Docket No. 2014-1492

In the

United States Court of Appeals

for the

Federal Circuit

Carnegie Mellon University,
Plaintiff – Appellee,
v.
Marvell Technology Group, Ltd. and
Marvell Semiconductor, Inc.,
Defendants – Appellants.

On Appeal from the United States District Court for the Western District of Pennsylvania in No. 2:09-cv-00290-NBF, Honorable Nora Barry Fischer

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BRIEF *AMICI CURIAE* OF FIFTEEN PROFESSORS OF INTELLECTUAL PROPERTY LAW IN SUPPORT OF APPELLANT MARVELL

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CERTIFICATE OF INTEREST

Donald M. Falk, counsel for the *amici curiae*, certifies the following:

1. The full name of every *amicus* represented by me is included below in Appendix A.

2. The name of the real party in interest represented by me is: N/A

3. All parent corporations and any publicly held companies that own 10 percent or more of the stock of the *amici curiae* represented by me are: N/A

4. The names of all law firms and the partners or associates that appeared for the *amici* now represented by me in the trial court or agency or are expected to appear in this court are:

Donald M. Falk, Mayer Brown LLP

August 11, 2014

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TABLE OF CONTENTS

Page

TABLE OF AUTHORITIES

Cases **Page(s)**

Statutes and Rules **Page(s)**

TABLE OF AUTHORITIES - Continued

Other Authorities **Page(s)**

TABLE OF AUTHORITIES - Continued

Other Authorities **Page(s)**

TABLE OF AUTHORITIES - Continued

Other Authorities **Page(s)**

TABLE OF AUTHORITIES - Continued

Other Authorities **Page(s)**

INTEREST OF THE *AMICI CURIAE*

Amici are law professors at schools throughout the United States. We have no personal interest in the outcome of this case, but a professional interest in seeing that patent law develops in a way that encourages rather than hinders innovation and creativity.[1] The decision below threatens to do the opposite by permitting the recovery of patent infringement damages for the extraterritorial exploitation of domestic research. Under the damages theory adopted below, any patent practiced domestically in the research and development of a product can result in a damages award reflecting every unit of that product produced and sold worldwide, including units that never entered the United States. The practical effect of that damages theory is to confer a worldwide patent right, contrary both to established precedent and sound innovation policy. Because a patent system that produces overcompensatory damages awards can impede innovation rather than encourage it, our professional interest extends to the proper articulation of damages principles here.

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[1] All parties have consented to the filing of this brief. Fed. R. App. P. 29(c)(4). No party or party's counsel authored any part of this brief, or contributed money that was intended to fund preparing or submitting the brief. No person other than the amici and their counsel contributed money that was intended to fund preparing or submitting the brief. *See id.* 29(c)(5).

INTRODUCTION AND SUMMARY OF THE ARGUMENT

Of the issues presented by this appeal, the measure of damages is the most broadly significant. The district court ruled below that infringing a patent during the course of research and development can subject a U.S. technology company to damages reflecting the value of all its sales worldwide. This ruling effectively transforms every U.S. patent into a worldwide patent. As explained below, that result cannot be justified as a matter of doctrine or policy. To the contrary, affirmance of the district court's damages analysis will create material disincentives for domestic innovation and likely hasten the overseas migration of technology research facilities that are now in the U.S.

The vast majority of the damages awarded in this case—at least three-quarters of the roughly $1.17 billion pre-enhancement total—is a reasonable royalty for the use of chips that were neither manufactured in nor imported into the U.S. Rather, these chips were fabricated in Taiwan, installed overseas in hard drives manufactured by third-party foreign-based companies, and eventually sold to foreign end-users who used their hard drives exclusively outside the U.S.

Under long-standing precedent, supported by the explicit territorial limitations in the Patent Act, extraterritorial actions like these fall outside the

scope of conduct that constitutes patent infringement under U.S. law. Nonetheless, the district court permitted Carnegie Mellon University (CMU) to recover damages incorporating the value of chips in hard drives that were manufactured, bought, and used outside the U.S. because Marvell Semiconductor, Inc.'s chip *design and marketing activities* took place in the U.S. In short, the district court ruled below that Marvell's own use within the U.S. of a relatively small number of prototype chips during the process of negotiating with potential customers rendered Marvell liable in U.S. courts for *all* similar chips, including those not made in the U.S., in hard drives sold worldwide.

Affirming the damages award on that theory will effectively eliminate the long-standing prohibition on recovering damages under the U.S. Patent Act for extraterritorial patent infringement. Virtually all technology companies designing a new product produce a small number of prototypes, demonstrate those prototypes to potential customers, and tweak their designs based on customer feedback—often over the course of months or years in a lengthy iterative process indistinguishable from Marvell's so-called "sales cycle." A holding from this Court that such conduct is sufficient to draw worldwide sales into the ambit of U.S. patent litigation will effectively render the extraterritoriality rule a dead letter.

Moreover, limiting damages in this case to only those chips made, used, or sold in the U.S. will not create a disincentive to invention. A patentholder in CMU's shoes could have sought and enforced foreign patent rights to protect its invention from foreign actions like Marvell's without the need for a new, disruptive theory of U.S. patent damages.

To the contrary, affirming the district court's view of the scope of infringement damages will often over-reward inventors and thereby reduce overall incentives to innovate. By transforming every U.S. patent into a de facto worldwide patent right, the damages principles approved below undermine the territorial sovereignty of patent law and will routinely lead to overcompensation. Those principles permit U.S. patentees to evade more restrictive patent regimes enacted in foreign nations: inventors who never obtained foreign patent rights could nonetheless seek damages in U.S. courts for products made, used, and sold abroad. Moreover, if left in place, the damages ruling below may allow inventors who *do* obtain both U.S. and foreign patent rights to recover damages twice for the very same conduct: once by asserting U.S. patent rights against domestic uses to recover a royalty reflecting the value of all uses worldwide, and again by asserting foreign patent rights in foreign nations where the patented technology was principally used. Drastically increasing the amounts at stake in U.S. patent

suits—which at present levels are already the source of considerable criticism—threatens to upset the patent system's delicate balance of adequately rewarding innovators of the past without handcuffing the innovators of today.

The damages theory adopted below also threatens to discourage domestic innovation in another way. If affirmed, such a rule will disadvantage technology companies that locate key R&D activities in the U.S. relative to companies that offshore those activities. Accordingly, it is likely that this rule will induce U.S.-based technology firms to move U.S. operations to overseas locations that are marginally less conducive to innovation.

ARGUMENT

Departing from the principle that U.S. patent rights do not reach beyond the Nation's borders, the district court endorsed a damages theory that drastically expands the scope of U.S. patent rights in a way that upends long-settled precedent and opens the door for double-recovery. The district court allowed the jury to award damages reflecting the value of products manufactured and sold overseas as compensation for the infringement of a patented method used domestically during the process of designing those products. *Carnegie Mellon Univ. v. Marvell Tech. Grp., Ltd.*, 986 F. Supp.

2d 574, 636 (W.D. Pa. 2013).[2] CMU developed this theory of recovery in order to shield itself from the consequences of its own strategic choices for protecting the invention at issue in this case. But U.S. patent law will not stretch so far.

As the Supreme Court has repeatedly recognized, the U.S. "patent system makes no claim to extraterritorial effect." *Deepsouth Packing Co. v. Laitram Corp.*, 406 U.S. 518, 531 (1972) ("[T]hese acts of Congress do not, and were not intended to, operate beyond the limits of the United States; and we correspondingly reject the claims of others to such control over our markets." (quoting *Brown v. Duchesne*, 60 U.S. (19 How.) 183, 195 (1857)). More recently, the Court construed the Patent Act narrowly to avoid any "extraterritorial thrust" in light of "the presumption against extraterritoriality" in the Act's effect. *Microsoft Corp. v. AT&T Corp.*, 550 U.S. 437, 455-58 (2007).

Accordingly, as this Court recognized only last year, "[i]t is axiomatic that U.S. patent law does not operate extraterritorially to prohibit infringement abroad." *Power Integrations v. Fairchild Semiconductor Int'l, Inc.*, 711 F.3d 1348, 1372 (Fed. Cir. 2013). Because the Patent Act

[2] The district court published two opinions adopting this damages theory. *Carnegie Mellon Univ. v. Marvell Tech. Grp., Ltd.*, 986 F. Supp. 2d 574, 637-50 (W.D. Pa. 2013); *Carnegie Mellon Univ. v. Marvell Tech. Grp., Ltd.*, 890 F. Supp. 2d 602, 609-11 (W.D. Pa. 2012).

"allow[s] specifically 'damages adequate to compensate *for the infringement*,'" it does not contemplate "compensation for a defendant's foreign exploitation of a patented invention, which is not infringement at all." *Id.* (quoting 35 U.S.C. § 284, emphasis in original).[3]

The district court circumvented this long-standing principle by adopting a new theory that permits a patentee to recover damages reflecting the value of foreign uses of the patented technology. The district court recognized that foreign uses are not themselves infringing. *See* 890 F. Supp. 2d at 609 (granting summary judgment of noninfringement "in connection with sales of chips that are never used in the United States"). Yet the district court nonetheless permitted CMU to recover damages for those foreign uses because they were a foreseeable result of Marvell's domestic use of the

[3] Indeed, *Power Integrations* should control this case. Certainly the district court cannot be correct that the holding in that case applies only to lost profits damages and not to the use of a reasonable royalty. *See* 986 F. Supp. 2d at 639 ("The *Power Integrations* fact pattern is quite distinct from the facts at hand [because] . . . this case has nothing to do with lost profits."). The district court failed to explain why patentees that lose foreign sales as a result of U.S. infringement deserve less protection than patentees seeking a royalty on foreign sales resulting from domestic infringement. In our view, the core question in both cases is whether U.S. patent law should permit recovery reflecting the value of foreign activities foreseeably resulting from alleged domestic infringement. *Power Integrations*, 711 F.3d at 1370 ("Power Integrations argues that *it was foreseeable* that Fairchild's infringement *in the United States* would cause Power Integrations to lose sales *in foreign markets*." (emphasis added)). In this brief, however, we focus on reasons why the Court should reject the district court's damages theory as a matter of policy.

patented technology in the course of designing, testing, and marketing the accused product. That holding allowed CMU to accomplish through the backdoor what long-standing precedent squarely prohibits it from obtaining through the front.

As explained below, the district court's damages ruling effectively eliminates the rule barring the extraterritorial application of U.S. patent law; ignores CMU's ability—and failure—to protect its invention in foreign countries; and threatens to overcompensate patentees to an extent that is likely to slow rather than spur the pace of innovation.

I. The District Court's Holding Swallows the Long-Established Rule that Extraterritorial Use of a Patented Invention Is Not Infringement

If permitted to stand, the district court's holding on damages will render the well-settled rule prohibiting the extraterritorial application of U.S. patent law a virtual nullity as applied to U.S.-based technology companies. The reason is simple: any technology company worth its salt does precisely what Marvell did in this case. Technology companies, across all industries, routinely work, first, internally and, later, with potential customers to test and tailor product prototypes.

The software industry, for example, regularly engages in serial testing of "alpha" and "beta" versions of software products in conjunction with

potential customers before finalized versions are sold domestically and abroad.[4] Pharmaceutical companies and medical device manufacturers, among others, are required by law to undergo extensive testing to ensure that their products are safe and effective.[5] Additional examples are far too numerous to mention. Essentially by definition, innovative companies engaged in R&D in the U.S. use their own products—including the myriad inventions incorporated therein—for testing and design purposes and thus, under the holding below, unwittingly open themselves to liability under U.S. patent law for all future uses of those products throughout the world.

Though it is true that CMU's theory includes a foreseeability requirement, this provides no meaningful limit. It is virtually impossible to

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[4] *See, e.g.*, Int'l Software Testing Qualifications Bd., Standard Glossary of Terms Used in Software Testing 10-11 (v. 2.4 July 4, 2014), *available at* http://www.astqb.org/get-certified/istqb-syllabi-the-istqb-software-tester-certification-body-of-knowledge/ (defining "alpha testing" as "testing by potential users/customers or an independent test team at the developers' site, but outside the development organization" and "beta testing" as "[o]perational testing by potential and/or existing users/customers at an external site not otherwise involved with the developers, to determine whether or not a component or system satisfies the user/customer needs and fits within the business processes.").

[5] *See, e.g.*, U.S. Food & Drug Admin., The FDA's Drug Review Process: Ensuring Drugs Are Safe and Effective, http://www.fda.gov/drugs/resourcesforyou/consumers/ucm143534.htm (last visited Aug. 10, 2014); U.S. Food & Drug Admin., Overview of Medical Devices and Their Regulatory Pathways, http://www.fda.gov/AboutFDA/CentersOffices/OfficeofMedicalProductsandTobacco/CDRH/CDRHTransparency/ucm203018.htm (last visited Aug. 10, 2014).

argue that the sale of products for possible use outside the U.S. isn't the foreseeable result of domestic design and testing activities. In fact, maximizing sales is the intended result of these activities.

In short, the logical extension of the district court's ruling is that virtually any company engaged in domestic R&D that releases a product later deemed to infringe a U.S. patent is liable for damages reflecting the value of all uses of that product worldwide, even though those uses that occur outside the U.S. do not constitute infringement of a U.S. patent.

II. Patentees Can Adequately Protect Their Inventions in Other, Less-Disruptive Ways

In addition to its departure from decades of precedent limiting the extraterritorial reach of U.S. patent law, the district court's holding ignores the fact that inventors can, and frequently do, protect their inventions by obtaining patent rights in multiple countries: between 2002 and 2012 U.S.-based patentees filed roughly three foreign applications for every four domestic applications. *See* World Intell. Prop. Org., Statistical Country Profiles: United States, http://www.wipo.int/ipstats/en/statistics/ country _profile/countries/us.html (last visited Aug. 10, 2014). Had CMU obtained patent rights to the invention at issue in other countries, it could have filed suit in jurisdictions outside the U.S. to advance its claims for allegedly infringing uses overseas. As the Supreme Court recognized in *Microsoft v.*

AT&T, the proper course of action for a patentee in CMU's shoes is to assert foreign patent rights: "foreign law alone, not United States law, currently governs the manufacture and sale of components of patented inventions in foreign countries [and thus,] [i]f [a patentee] desires to prevent copying in foreign countries, its remedy today lies in obtaining and enforcing foreign patents." 550 U.S. at 439. CMU chose not to pursue any foreign patent rights on the inventions at issue in this case, even though the university regularly pursues foreign patents for other inventions. *See* Google Patent Search, www.google.com/patents (searching for "inassignee:Carnegie inassignee:Mellon").

Accordingly, rejecting the district court's expansive damages holding here would not allow Marvell to escape liability through a loophole. To the contrary, that result would merely hold CMU to the strategic choices it made when deciding what level of protection the invention at issue warranted. In short, patentees have alternative mechanisms for protecting their inventions against the type of conduct alleged in this case and, thus, there is no need to create a sweeping new rule.

III. The District Court's Holding Will Routinely Lead to Overcompensation and, Thus, Hinder Innovation

Moreover, precisely because patentees have recourse under foreign law for use of their inventions in foreign nations, the district court's damages

holding violates principles of international comity and, if adopted by this Court, will often lead to excessive compensation. Under the present regime of international patent law, individual countries issue and enforce their own patents. As a result, "an inventor seeking worldwide protection for her creation would have to obtain a patent in every country that offers patent protection." Martin J. Adelman, et al., Global Issues in Patent Law 1 (2011). Indeed, the preamble to the Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS) recognizes the need to provide for the "effective and appropriate means for the enforcement of trade-related intellectual property rights, taking into account *differences in national legal systems*." Agreement on Trade-Related Aspects of Intellectual Property Rights, *adopted by United States* Dec. 8, 1994, 1869 U.N.T.S. 299 (emphasis added).

If affirmed, the district court's ruling will allow patentees to leverage U.S. patent litigation to evade more restrictive patent regimes in force in foreign nations. *See* Bernard Chao, *Patent Imperialism* (forthcoming 2014), *available at* http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2475219 (making this argument in greater detail). Inventors who never even obtain a patent in a foreign nation nonetheless will be able to seek damages for products made and sold abroad by asserting U.S. patents in U.S. courts.

This availability of infringement damages would extend even to foreign nations that refuse to award patents on the basis of specific substantive rules not found in U.S. law—for example, nations that restrict the patentability of software or stem cells to a greater extent than the U.S.—and even to nations that provide much more modest remedies for patent infringement, of which there are many.[6]

Undoubtedly, U.S. policymakers would be extremely disconcerted if the circumstances were reversed and another country tried to impose its domestic patent rules on products made and sold in the U.S. For example, imagine if after *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 132 S.Ct. 1289 (2012), another nation allowed its courts to award to owners of foreign patent claims identical to those invalidated in *Mayo* damages reflecting the value of diagnostic tests originally developed in that nation,

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[6] The median damages award in a U.S. patent case between 1995 and 2010 was about $5.1 million, substantially higher than the median among foreign patent suits. *See* PricewaterhouseCoopers, 2011 Patent Litigation Study 9, *available at* http://www.pwc.com/en_US/us/forensic-services/publications/assets/2011-patent-litigation-study.pdf; Nicolas van Zeebroeck & Stuart Graham, *Comparing Patent Litigation Across Europe: A First Look*, 17 Stan. Tech. L. Rev., at *9 n.31 (forthcoming 2014), *available at* http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1924124&download=yes (noting, for example, that the average patent infringement award in France was just over €21,000, roughly $28,000, in 1998); *see also* Thomas F. Cotter, Comparative Patent Remedies: A Legal and Economic Analysis 287 (2013) ("Among the broader structural features that keep damages judgments in check [outside the U.S.] may be the absence of jury trials and limitations on discovery.").

but made and sold in the U.S. Our nation would view this as impermissible interference with U.S. patent law, yet this is precisely what the district court's decision below accomplishes.

Worse still, inventors who *do* obtain both U.S. and foreign patent rights might well be able to recover damages twice for the very same conduct: once by asserting a U.S. patent against domestic use to recover a royalty that reflects the value of all uses worldwide, and again by asserting foreign patent rights in foreign nations where the technology was actually used and infringed. It is far from clear that nations will uniformly conclude that patent rights issued by their governments are exhausted (or will otherwise deny recovery) under these facts. *See, e.g.*, World Intell. Prop. Org., International Exhaustion and Parallel Importation, http://www.wipo.int/ sme/en/ ip_business/export/international_exhaustion.htm (last visited Aug. 10, 2014) (noting that many nations do not recognize international patent exhaustion); Toni-Junell Herbert, *Non-Uniform Patent Exhaustion Laws: Guarding Against Price Erosion from Parallel Imports*, Lexology, Mar. 26, 2007, http://www.lexology.com/library/detail.aspx?g =fb3e9c05-9bd0-4ea2-99f7-0b20eaa0e923 ("[A]lthough many countries apply some form of the patent

exhaustion doctrine, the laws are not uniform regarding the scope of the doctrine.").[7]

If permitted, double recovery of this nature may result in extreme overcompensation. For most technologies, the cumulative total of worldwide foreign use exceeds domestic use in the U.S. Apple, Google, Facebook, Johnson & Johnson, Pfizer, and Abbott Labs, for example, each earn significantly less than half of their worldwide revenue in the U.S.[8] In this

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[7] Indeed, it is even unclear how U.S. courts would rule if the jurisdictions were reversed. *See* Donald S. Chisum, *How the Supreme Court Justices Might Rule on International Patent Exhaustion* 7-8 (Aug. 21, 2013), *available at* http://www.chisum.com/wp-content/uploads/International PatentExhaustion.pdf (predicting that this Court "will adhere to its national exhaustion position for patents" even though the Supreme Court ruled in *Kirtsaeng v. John Wiley & Sons, Inc.*, 133 S.Ct. 1351 (2013), that the first sale doctrine for copyrights applies internationally); *King Instrument Corp. v. Otari Corp.*, 814 F.2d 1560, 1564 (Fed. Cir. 1987) (stating that a party who paid a patent infringement damages award is deemed to have "received an implied license" for "past *infringing* . . . sales" (emphasis added)).

[8] *See, e.g.*, Paul R. La Monica, *Apple Really Does Rule the World*, CNN Money, Apr. 25, 2012, http://money.cnn.com/2012/04/25/markets/thebuzz/ (showing that Apple earned less than half of its worldwide revenue in the western hemisphere in the second quarters of 2011 and 2012); Greg Sterling, *Google Revenues: $14.4 Billion In Q4, Over $50 Billion In 2012*, Marketing Land, Jan. 22, 2013, http://marketingland.com/google-revenues-14-4-billion-in-q4-over-50-billion-in-2012-31378 (showing that Google earned less than half of its worldwide revenue from the U.S. market in 2010-2012); Jim Edwards, *Facebook Is Failing In Europe—And It's All Russia's Fault*, Oct. 25, 2012, http://www.businessinsider.com/facebook-is-failing-in-europe--and-its-all-russias-fault-2012-10?op=1 (showing that Facebook earned roughly half of its worldwide revenue from users in the U.S. and Canada in 2010-2012); Johnson & Johnson, Market Presence, https://www.jnj.com/ caring/citizenship-sustainability/strategic-framework/ Market-Presence (last

case, the total value of foreign uses was at least three times greater than the value of use within the United States.[9] In *Power Integrations*, the ratio was greater than four-to-one. 711 F.3d at 1370 (noting that the district court concluded that just 18% of the jury verdict "represented U.S. sales for which Fairchild was liable by way of inducement").

Accordingly, the district court's damages standard—with its wholesale adoption of CMU's theory—promises to drastically increase the value of existing patent rights and the potential infringement exposure of U.S. tech companies. The correlation between patent strength and innovation is a complicated one because patents both encourage and discourage innovation at the same time. As Justice Breyer succinctly put it, "sometimes too much patent protection can impede rather than 'promote the Progress of Science

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visited Aug. 10, 2014) ("As the world has changed, so has the geographical distribution of our . . . sales. In 2012, 56 percent of the revenues of Johnson & Johnson come from outside the U.S."); *Pfizer's Revenues in Global Submarkets from 2010 to 2013*, http://www.statista.com/statistics/267877/revenues-of-pfizer-in-submarkets-worldwide/ (last visited Aug. 10, 2014) (showing that Pfizer earned less than half of its worldwide revenue from the U.S. market each year from 2010 to 2013); Eric Bleeker, *Here's Where Abbott Laboratories Is Finding Its Growth*, Daily Finance, Mar. 28, 2012, http://www.dailyfinance.com/2012/ 03/28/heres-where-abbott-laboratories-is-finding-its-gr/ (showing that Abbott Labs earned less than half of its worldwide revenue in the U.S. in 2008 and 2011).

[9] The jury's $1,169,140,271 verdict was calculated by applying a $0.50 per chip royalty to 2,338,280,542 chips, the royalty rate and royalty base advanced by CMU's damages expert. *See* 986 F. Supp. 2d at 597, 642-43, 652. The same expert estimated that only between 556,812,091 and 329,297,798 of these chips were used in the U.S. *Id.* at 642-43.

and useful Arts,'" and, thus, "[p]atent law seeks to avoid the dangers of overprotection just as surely as it seeks to avoid the diminished incentive to invent that underprotection can threaten." *Lab. Corp. of Am. Holdings v. Metabolite Labs., Inc.*, 548 U.S. 124, 126-27 (2006) (Breyer, J., dissenting from dismissal of writ of certiorari).[10]

Such a drastic increase in the amount of damages recoverable under U.S. law will, we believe, likely discourage innovation on net. In recent years, the law of patent damages has been roundly and convincingly criticized as too often permitting awards that are excessive in relation to the value of the patented invention.[11] Excessive damages can overly deter

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[10] *See also* Fed. Trade Comm'n, The Evolving IP Marketplace: Aligning Patent Notice and Remedies with Competition 145-46 (2011), *available at* http://www.ftc.gov/sites/default/files/documents/reports/evolving-ip-marketplace-aligning-patent-notice-and-remedies-competition-report-federal-trade/110307patentreport.pdf ("[I]t is a false logic to argue that higher damage awards will simply create greater incentives to innovate . . . . When infringers are also innovators, the inflated damage awards they pay will reduce returns from their own R&D efforts . . . . Patent damages that overcompensate patentees compared to the market reward [also] incentivize speculation through the purchase and assertion of patents in litigation."); Robert P. Merges & Richard R. Nelson, *On the Complex Economics of Patent Scope*, 90 Colum. L. Rev. 839, 866 n.117 (1990) (presenting a numerical example).

[11] *See* Bernard Chao, *The Case for Contribution in Patent Law*, 80 U. Cin. L. Rev. 97 (2011); Christopher B. Seaman, *Reconsidering the* Georgia-Pacific *Test for Reasonable Royalty Patent Damages*, 2010 BYU L. Rev. 1661; Brian J. Love, *The Misuse of Reasonable Royalty Damages as a Patent Infringement Deterrent*, 74 Mo. L. Rev. 909 (2009); Mark A. Lemley & Carl Shapiro, *Patent Holdup and Royalty Stacking*, 85 Tex. L. Rev. 1991 (2007);

potential infringers from engaging in beneficial commercial activity and, conversely, overly encourage efforts to monetize patents through aggressive enforcement. *See, e.g.*, Jerry R. Green & Suzanne Scotchmer, *On the Division of Profit in Sequential Innovation*, 26 RAND J. Econ. 20, 26-27 (1995) (noting that the specter of patent infringement liability may cause future innovators to avoid a market for fear that expected patent licenses will reduce profitability). Indeed, it is likely that affirmance of the damages award here will release a wave of new patent suits that pushes the current rate of patent litigation—already at an all-time high[12]—even higher still.

In the long run, excessive patent-related costs like these will also harm the domestic technology industry and slow the pace of innovation in other indirect ways. Because CMU's theory disadvantages tech companies that locate key R&D activities in the U.S. relative to companies that offshore those activities, adopting the rule will induce U.S.-based tech firms to move their operations overseas. Relocations of this kind directly harm innovation by wastefully consuming resources that otherwise could be devoted to

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Amy L. Landers, *Let the Games Begin: Incentives to Innovation in the New Economy of Intellectual Property Law*, 46 Santa Clara L. Rev. 307 (2006).

[12] *See* PricewaterhouseCoopers, 2014 Patent Litigation Study 5, *available at* http://www.pwc.com/en_US/us/forensic-services/publications/assets/2014-patent-litigation-study.pdf ("[T]he annual number of patent actions filed once again establishes a new record high, with close to 6,500 cases filed in 2013. The number of cases has increased at an overall compound annual growth rate (CAGR) of 8% since 1991.").

additional R&D and indirectly slow the pace of innovation by shifting socially valuable R&D activities from world-class technology hubs in the U.S. to foreign locales that are less conducive to innovation.

CONCLUSION

The judgment of the district court should be reversed to the extent it awards infringement damages for extraterritorial conduct. Doing so will preserve existing limits on the territorial reach of U.S. patent law, will not affect inventors who take greater care than CMU did to protect their inventions, and will avoid increasing the amount of damages available in U.S. patent litigation to an extent that is likely to slow our nation's pace of innovation.

Dated: August 11, 2014

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APPENDIX A

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CERTIFICATE OF SERVICE

I hereby certify that on August 11, 2014, I electronically filed the foregoing with the Clerk of the Court for the United States Court of Appeals for the Federal Circuit by using the appellate CM/ECF system.

I certify that all participants in the case are registered CM/ECF users and that service will be accomplished by the appellate CM/ECF system.

By: /s/ Donald M. Falk
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CERTIFICATE OF COMPLIANCE PURSUANT TO FRAP 32(a)(7)(B)-(C) AND FEDERAL CIRCUIT RULE 32(b)

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2. EXCLUSIVE of the certificate of interest; table of contents; table of authorities; Appendix A containing the List of Signatories; and the certificate of service, this brief contains 4,457 words and is within the 7,000 word limit pursuant to Federal Circuit Rule 29(d).

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Dated: August 11, 2014

By: /s/ Donald M. Falk
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