No. 19-337

IN THE

Supreme Court of the United States

REGENTS OF THE UNIVERSITY OF MINNESOTA,

Petitioner,

v.

LSI CORPORATION, ET AL.,

Respondents.

ON PETITION FOR A WRIT OF CERTIORARI TO THE UNITED STATES COURT OF APPEALS FOR THE FEDERAL CIRCUIT

BRIEF OF TWELVE STATE UNIVERSITIES AND STATE UNIVERSITY SYSTEMS AS *AMICI CURIAE* IN SUPPORT OF PETITIONER

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INTERESTS OF THE *AMICI CURIAE*[1]

The twelve *amici curiae* consist of the following major state research universities and state university systems:

STC.UNM of the University of New Mexico

Board of Regents of the University of Arkansas

The California State University

Kansas State University

Louisiana Tech University

Michigan Technological University

MUSC Foundation for Research Development

The Trustees of Purdue University

University of Kansas

University of Maryland, Baltimore

University of Maryland, College Park

Washington State University

The *amici* have significant interests in the opinion below—an opinion that threatens to substantially disrupt state university participation in the innovation economy. Universities are the nation's greatest innovators and inventors, performing nearly 60% of all basic research in the United States. *Academia Continues as Nation's Basic Research Hub*, R&D 2017 Global R&D Funding Forecast, Winter 2017, at

[1] No counsel for any party authored this Brief in whole or in part, and no person or entity other than the *amici curiae*, their members, or their counsel made a monetary contribution intended to fund its preparation or submission. Counsel of record for all parties have received timely notice of the intent to file this Brief, and all parties have consented to the filing of this Brief.

12–13. In fiscal year 2017 alone, public universities including the *amici* performed over $43 billion worth of funded research and development, which represents a substantial majority of all such activity in the United States. The *amici* themselves collectively own thousands of U.S. patents. State universities are the largest contributors to the nation's innovation economy by a wide margin.

State universities are at the epicenter of innovation in the United States because of a longstanding partnership between academia and industry. Recognizing the importance of university research to the innovation economy, Congress passed the Bayh-Dole Act in 1980, which created incentives for universities to support inventorship, obtain patents, and license those patents for marketing and commercialization by private companies. 35 U.S.C. §§ 200–212. That system works as designed—universities invent fundamental technological or life sciences advancements, industry players licensed by the universities use the protections afforded by their licenses to justify the private investments necessary to give life to those inventions, and the universities reinvest their licensing proceeds into further innovation and into educating the next generation of scientists. University-backed research has produced a litany of world-changing innovations, some of which were pioneered by the *amici* themselves.

The Federal Circuit's opinion threatens to harm state universities' participation in the university/industry ecosystem that has made this country's innovation economy the envy of the world for much of the last century. Until now, sovereign immunity has helped to preserve the strength and competitiveness of public schools within that system by ensuring that

the *amici* and other state universities can choose if, when, and where to litigate their patent rights, including any claims of patent invalidity. The *amici* possess a strong interest in maintaining the integrity of the patent system and in preserving their constitutional right to participate in that system ***as sovereigns***. The opinion below would strip away that right, forcing public, sovereign universities with very limited resources to litigate their patent rights in prohibitively expensive, fragmented, and often duplicative administrative adjudications that are both an affront to state sovereignty and antithetical to the continued success of the U.S. innovation economy.

The *amici* fully support the Petition for a Writ of Certiorari filed in this matter, and respectfully urge the Court to review the decision of the Court of Appeals for the Federal Circuit.

SUMMARY OF ARGUMENT

Universities play a vital role in the nation's innovation economy: they invent groundbreaking technologies, license those inventions to industry partners, and then reinvest the licensing proceeds into further education and scientific discovery. State universities, such as the *amici*, are critical to this "cycle of innovation" because they perform the majority of all basic foundational research in this country. But in addition to their rich history of contributing to the total sum of practical knowledge both in the United States and globally, state universities are arms of their home states—they are beholden to state treasuries, and their efforts to license their innovations must be balanced against state interests and must be performed under the constraints of increasingly thin budgets. If state universities cannot remain competitive within the innovation economy, that economy cannot function.

The *inter partes* review ("IPR") procedure threatens to disrupt state university innovation on a massive scale. To date, at least 64 IPRs have been filed against public schools, despite the fact that the Patent Trial and Appeal Board ("PTAB") itself has recognized that such actions are barred by sovereign immunity. Most of those IPRs were filed as defensive tactics by parties accused of infringing university patents. Others appear to have been motivated by the desire to strategically eliminate valuable state university patents or to escape further obligations under existing patent license agreements. Given the PTAB's high invalidation rate, and the fact that even a successful IPR defense costs upwards of half a mil-

lion dollars, state universities (who are reluctant patent litigants to begin with) cannot remain competitive within a system where parties with unlimited budgets are increasingly using IPRs as leverage to devalue state university patents.

The Federal Circuit's ruling below—that "state sovereign immunity does not apply to IPR proceedings"—is a result strictly forbidden by the Eleventh Amendment and this Court's precedent. State universities, such as the *amici*, have the absolute constitutional right to choose if, when, and in what forum to enforce their patent rights, and to have any claims of patent invalidity adjudicated within those same proceedings. The Federal Circuit's ruling, however, would unconstitutionally allow any private party to haul a state entity before an inferior, administrative tribunal to have its patent rights adjudicated without its consent. And the ruling is not limited to situations where state universities have initiated district court lawsuits for patent infringement—rather, it makes state universities vulnerable to IPR attacks at any time, without provocation, simply because they own valuable patents.

This ruling cannot stand. It will have a chilling effect on state university patenting and licensing. The *amici* urge this Court to correct the Federal Circuit's unconstitutional abrogation of state sovereignty.

REASONS FOR GRANTING THE WRIT

A. The Nation's Greatest Innovators.

Universities are the United States' incubators of invention and innovation, and universities such as the *amici* perform nearly ***60% of all basic research*** in the United States. *Academia Continues as Nation's Basic Research Hub,* R&D 2017 Global R&D Funding Forecast, Winter 2017, at 12–13; Jacob H. Rooksby, *Innovation and Litigation: Tensions Between Universities and Patents and How to Fix Them*, 15 Yale J.L. & Tech. 312, 355 (2013). In fact, "our nation's primary source of both new knowledge and graduates with advanced skills continues to be its research universities." Nat'l Research Council of the Nat'l Acads., Research Universities and the Future of America 1 (2012). Universities produce discovery after discovery to expand knowledge for a society whose growth is linked to the knowledge economy. Jonathan R. Cole, The Great American University: Its Rise to Preeminence, Its Indispensable National Role, Why it Must be Protected 257–59 (2009); Nat'l Research Council of the Nat'l Acads., *supra*, at 3 n.13.

It is perhaps taken for granted today that universities are our "keepers of the national scientific flame." Donald Kennedy, *Universities: Costs and Benefits on the Academic Frontier*, *in* Science the Endless Frontier: Learning from the Past, Designing for the Future 59, 59 (Ctr. for Sci., Policy, and Outcomes ed., 1998). But many world-changing innovations that began as sparks in university laboratories would have likely flickered out had it not been for a

"national system of innovation" specifically designed to bring university innovation to light following World War II. Cole, *supra*, at 92, 98. As a result of this initiative, basic university research that began in the 1950s and 1960s in the areas of engineering, electronics, early computers, and material sciences would ultimately produce "an explosion of new technologies that have transformed our world, including such items as personal computers, mobile phones, and GPS systems." Rebecca M. Blank, *What Drives American Competitiveness?*, 663 Annals Am. Acad. Pol. & Soc. Sci. 8, 21 (2016).

Prior to 1980, however, the innovative power of our universities still was not fully realized because the government took the position that any inventions resulting from federally funded research belonged to the government, and it would only license those inventions on a non-exclusive basis. Ashley J. Stevens, *The Enactment of Bayh-Dole*, 29 J. Tech. Transfer 93, 94 (2004). As a result, U.S. productivity and innovation in both mature and emerging industries became stifled. *Id.* at 93. Billions of dollars of federal investments in potentially groundbreaking research and invention remained locked away because the authority and incentives needed to justify the risk and expense of turning university research into new products was not available. Universities could not monetize their inventions, and industry players were not willing to bring those inventions to market without exclusive licenses that would protect their investments.

Congress solved this problem by passing the Bayh-Dole Act in 1980. Through Bayh-Dole, Congress gave universities ownership of intellectual property developed with federal funds, as well as the

power to license their inventions to private industry, thus opening a floodgate of new revenue streams which universities could then reinvest into further research and education. Cole, *supra*, at 165. The Bayh-Dole Act therefore created a symbiotic relationship between universities and industry that was designed "to transform university research into real products benefiting society at large." *Id.* at 162–64, 170. The Act has been described as "[p]ossibly the most inspired piece of legislation to be enacted in America over the past half-century" because it unleashed enormous technological innovation into the U.S. market and created a virtuous cycle of revenue for further university research and innovation. *Innovation's Golden Goose*, Economist Tech. Q., Dec. 12, 2002, at 3.

In the first 30 years following the passage of Bayh-Dole, more than 6,000 new U.S. companies were formed with the use of university inventions, over 4,000 new university licensed products (including life-saving drugs and vaccines) hit the market, and many thousands of university-industry licenses were consummated. Birch Bayh, *After 30 Years of Bayh-Dole, It's a Better World Indeed!*, *in* The Better World Report: The Positive Impact of Academic Innovations on Quality of Life viii, viii (Ass'n of Univ. Tech. Managers ed., 2010). Ultimately, through the Bayh-Dole Act, Congress acknowledged the special role that university research has in developing new technology and advancing scientific discovery, and how such university research may most efficiently be deployed in service of the common good. The Act's success lies in its simple, self-perpetuating nature—universities invent, private industry licenses those inventions to bring them to market, and the univer-

sities reinvest the licensing proceeds into further research and the education of the nation's next generation of inventors. The system's continued success, however, is necessarily dependent upon the ongoing equal participation of all members of this cycle of innovation.

The opinion below endangers the ability of the largest segment of the innovation economy to remain competitive—state universities.

B. The Unique Role of State Universities in the Innovation Economy.

State universities such as the *amici* are a cornerstone of the nation's innovation economy. Indeed, transformative advancements that originated or were perfected on state university campuses include the polio vaccine, fluoride toothpaste, the earliest web browsers, LCD and touchscreen technologies, certain chemotherapy drugs, the artificial blood transfusion, the pacemaker, MRI technology, the artificial heart, and even Gatorade. *100 Important Innovations that Came from University Research*, OnlineUniversites.com (Aug. 27, 2012), https://www.onlineuniversities.com/blog/2012/08/100-important-innovations-that-came-from-university-research/. The twelve *amici* who have joined in this Brief have pioneered technologies in fields such as medicine, agriculture, aerodynamics, microelectronics, and many others.[2] Many of these world-changing

[2] *See, e.g.*, U.S. Patent Nos. 6,268,143; 9,617,530; 9,076,813; 8,609,461; 6,878,909; 7,193,193; 5,075,257; 4,633,714; 5,087,573; 5,035,901; 5,928,879; and 8,494,115.

innovations would not have been possible without cooperation between public universities and private industry, and the virtuous cycle of revenue generated by compensatory licensing. *Innovation's Golden Goose*, *supra*, at 3.

These vast contributions are no surprise given that the bulk of basic scientific research in this country occurs in state university laboratories. According to the latest statistics from the National Science Foundation, public universities spent over $43 billion in research and development funds in 2017, whereas private institutions spent just under $26 billion. Nat'l Ctr. for Sci. & Eng'g Statistics, *Higher Education Research and Development Survey: Fiscal Year 2017*, Nat'l Sci. Found. (Nov. 20, 2018), https://www.nsf.gov/statistics/herd/pub_data.cfm. In the National Academy of Inventors' list of the top 100 universities worldwide that received U.S. utility patents in 2018, five of the top ten were U.S. public universities. *Top 100 Worldwide Universities Granted U.S. Utility Patents*, Nat'l Acad. Inventors (2018), https://academyofinventors.org/wp-content/uploads/2019/06/Top-100-2018.pdf. And further solidifying their status as world-leading research institutions, of the U.S. schools represented in the top 50 universities in the world that filed patent applications under the Patent Cooperation Treaty in 2018, the majority were U.S. ***public universities***. *Patent Cooperation Treaty Yearly Review 2018: The International Patent System*, World Intell. Prop. Org. 31 (2018), https://www.wipo.int/edocs/pubdocs/en/wipo_pub_901_2018.pdf. The California State University, an *amici* herein, is the largest four-year public university system in the nation. *2019 Fact Book*, Cal. State Univ. 1

(2019), https://www2.calstate.edu/csu-system/about-the-csu/facts-about-the-csu/Documents/facts2019.pdf.

The value of intellectual property developed at state universities is also integral in supporting economic development through job creation. In fiscal year 2017, more than 1,000 startup companies were formed from university technology transfer and over 70% of those companies are headquartered in the state where the original research occurred, which creates jobs for the home state economy. *AUTM U.S. Licensing Activity Survey: 2017*, Ass'n Univ. Tech. Managers 13 (Nov. 1, 2018), https://autm.net/AUTM/media/SurveyReportsPDF/AUAU_2017_US_Licensing_Survey_no_appendix.pdf. The U.S. Patent and Trademark Office has noted that "patent grants have real effects for startups in the form of faster growth, more and higher-quality subsequent innovations, and an increased chance of eventually going public or being acquired." Joan Farre-Mensa et al., *The Bright Side of Patents* 18 (Office of the Chief Economist, U.S. Patent & Trademark Office, Working Paper No. 2015-5, 2016).

Recognizing the value of patents to startups, Purdue University (one of the *amici* herein) has implemented a policy that gives student inventors ownership of their inventions—a policy that resulted in the formation of 60 student-driven startup companies within its first five years alone. Cynthia Sequin, *5 Years, 60 Startups: Purdue Students Own Their Inventions, Thriving Under University's Policy*, Purdue Univ. (Sept. 6, 2018), https://www.purdue.edu/newsroom/releases/2018/Q3/5-years,-60-startups-purdue-students-own-their-inventions,-thriving-under-universitys-policy.html. The university also manages a number of funds that

are used to support startup creation, and in 2019, the Purdue Research Foundation reported that a record-breaking number of startups were founded based upon university innovations. *Startups*, Purdue Res. Found. (2019), https://www.prf.org/otc/resources/startups/index.html.

But aside from being leaders in innovation at national and international levels, public universities differ from their private counterparts in at least one obvious, but critical respect—as arms of their states, the research missions of public universities are necessarily intertwined with the interests of their home states. For instance, the stated missions of STC.UNM of the University of New Mexico (an *amici* herein) include not only engaging in the worldwide innovation economy, but also striving to "foster a rainforest in the desert," and to play a vital role in "facilitating [the university's] role as a contributor to New Mexico's economic development." *About STC.UNM*, STC.UNM (2019), https://stc.unm.edu/about/. In addition to federal funds, state institutions receive a significant portion of their research and development budgets from state treasuries—for example, the State of Texas has funded billions of dollars in science and engineering research, and it provides average annual funding of over $30 million to each of The University of Texas at Austin and Texas A&M University. *Research Funding in Texas Overview*, Tex. Higher Educ. Coordinating Board 3 (2018), http://reportcenter.thecb.state.tx.us/agency-publication/miscellaneous/research-funding/.

Given that state universities receive the majority of research funding in the U.S., and because they

have historically performed most of the basic foundational research in this country, their continued ability to participate in the nation's innovation economy is critical to the survival of that economy. But public universities are beholden to their home states, and the lengths to which they will go in order to license their inventions and, if necessary, to enforce their patent rights against infringers must be balanced against economic constraints, limited patent budgets, and the universities' interests in protecting state treasuries. This is especially true at a time when state lawmakers struggle to meet funding goals for higher education, and tuition revenue has exceeded state university funding. Sophie Quinton, *Tuition Overtakes State Money as Funding Source for Public Colleges*, Pew Charitable Tr. (Mar. 29, 2018), https://www.pewtrusts.org/en/research-and-analysis/blogs/stateline/2018/03/29/tuition-overtakes-state-money-as-funding-source-for-public-colleges.

C. IPRs Threaten State University Participation in the Innovation Economy.

Nothing stands to have a more stifling effect on state participation in the cycle of innovation than the IPR procedure. As part of the Leahy-Smith America Invents Act of 2011 ("AIA"), IPRs were ostensibly designed to correct improper grants of bad patents that were misused by "patent trolls" to extort settlements from industry. But even aside from the protections that should be afforded to state entities by sovereign immunity, that narrative has no application to state universities, which are unique among participants in the patent system.

Although they do not directly manufacture or assemble products for consumer use, state universities nevertheless practice their inventions—they experiment, investigate, test, create, and ultimately invent—thereby expanding scientific knowledge. Universities also often practice their process-oriented inventions (in fields such as semiconductors and biomedical), and they engage in limited manufacturing in order to support their research. Unlike non-practicing entities that neither develop products nor engage in the process of invention, university researchers actually perform the work that results in the valuable patents that are the foundation of the post-Bayh-Dole innovation economy. Given their limited budgets, state universities only seek patent protection for true innovations, not the types of patents that the AIA seeks to eliminate—according to the Brookings Institute, "federally financed patents are of higher quality than those funded by industry." Jonathan Rothwell et al., *Patenting Prosperity: Invention and Economic Performance in the United States and its Metropolitan Areas*, Brookings Institution 25 (Feb. 2013), http://www.brookings.edu/~/media/research/files/reports/2013/02/patenting-prosperity-rothwell/patenting-prosperity-rothwell.pdf.

Despite the quality of state university patents, IPRs threaten to devalue those patents. The value of patents derives directly from their enforceability, and the fact that IPRs have had a devastating impact on the enforceability of the whole of U.S. patents is undeniable. The PTAB's own statistics speak for themselves: From inception of the IPR procedure through August of 2019, over 9,700 IPR petitions have been filed. *Trial Statistics IPR, PGR, CBM*,

U.S. Patent & Trademark Office 3 (Aug. 31, 2019), https://www.uspto.gov/sites/default/files/documents/Trial_Statistics_2019-08-31.pdf. Of those petitions which were considered on the merits, approximately 66% resulted in instituted IPRs.[3] *Id.* at 10. And of the proceedings that have reached final hearings, at least ***80%*** of final board decisions have invalidated at least one patent claim, and ***62%*** have invalidated ***all*** challenged claims. *Id.* Because it is possible for any party to seek to eliminate any patent via an IPR (provided they have the funding to do so), these statistics mean that the mere specter of an IPR can have a chilling effect on state universities' ability to receive fair value for their patents. *See* 35 U.S.C. § 311(c)(1).

Perhaps even more troubling to the *amici* and other public universities are the average costs of defending an IPR. According to results of the American Intellectual Property Law Association's 2019 economic survey, the mean cost to defend an IPR all the way through an appeal is $443,000 for an electrical/computer patent, and $451,000 for a mechanical patent. Am. Intellectual Prop. Law Ass'n, 2019 Report of the Economic Survey 61–62 (2019). And the Managing Director for the Wisconsin Alumni Research Foundation estimates that "[e]ven if the patent owner prevails the cost of prevailing on a single patent in an IPR proceeding is going to be an abso-

[3] Of the 10,534 IPR, PGR, and CBM petitions that have been filed, 8,303 of them were considered on the merits to determine whether institution was warranted. The remaining 2,229 were settled, dismissed, or did not reach an institution decision for other reasons. *Id.* at 10.

lute minimum of $300,000, but in many cases the cost is approaching $1 million." Gene Quinn, *Post Grant Patent Challenges Concern Universities, Pharma*, IPWatchdog (Apr. 1, 2015), https://www.ipwatchdog.com/2015/04/01/post-grant-patent-challenges-concern-universities-pharma/id=56351/. Thus, in addition to being devalued by the PTAB's ominous invalidation statistics, the value of a license to a state university patent is only relative to the amount a public school can afford to pay to protect the patent against the potentially devastating costs of IPR defense.

The exceedingly high rate of patent invalidation in IPRs, combined with the exorbitant costs of funding even a ***successful*** IPR defense, puts significant and unneeded pressure on universities to discount their licenses, which reduces their ability to fund further beneficial research. IPRs thus threaten to impede the ability of state universities to remain key players in the innovation economy as Congress intended.

D. IPRs Against State Universities are a Recurring Problem.

As discussed, *infra*, there should be little doubt that states and their public universities are immune from IPR proceedings. But would-be infringers have not let sovereign immunity deter them from filing IPRs against state universities. To date, approximately 64 IPRs have been filed against public universities (or the technology transfer entities affiliated

with those universities) of at least 15 states.[4] Most of those proceedings appear to have been defensive tactics by alleged infringers, triggered by the state universities' filing of patent infringement actions in district court. Given that the majority of IPRs are initiated in response to district court infringement lawsuits, if the ruling of the Federal Circuit stands, then state universities can almost certainly expect that when they file infringement suits, those cases will be hijacked by IPR petitions,[5] the universities will be hauled into the PTAB to defend their patents, and the universities will be forced into unnecessarily duplicative, overlapping, and parallel proceedings.[6]

One example is illustrative here. In 2017, the University of California filed a district court action

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[4] A substantial number of these IPRs were filed even ***after*** the PTAB had concluded in early 2017 that sovereign immunity barred IPRs against public universities. *See NeoChord, Inc. v. Univ. of Md., Balt.*, No. IPR2016-00208, Paper No. 28 (P.T.A.B. May 23, 2017); *Covidien LP v. Univ. of Fla. Research Found., Inc.*, Nos. IPR2016-01274, IPR2016-01275, IPR2016-01276, 2017 WL 4015009, at *17 (P.T.A.B. Jan. 25, 2017). A complete list of the 64 IPRs to date can be found in the Appendix.

[5] *See* Postgrant HQ Reporter, *2018 Analysis on PTAB Contested Proceedings*, Venable LLP 7 (Oct. 2018), https://www.postgranthq.com/wp-content/uploads/2018/10/PGHQ_Reporter_2018.pdf (noting more than 85% of IPRs are concurrent with related infringement litigation).

[6] IPRs are invariably duplicative of district court lawsuits because they are not a substitute for district court determinations of validity. This is not a result that Congress intended. According to the AIA's legislative history, IPRs were meant to be ***adjudicative alternatives*** to litigation. *See, e.g.*, H.R. Rep. No. 112-98, pt. 1, at 46 (2011); 157 Cong. Rec. 3,375, 3,401 (2011).

against two companies alleging infringement of three university patents. *See Regents of the Univ. of Cal. v. Affymetrix, Inc.*, No. 17-CV-01394-H-NLS, 2017 WL 5614904, at *1 (S.D. Cal. Nov. 20, 2017). Within the next year, one of the defendants filed a total of five IPRs against the patents-in-suit, and then filed a sixth IPR against a patent that the university ***had not even accused the defendants of infringing***. *See Thermo Fisher Sci. Inc. v. Regents of the Univ. Of Cal.*, No. IPR2018-01156, Paper No. 1 (P.T.A.B. May 25, 2018). To make matters worse, four of the IPRs were filed exactly one year after the university filed its complaint in district court—thus, well after litigation had commenced, the university's district court action was completely derailed by an alleged infringer, and the university was hauled into the PTAB to litigate a deluge of invalidity challenges that could have been (and should have been) adjudicated in the forum of the sovereign university's choice. Ultimately, the University of California prevailed in the IPRs, but undoubtedly at a cost that would send shockwaves through the budget committee meetings of most public institutions.

State universities can also fall victims to abusive IPRs even without having first accused any party of infringement. For example, in *Univ. of Fla. Research Found., Inc. v. Medtronic PLC*, No. 1:16-CV-183-MW/GRJ, 2016 WL 3869877 (N.D. Fla. July 15, 2016) [hereinafter *UFRF v. Medtronic*], the University of Florida Research Foundation filed a lawsuit against one of its patent licensees in Florida ***state court***, asserting ***contractual*** claims for an accounting and an audit of funds owed under the license. *See id.* In response, the licensee filed a declaratory judgment counterclaim for noninfringement, removed the

case to federal court, and then filed ***three IPR petitions*** against the licensed patent. *See id.*; *Covidien LP v. Univ. of Fla. Research Found., Inc.*, Nos. IPR2016-01274, Paper No. 2 (P.T.A.B. Jun. 28, 2016); IPR2016-01275, Paper No. 3 (P.T.A.B. Jun. 28, 2016); IPR2016-01276, Paper No. 3 (P.T.A.B. Jun. 28, 2016).

The district court correctly recognized the University of Florida's sovereign status, and it dismissed the counterclaim. *UFRF v. Medtronic*, 2016 WL 3869877, at *1. The PTAB then dismissed the IPRs on sovereign immunity grounds. But those results would not have been achievable under the opinion below—rather, the Federal Circuit would have apparently left the sovereign university to defend itself against three IPRs (likely to the tune of millions of dollars in fees and costs) simply because it filed a state court lawsuit to determine whether it was being fairly compensated under an ***existing patent license***.

The above scenarios are not hypothetical. They evidence very real threats that sovereign state universities will continue to face if the opinion below is left unchecked. According to the National Law Review, "if [the ruling below] is allowed to stand, it is fair to anticipate a significant increase in patent IPR challenges to public colleges and universities as well as to other state agencies." Mark D. Shelley II et al., *State Sovereignty 101: State Universities Not Immune to IPR Proceedings*, Nat'l L. Rev. (June 17, 2019), https://www.natlawreview.com/article/state-sovereignty-101-state-universities-not-immune-to-ipr-proceedings. Although they may be an unintended casualty of the AIA, public universities are at great risk of being victimized by the IPR system. If

public universities are unable to assert their patent rights (or to even enforce existing contractual license rights) without the fear of being forced to incur millions of dollars in defending their patents in an administrative tribunal, their ability to participate in the innovation economy will suffer.[7]

E. Sovereign Immunity Preserves State Universities' Ability to Participate in the Cycle of Innovation.

The continued success of the U.S. innovation economy is critically dependent upon the ongoing equal participation of all members of the cycle of innovation—the universities (which invent) and private industry (which licenses those inventions and brings them to market). If any party to this interdependent relationship loses its ability or incentive to participate in the system, the system cannot work. The ruling below stands to disrupt the balance of the system by significantly harming the competitiveness of some of its most valuable contributors—state universities.

As an initial matter, it is important to note that public universities are not professional litigants. Far from the "patent trolls" that the AIA seeks to stamp out, public schools remain focused on their research missions, and they generally view patent litigation

[7] In sharp contrast to the proliferation of IPRs filed against public universities, the *amici* have been unable to identify a single instance where a public university has filed an IPR against any extant patent.

only as a last resort. State universities would rather spend their limited patent budgets on obtaining patents for true innovations, not on enforcing or defending those patents. Thus, universities consider an enforcement action as being appropriate only when there is "[b]latant disregard on the part of the infringer for the university's legitimate rights in availing itself of patent protection . . ." Irene Abrams et al., *How are U.S. Technology Transfer Offices Tasked and Motivated—Is It All About the Money?*, 17 Res. Mgmt. Rev. 1, 35 (2009). Moreover, filing an infringement action against a potential industry partner can create a web of reputational and fiscal risks for a university. Rooksby, *supra*, at 359, 365. Thus, after careful consideration, state universities typically only file suits to enforce their strongest and most valuable patents, and a significant component of patent value is the estimated cost of pursuing infringement litigation and defending the validity of their patents ***in that litigation***. As discussed above, the high costs of funding the defense of one or more parallel IPR proceedings would be a prohibitive factor for many state universities.

Despite all of the foregoing, however, application of sovereign immunity in the state university context does not turn on economic justifications or questions of practicality. State sovereign immunity is an ***absolute constitutional right***. The Eleventh Amendment reaffirms two principles: (1) that "each State is a sovereign entity in our federal system" and (2) that "it is inherent in the nature of sovereignty not to be amenable to the suit of an individual without its consent." *Seminole Tribe of Fla. v. Florida*, 517 U.S. 44, 54 (1996). This Court has definitively held that Congress may not circumvent a state's sovereign immun-

ity by creating "court-like administrative tribunals where sovereign immunity does not apply." *Fed. Mar. Comm'n v. S.C. State Ports Auth.*, 535 U.S. 743, 761 (2002) [hereinafter *FMC*]. And this Court has also squarely held that IPR proceedings in the PTAB are indeed "court-like." *SAS Institute Inc. v. Iancu*, 138 S. Ct. 1348, 1353–54 (2018) [hereinafter *SAS*].

That sovereign immunity protects state universities from actions in administrative tribunals has never even been a controversial question until now. In fact, the PTAB itself has ***repeatedly*** recognized the sovereign status of state universities as patent owners. Specifically, in proceedings involving state universities, the PTAB concluded that "the analysis in *FMC* applies to" IPRs, *Covidien LP*, 2017 WL 4015009, at *8; that sovereign immunity applies even in IPRs involving licensing arrangements, *NeoChord, Inc. v. Univ. of Md., Balt.*, No. IPR2016-00208, Paper No. 28 at 7 (P.T.A.B. May 23, 2017); and, that "under *FMC* . . . *inter partes* reviews are similar to lawsuits" and therefore trigger sovereign immunity. *Reactive Surfaces, Ltd. v. Toyota Motor Corp.*, No. IPR2017-00572, 2017 WL 2992435, at *2 (P.T.A.B. July 13, 2017). And in the panel's ruling that gave rise ***to this very proceeding***, the PTAB reaffirmed those previous opinions, and "agree[d]" that "Eleventh Amendment immunity is available to States as a defense in an *inter partes* review proceeding." *LSI Corp. v. Regents of the Univ. of Minn.*, No. IPR2017-01068, Paper No. 19 at 4 (P.T.A.B. Dec. 19, 2017).

The Federal Circuit, however, completely disregarded the Eleventh Amendment, the entire body of constitutional law interpreting it (including this Court's opinions in *FMC* and *SAS*), and the PTAB's own line of reasoning and instead issued a broad

proclamation that "state sovereign immunity does not apply to IPR proceedings." *Regents of the Univ. of Minn. v. LSI Corp.*, 926 F.3d 1327, 1341 (Fed. Cir. 2019). The ruling purports to achieve a result which was strictly forbidden by *FMC*—that Congress can usurp state sovereign immunity whenever it wants to by simply creating administrative agencies to adjudicate disputes that would otherwise belong in Article III courts.

This ruling cannot stand. If taken at its face value (i.e., that that "state sovereign immunity does not apply to IPR proceedings"), the opinion portends dire consequences for state university participation in the U.S. innovation economy. Due to their aversion to litigation, state universities often attempt to license their inventions amicably, with industry partners and even potential infringers. Indeed, one of the fundamental tenets of Bayh-Dole and the ecosystem that it generated is that universities and industry would cooperate for the greater good to license inventions, bring them to market, and reinvest licensing proceeds toward future innovation. Toward that end, state universities routinely license their inventions based on arms-length negotiations with private industry. Given the sovereignty of state universities, it is beyond dispute that opening up a licensing dialogue would present no risk to the university of being ambushed with a district court action for declaratory judgment of non-infringement or invalidity. *See Tegic Commc'ns Corp. v. Bd. of Regents of the Univ. of Tex. Sys.*, 458 F.3d 1335, 1345 (Fed. Cir. 2006) (holding that declaratory judgment action against state university was barred by sovereign immunity).

The Federal Circuit has now issued a dangerous precedent that would allow far worse. Under its opin-

ion, a sovereign would place its dignity and treasury at risk any time it delivers a notice of infringement letter or extends a simple invitation to meet at the licensing negotiation table. It is inconceivable that such an action, designed specifically to ***avoid*** the burdens of litigation and which could ***never*** justify a declaratory judgment action in an Article III court, could now subject the sovereign to having its rights determined in an inferior administrative forum such as the PTAB without its consent. That is precisely what this Court forbade in *FMC*: "[I]t would be quite strange to prohibit Congress from exercising its Article I powers to abrogate state sovereign immunity in Article III judicial proceedings . . . but permit the use of those same Article I powers to create court-like administrative tribunals where sovereign immunity does not apply." *FMC*, 535 U.S. at 761.

The concerns of the *amici* are not imaginary—as discussed, *supra*, state universities have already been the victims of IPR misuse, and if that pattern continues unfettered, the ability of public universities to remain competitive in the U.S. innovation economy will be endangered. Any time a sovereign university must resort to infringement litigation, it will almost invariably be faced with an IPR (or multiple IPRs) and the exorbitant defense costs concomitant with those proceedings. And to make matters worse, the breadth of the Federal Circuit's opinion will undoubtedly have a chilling effect on routine licensing negotiations. Under the Federal Circuit's version of the law, IPRs can now be used as tactical weapons by would-be infringers who simply want to eliminate valuable state university patents, extort licensing terms at less than fair value, escape payment obligations under existing licenses, or apply

leverage to renegotiate those licenses. State universities, which own valuable patents but have limited patent budgets, will be seen as "soft targets" for such underhanded tactics.

Ultimately, if state universities find themselves vulnerable to the burden and expense of IPR attacks merely by virtue of their ownership of valuable patents, many of those universities may ask themselves whether patenting their innovations is worth the punishment. And when the universities' already-thin patent budgets are depleted by IPR defense, they may find themselves with insufficient remaining funds to even obtain patents in the first place. The cycle of innovation will not survive if its most important participants cannot afford to participate.[8]

CONCLUSION

This case presents a crucial matter that has far-reaching implications for state universities, other state agencies, and states themselves. It warrants this Court's review and correction.

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[8] Finally, it is not lost on the *amici* that the underlying opinion is indicative of a pattern of recent Federal Circuit antagonism toward the sovereignty of state universities where patent rights are concerned. *See, e.g.*, *Bd. of Regents of the Univ. of Tex. Sys. v. Bos. Sci. Corp.*, 936 F.3d 1365 (Fed. Cir. 2019) (holding that state sovereignty did not allow university to bring infringement suit in forum of its choice); *Univ. of Fla. Research Found., Inc. v. Gen. Elec. Co.*, 916 F.3d 1363 (Fed. Cir. 2019) (holding that by bringing infringement claim, state university waived its sovereign immunity as to eligibility challenge).

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APPENDIX

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1,4 Group Inc. v. Wash. State Univ., No. IPR2015-01153, Paper No. 1 (P.T.A.B. May 5, 2015).

Apple Inc. v. Wis. Alumni Research Found., No. IPR2014-01567, Paper No. 2 (P.T.A.B. Sep. 30, 2014).

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