 878-79 (Fed. Cir. 2008) ("Passage of the [Declaratory Judgment] Act was intended 'to prevent avoidable damages from being incurred by a person uncertain of his rights and threatened with damage by delayed adjudication.'" (quoting *Minn. Mining & Mfg. Co. v. Norton Co.*, 929 F.2d 670, 673 (Fed. Cir. 1991))).

²⁴⁹ *Micron Tech.*, 518 F.3d at 899-901.

²⁵⁰ *Id.* at 899.

²⁵¹ *ABB Inc. v. Cooper Indus., LLC*, 635 F.3d 1345, 1348 (Fed. Cir. 2011). In *ABB Inc.*, the court granted standing where the patentee sent letters advising petitioner that its activities were not authorized under the license between the parties and that it would "act vigorously to protect its rights." *Id.* at 1348-49.

²⁵² 744 F.3d 1325 (Fed. Cir. 2014).

²⁵³ *Id.* at 1330 ("[I]t is not 'necessary that a patent holder make specific accusations' of infringement against the declaratory judgment plaintiff . . ." (quoting *Arkema Inc. v. Honeywell Int'l, Inc.*, 706 F.3d 1351, 1357 (Fed. Cir. 2013))).

²⁵⁴ *Id.*

²⁵⁵ *Id.*

²⁵⁶ *Id.*

²⁵⁷ *Id.* at 1331.

²⁵⁸ *Id.*

well as the administrative challenges between the parties related to other patents.²⁵⁹

It thus appears that the Federal Circuit has repeatedly diluted the reasonable apprehension of suit test, rendering it a much lower, if even existent, obstacle. The Federal Circuit has, at times, acted inconsistently, as it did in *Ass'n for Molecular Pathology* when it rigidly applied the reasonable apprehension of suit test, thereby ignoring the fluidity and rationale of the totality of circumstances test.²⁶⁰ Its decision denying users standing in *Organic Seed Growers*, however, was properly decided under the *MedImmune* rationale. In *Organic Seed Growers*, although the patentee engaged in a large enforcement campaign against farmers who reused its genetically engineered seeds, petitioners did not plan to use the patentee's seeds to grow their crops.²⁶¹ A declaratory judgment was not needed to resolve the user's dilemma of either using the technology and incurring liability or avoiding use of the technology. This is because the organic crop growers never intended to use the genetically engineered seeds. The plaintiffs feared that if the seeds accidentally blew into their fields, they would be sued.²⁶² Under these circumstances, it was hard to show that there was a substantial risk that harm would occur.²⁶³

To conclude, although the ability of users to qualify for standing remains unclear under current case law, a careful reading of competitors' standing cases shows that the Federal Circuit has repeatedly diluted the apprehension of suit test. The guiding rationale of *MedImmune*, focusing on whether a declaratory judgment is necessary to resolve the dilemma mentioned previously, illuminates the application of current doctrine. Additionally, when users intend to use or use a technology and are concerned about legal liability, they should qualify for standing under existing doctrine regardless of whether the patentee has directly threatened to enforce its patent rights against them.

2. Meaningful Preparations

The Federal Circuit in its rulings following *MedImmune* held that "meaningful preparation" to conduct potentially infringing activity remains an

²⁵⁹ *Id.*

²⁶⁰ *Ass'n for Molecular Pathology v. U.S. Patent & Trademark Office*, 689 F.3d 1303, 1318 (Fed. Cir. 2012), *rev'd on other grounds sub nom. Ass'n for Molecular Pathology v. Myriad Genetics, Inc.*, 133 S. Ct. 2107 (2013); *see also Innovative Therapies, Inc. v. Kinetic Concepts, Inc.*, 599 F.3d 1377, 1382-83 (Fed. Cir. 2010) (holding that patentee's litigation campaign against other parties, patentee's knowledge of the potentially infringing device, and statements by patentee's employees that patentee would enforce its rights against such a device did not warrant standing).

²⁶¹ *Organic Seed Growers & Trade Ass'n v. Monsanto Co.*, 718 F.3d 1350, 1352-53, 1360 (Fed. Cir. 2013).

²⁶² *Id.* at 1353.

²⁶³ *See id.* at 1360.

important element under the totality of circumstances test.²⁶⁴ The court explained that although a party need not actually manufacture or sell a potentially infringing product, the party must show meaningful preparation to make or use that product.²⁶⁵ The court discussed what actions would qualify as sufficient meaningful preparations for such activity. For example, there was no meaningful preparation when a new drug application still needed to be filed with the Federal Drug Administration, but there was meaningful preparation when designs, configurations, and drawings were prepared.²⁶⁶

The Federal Circuit focused on the “immediacy” criteria and explained that “the greater the length of time before potentially infringing activity is expected to occur, ‘the more likely the case lacks the requisite immediacy’” needed to satisfy the meaningful preparations test.²⁶⁷ It elaborated that “some day” intentions, without a description of concrete plans or even specification of when one day will come, are insufficient.²⁶⁸

Applying the meaningful preparations test to determine whether a party intends to engage in a potentially infringing activity within a definite timeframe is useful for distinguishing a party who has a stake in the controversy from any member of the public. However, because the Federal Circuit’s framework is geared toward competitors, it poses an additional hurdle to users. In *Organic Seed Growers*, the Federal Circuit specified the type of activities that qualify as meaningful preparations. These activities include supplying the product and marketing it, as well as seeking contracts and/or entering into contracts with customers.²⁶⁹ Yet users do not engage in manufacturing and sales activities.²⁷⁰ Since they do not engage in these more complex activities, their preparations are likely to be shorter-term, amounting to hours or days instead of months or years.

This exposes the user’s dilemma. On the one hand, users can easily meet the immediacy criteria guiding the meaningful preparations test. But on the other hand, users cannot point to the overt actions required by the court because they do not engage in this type of competitor activity and because the simple preparations for mere use do not require that a user engage in preparations before the legal liability issue is clarified.

In *Ass’n for Molecular Pathology*—where plaintiffs included both physicians and patients—the court found that only one of the plaintiffs, Dr. Ostrer, qualified under the meaningful preparations test because he not only had the requisite

²⁶⁴ *Cat Tech LLC v. TubeMaster, Inc.*, 528 F.3d 871, 880 (Fed. Cir. 2008).

²⁶⁵ *Id.* at 881.

²⁶⁶ *Id.*

²⁶⁷ *Id.* (quoting *Sierra Applied Scis., Inc. v. Advanced Energy Indus., Inc.*, 363 F.3d 1361, 1379 (Fed. Cir. 2004)); see also *Matthews Int’l Corp. v. Biosafe Eng’g, LLC*, 695 F.3d 1322, 1330 (Fed. Cir. 2012).

²⁶⁸ *Matthews Int’l Corp.*, 695 F.3d at 1330.

²⁶⁹ See *Organic Seed Growers & Trade Ass’n v. Monsanto Co.*, 718 F.3d 1350, 1359-60 (Fed. Cir. 2013).

²⁷⁰ See *supra* Section III.A.

resources and expertise, but, importantly, he also stated an intention to immediately begin engaging in infringing activity.²⁷¹ To compare, the court found that the other physician petitioners who said they would consider resuming testing, failed to meet the necessary immediacy requirement under the meaningful preparations test because their intentions had more of a “some day” quality.²⁷² This highlights an important element of the meaningful preparations test—intent.

Since acts of manufacture and sale preparations are absent in user cases, courts applying the meaningful preparations test in user cases would need to focus on the intent element of the test, as the Federal Circuit did in *Ass’n for Molecular Pathology*. This focus would not dilute the immediacy requirement, as user preparations are inherently short-term and immediate. For example, in *Ass’n for Molecular Pathology*, some of the petitioners who did not gain standing were patients who wanted to take the breast cancer genetic test should it be offered at a lower price by another company or in order to get a second opinion.²⁷³ Although the court did not apply the meaningful preparations test to these patients, they should have qualified under the meaningful preparations test if they could have shown intent to immediately take the test when made available by another party. These patients would satisfy the immediacy requirement because preparations to undertake the test would be minimal and likely would not take more time than that needed to schedule an appointment and travel to the test site.

A party should not qualify under the meaningful preparations test if there is no intent to engage in the potentially infringing activity. The Federal Circuit appropriately decided *Organic Seed Growers* when it found that petitioners did not meet the meaningful preparations test. The organic crop growers did not make any preparations because they never intended to sow patentee’s genetically engineered seeds.²⁷⁴ Their concern was solely based on accidental engagement with the patented seeds.²⁷⁵

To conclude, users can qualify under the meaningful preparations test because the nature of any user preparatory activity easily satisfies the immediacy criteria of the test. However, courts would need to rely on the intent element highlighted by the Federal Circuit in *Ass’n for Molecular Pathology* in lieu of overt actions like long-term preparations of manufacture and sale activities, which are inherently absent in user cases.

²⁷¹ See *Ass’n for Molecular Pathology v. U.S. Patent & Trademark Office*, 689 F.3d 1303, 1319-21 (Fed. Cir. 2012), *rev’d on other grounds sub nom.* *Ass’n for Molecular Pathology v. Myriad Genetics, Inc.*, 133 S. Ct. 2107 (2013).

²⁷² See *id.* at 1321.

²⁷³ *Id.* at 1315.

²⁷⁴ See *Organic Seed Growers*, 718 F.3d at 1353.

²⁷⁵ See *id.* at 1359 (“[T]he appellants are ‘using their best efforts to avoid’ contamination.”).

C. *Opening the Floodgates to Litigation?*

Despite significant litigation against end users, some voice concerns that opening the door to end user standing would create a flood of litigation that would undermine the carefully crafted balance of the patent system.²⁷⁶ However, the balance is currently tilted the other way. The structure of patent litigation significantly discourages parties from bringing suit.²⁷⁷

Such disincentives are particularly strong in the case of end users. First, the costs of patent litigation are exorbitant, even compared to other types of civil litigation.²⁷⁸ Recently reported litigation costs were between \$700,000 and \$5.5 million, with costs varying depending on the amount litigated.²⁷⁹ The costs of other forms of civil litigation are significantly lower. Studies show that these costs range from \$15,000 to \$122,000.²⁸⁰ The expense of patent litigation can be especially onerous for end users because they lack in-house technological sophistication and need to rely on expensive outside experts at every stage of the litigation.²⁸¹ Additionally, end users, who are usually not technological companies, do not tend to have patent litigation insurance that can reduce their expenses.²⁸² Finally, many end users are small entities. Studies reveal that both

²⁷⁶ See, e.g., Leslie, *supra* note 144, at 299, 302 (voicing concerns that any consumer who purchased a patented product from a monopolist would have standing against patentee).

²⁷⁷ See La Belle, *Patent Law as Public Law*, *supra* note 18, at 64-68.

²⁷⁸ See Bernstein, *supra* note 3, at 1483-84; David L. Schwartz, *The Rise of Contingent Fee Representation in Patent Litigation*, 64 ALA. L. REV. 335, 348 (2012).

²⁷⁹ Bernstein, *supra* note 3, at 1483-84 (reporting recent American Intellectual Property Law Association data on the mean and median of patent litigation costs depending on the amount at stake).

²⁸⁰ See PAULA HANNAFORD-AGOR & NICOLE L. WATERS, COURT STATISTICS PROJECT, ESTIMATING THE COST OF CIVIL LITIGATION 7 (2013), http://www.courtstatistics.org/~media/microsites/files/csp/data%20pdf/csph_online2.ashx [<https://perma.cc/3Y4D-667S>] (providing the costs for automobile, premises liability, real property, employment, contract, and malpractice cases); Emery G. Lee III & Thomas E. Willging, *Defining the Problem of Cost in Federal Civil Litigation*, 60 DUKE L.J. 765, 769-70 (2010). Older data also shows that, in the past, the costs of other forms of civil litigation were much lower than patent litigation costs. See David M. Trubek et al., *The Costs of Ordinary Litigation*, 31 UCLA L. REV. 72, 92 (1983) (finding that the cost to litigate an average civil suit rarely exceeds \$10,000).

²⁸¹ Bernstein, *supra* note 3, at 1463-64 (“While small companies that develop a technology have in-house engineers who are acquainted with the technology and any related innovations, end users rarely have this know-how.”); see also Love & Yoon, *supra* note 46, at 1624-35 (discussing the in-house knowledge on which technological competitors can rely).

²⁸² See Catherine Rajwani, *Controlling Costs in Patent Litigation*, 16 J. COM. BIOTECHNOLOGY 266, 269 (2010) (mentioning patent litigation insurance as one of the top ten ways to reduce patent litigation costs).

direct and indirect litigation costs are particularly burdensome for small companies.²⁸³

Second, a plaintiff who wins a declaratory judgment suit receives a declaration that the patent is invalid.²⁸⁴ This plaintiff benefits because it does not have to pay licensing fees, but it receives no additional monetary compensation.²⁸⁵ The lack of a monetary reward, combined with the expense of patent litigation, poses a significant barrier to filing a declaratory judgment suit.

Third, a plaintiff who brings a declaratory judgment suit runs the risk that the patentee will sue him for patent infringement.²⁸⁶ An infringement suit could potentially result in an injunction, treble damages, and even attorney's fees. If the declaratory judgment plaintiff fails and the patentee succeeds in his infringement suit, the plaintiff could be significantly worse off than before he filed suit.²⁸⁷

These disincentives underscore that granting end users standing is unlikely to produce a flood of user lawsuits. End users will probably not regularly seek to invalidate patents via declaratory judgment suits. At the same time, lowering the entry barriers to federal court would play an important role in leveling the patent playing field. Although most end users will still refrain from filing suit, granting user standing is likely to increase the number of declaratory judgment suits. Some end users would still sue, despite the disincentives, because they have both long-term interests in the technology as well as the necessary resources.²⁸⁸ And at times, patents affect large groups of users, and these users may be able to sue through public interest organizations.²⁸⁹

Finally, granting users standing is important because competitors have, as discussed, certain disincentives that discourage them from challenging patents that users do not share.²⁹⁰ In that sense, users can, at times, replace competitors in maintaining the balance of the patent system by challenging invalid patents.

²⁸³ See James Bessen & Michael J. Meurer, *The Direct Costs from NPE Disputes*, 99 CORNELL L. REV. 387, 400 (2014).

²⁸⁴ See 28 U.S.C. § 2201(a) (2012) (“[A]ny court of the United States . . . may declare the rights and other legal relations of any interested party seeking such declaration, whether or not further relief is or could be sought.”).

²⁸⁵ See La Belle, *Patent Law as Public Law*, *supra* note 18, at 64.

²⁸⁶ See Tom Ewing & Robin Feldman, *The Giants Among Us*, 2012 STAN. TECH. L. REV. 1, 22; La Belle, *Patent Law as Public Law*, *supra* note 18, at 65.

²⁸⁷ La Belle, *Patent Law as Public Law*, *supra* note 18, at 65.

²⁸⁸ See, e.g., O'Brien, *supra* note 161, at 1405-06 (discussing patients with Fabry disease who had a long-term interest in an underproduced drug and petitioned the National Institutes of Health to use its march-in power to address the patented drug shortage).

²⁸⁹ For example, the Public Patent Foundation filed suit on behalf of sixty family farmers to invalidate a patent held by Monsanto in *Organic Seed Growers*. *Organic Seed Growers & Trade Ass'n v. Monsanto Co.*, 718 F.3d 1350, 1350-52 (Fed. Cir. 2013).

²⁹⁰ See *supra* Section III.B.

CONCLUSION

Competitors and patent owners, not end users, are the traditional parties in patent litigation. However, patent owners have recently begun enforcing patents against end users, including farmers, physicians, podcasters, and small business owners. This Article has shown that as end users play a growing role defending against patent enforcement, their unclear status under the standing doctrine limits their ability to proactively defend themselves. The Federal Circuit's standing doctrine requires plaintiffs seeking to invalidate a patent by filing a declaratory judgment motion to show that they have a reasonable apprehension of suit, and that they engaged in meaningful preparations for potentially infringing activity.

This Article has uncovered the unique characteristics of end users that place them in a particular predicament regarding the Federal Circuit's standing requirements. First, end users "use" but do not "make" the technology. Their interaction with the technology is more simplistic, making it harder for them to qualify under the traditional application of the meaningful preparations test. Second, users are diverse entities and are usually part of a large group. Consequently, the user who was threatened or sued and can meet the patentee affirmative enforcement test often is not the one who has the motivation and resources to file suit for declaratory judgment. Third, users lack technological sophistication. An illegitimate patent claim is more likely to chill their actions and affect their use of the technology than to chill the actions of technologically savvy competitors. Fourth, users have become involuntary players in the patent playing field. Yet the patent standing doctrine does not traditionally protect users. It assumes instead that competitors will defend them. The growing role of users on the defense side of patent disputes underscores the fallacy of this assumption. Fifth, end users tend to get involved in patent disputes relatively late in the life of the patent, when the technology reaches the market. Users' late entry into the dispute coupled with heightened standing requirements make even the alternative forum for challenging a patent—the PTO—an unappealing option for users.

Lastly this Article has shown that although users' standing status is currently unclear, users can qualify for standing if courts properly apply existing Federal Circuit doctrine. First, the Federal Circuit repeatedly diluted the apprehension of suit test. When this test is properly applied under the *MedImmune* rationale, users should qualify for standing when they are caught in a dilemma between using a technology and exposing themselves to potential legal liability, abstaining from using the technology, or taking other action—such as payment of royalties—to avoid potential liability. Second, users can qualify for standing under the meaningful preparations test because their minimal need for preparations easily satisfies the immediacy criteria of the test. In applying this test, courts would need to rely on users' intent to use the technology instead of on overt actions of manufacture or sale preparatory activities, which are inherently absent in user cases.