

No. 10-290

In the Supreme Court of the United States

MICROSOFT CORPORATION,
Petitioner,

v.

i4i LIMITED PARTNERSHIP, ET AL.
Respondents.

On Writ of Certiorari to the
United States Court of Appeals
for the Federal Circuit

**BRIEF OF *AMICI CURIAE*
SEVEN RETIRED NAVAL OFFICERS
IN SUPPORT OF RESPONDENTS**

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**STATEMENT OF INTEREST OF *AMICI
CURIAE***

*Amici Curiae*¹ are:

Rear Admiral Daniel R. Bowler, USN (Ret.),
Captain Tom R. Murray, USN (Ret.),
Captain Robert N. Burton, SC, USN (Ret.),
Captain Lynn H. Widener, USNR (Ret.),
Captain Timothy M. Ahern, USN (Ret.),
Commander John K. Stenard, USN (Ret.), and
Commander Ronald A. Marchetti, SC, USN (Ret.).

The Appendix contains a short biography of each retired officer.

During their service and after, *Amici* promoted the transfer of private technologies into military applications. For example, in 2008 the Secretary of the Navy appointed Admiral Bowler to the Naval Research Advisory Committee. Captain Murray oversaw the innovative deployment of privately-developed aerospace mass spectrometers onto his submarine, to measure air quality and

¹ Under Supreme Court Rule 37.6, we state that no part of this brief was authored by counsel for any party, and no person or entity other than the *Amici Curiae* filing this brief made a monetary contribution to the preparation or submission of the brief. The brief is filed with the consent of the parties.

Under Supreme Court Rule 37(3)(a), *Amici Curiae* have consent of the parties to file this brief, under blanket consents docketed December 7, 2010, and December 8, 2010.

The Department of Defense has not sponsored, sanctioned, endorsed or approved this brief.

improve personnel living conditions. Commander Marchetti was a contracting officer for the Seawolf class submarine. He saw firsthand the flow of R&D, such as submarine quieting technologies, from private hands into public service.

Amici therefore know from personal experience that warfare today is inherently technological. Our military success depends on our forces having the best technology possible. Technology helps minimize casualties when we send our troops into harm's way. From smart weapons systems, to IED-resistant personnel carriers, to personal battle armor, the list of technologies our front line forces need daily can go on and on.

Having this technology requires the best innovation that American (and other friendly) minds can produce. Microsoft's proposed changes to the patent system would slow the national security innovation pipeline, endangering our troops and their missions. *Amici* submit this brief as interested citizens to resist changes that might endanger our military strength.

SUMMARY OF THE ARGUMENT

Amici Curiae support maintaining the "clear and convincing" standard for assessing patent validity challenges. To lower the standard risks military preparedness and morale. The United States military depends on a functioning patent system. Weakening patent validity will spur negative effects – some known, some unforeseeable.

These effects will undermine Department of Defense (“DoD”) policies relating to:

- Technology Transfer
- cooperative research and development
- procurement
- innovation by DoD personnel.

ARGUMENT

Easing infringer challenges to patents will negatively impact DoD Cooperative Research and Development Agreements (CRADAs), military weapons and logistics procurement, and service member morale.

I. IMPACT OF THE BURDENS

Reducing the strength of patent rights has two effects, each of which diminishes national security. It incentivizes creators to maintain valuable inventions as trade secrets.² It also disincentivizes the creation of technologies that cannot be protected as trade secrets.³ Diminishing the presumption of validity would therefore negatively impact the future national technology infrastructure. While direct measurement of these effects may be elusive, any rights-diminishing change will decrease the frequency of innovation.

² Janusz A. Ordover, A Patent System for Both Diffusion and Exclusion, 5 J. ECON. PERSPECTIVES 43, 49-50 (1991).

³ Alan Devlin, *The Misunderstood Function of Disclosure in Patent Law*, 23 HARV. J.L. & TECH. 401, 422 (2010) [hereinafter Devlin].

Patents spur the creation of new small businesses, and thereby seed product market competition.⁴ As a unit of personal property, the patent format allows the easy completion of commercial transactions for the exchange of rights.⁵ They secure financing for venture capital, and thus allow new products to come to market, and even new product markets to come into existence.⁶ In this way, “commercialization” is an important function of the patent system.⁷ Patents serve two key commercialization functions. They serve as a beacon, announcing in public the existence of a unit of technology.⁸ And they serve to reduce transaction costs of bargaining.⁹ The beacon and bargaining effects of patents explain the critical role that patents play for investors in start-up companies.¹⁰

The commercialization function is not merely academic. Our government depends upon this commercialization function to spur what is known as “Technology Transfer.” As shown in the next section, the military’s Technology Transfer infrastructure is deep and broad, well grounded in

⁴ F. Scott Kieff, On the Economics of Patent Law and Policy, *in* PATENT LAW AND THEORY 3, 59 (Edward Elgar Publishing, Inc. 2008) [hereinafter Kieff].

⁵ *Id.* at 16.

⁶ Stuart J.H. Graham & Ted Sichelman, WHY DO START-UPS PATENT?, 23 Berkeley Tech. L.J. 1, 4 (2008) [hereinafter Graham].

⁷ Kieff, *supra* note 4 at 42.

⁸ Devlin, *supra* note 3 at 401-02.

⁹ *Id.* at 402.

¹⁰ Graham, *supra* note 6 at 15.

statutory patent policy, and threatened by the change under consideration here.

II. EFFECTS ON NATIONAL SECURITY

A. National Security Innovation Policy

We oppose easing the invalidity burden because it will slow down the innovation pipeline that makes ours a world-class military. Congress codified Technology Transfer policy for patents developed using federal support:

It is the policy and objective of the Congress to use the patent system to promote the utilization of inventions arising from federally supported research or development; to encourage maximum participation of small business firms in federally supported research and development efforts; to promote collaboration between commercial concerns and nonprofit organizations, including universities; to ensure that inventions made by nonprofit organizations and small business firms are used in a manner to promote free competition and enterprise without unduly encumbering future research and discovery; *to promote the commercialization and public availability of inventions made in the United States by United States*

industry and labor; to ensure that the Government obtains sufficient rights in federally supported inventions to meet the needs of the Government and protect the public against nonuse or unreasonable use of inventions; and to minimize the costs of administering policies in this area.

35 U.S.C. § 200 (emphasis added). Commercialization thus plays a key role in statutory policy.

Congress repeats this preference for commercialization by prohibiting out-licensing of federally owned rights without a “plan for development or marketing of the invention.” 35 U.S.C. § 209(f). Congress also has directed the Secretary of Defense to “encourage, to the extent consistent with national security objectives, the transfer of technology between laboratories and research centers of the Department of Defense and other federal agencies, State and local governments, colleges and universities, and private persons,” where such encouragement is likely to accomplish national defense goals. 10 U.S.C. § 2514(a). Congress recites those national defense goals at 10 U.S.C. § 2501(a), and they include “[m]aintaining advanced research and development activities to provide the armed forces with systems capable of ensuring technological superiority over potential adversaries.” 10 U.S.C. § 2501(a)(3).

Making it hard to kill a patent advances Congress's national security policies and goals. As discussed in more detail in the next sections, patents play a key role in CRADAs, military procurement, and service member morale.

B. CRADAs

Congress has given all federal agencies the power to enter cooperative research and development agreements ("CRADAs"), including the power to license out patented inventions. *See* 15 U.S.C. § 3710a. A CRADA is simply an acronym for a special kind of agreement. CRADAs are agreements between the government and any other entity to promote or distribute technology.

DoD has embraced the CRADA process. *See* Department of Defense Directive 5535.3 (May 21, 1999). DoD uses CRADAs to accelerate delivery of technical capabilities to win the current fight; prepare for an uncertain future; reduce the cost, acquisition time and risk of our major defense acquisition programs; and develop world class science, technology, engineering, and mathematics capabilities for the DoD and the Nation.¹¹

¹¹ *See* "CRADAs: a DoD Perspective (2 March 2010), Presentation to FLC NE Region," 6 (available at http://www.google.com/url?q=http://www.flcnortheast.org/WestPoint2010/Ryan.pdf&sa=U&ei=7AVsTZLLC8_pgQeUo8zLCg&ved=0CBAQFjAA&sig2=HApwG5WzLMMcCOKhp9o1WA&usg=AFQjCNHWUBKrGJi6dtwueTK-t3NHqrYcWQ, last visited Feb. 24, 2011) [hereinafter, "DoD Perspective Presentation"].

Each year DoD agencies are party to thousands of CRADAs, and hundreds of Patent License Agreements.¹² DoD agencies receive substantial royalty income under patent licenses.¹³ CRADA success stories of technologies that have made their way into civilian use include:

- Deicing nozzles,
- Chemiluminescent Lightsticks,
- Plastic explosive-detecting baggage screening machines.¹⁴

The Lightsticks are a great example of how patents seed Technology Transfer success. We quote in full from the Navy's description of how this military technology found its way into widespread private use:

Chemiluminescent Light Stick technology was developed between 1962 and 1986 for the purpose of emergency lighting for life rafts, downed flyer beacons, map reading and damage evaluation. An improved technology was patented in 1986 and 1987 under patent no. 4,626,383 entitled

¹² See "DoD Technology Transfer Program, Focus: Patenting and Licensing" 7, 9 (Feb. 11, 2003) (available at http://www.google.com/url?q=http://www.jhuapl.edu/ott/NewsEvents/events/PatentsAndPizza/documents/P%26P%2520presentation.ppt&sa=U&ei=zQZsTd6EEM3TgAeZkqDOCg&ved=0CBUQFjAA&sig2=mRODt4Q56JudyN3M38KZsA&usg=AFQjCNFCldvO6bt8R_7vrlzoePvGDv3eag, last visited Feb. 24, 2011).

¹³ See *id.* at 10.

¹⁴ *Id.* at 13.

Chemiluminescent System Catalysts and patent no. 4,655,969 entitled Chemiluminescent Systems and licensed commercially. Commercial uses include novelty items and safety illumination sticks and necklaces for children on Halloween. This technology received the 1993 Federal Laboratory Consortium (FLC) Award for Technology Transfer Excellence.¹⁵

CRADA success stories of technologies that are primarily made for military use include:

Air Force pararescue virtual training: Uses a supercomputer to create a highly immersive virtual training environment, relying on multiple commercial partners for deployment;

Navy fiber optic perimeter security systems: Uses a coated fiber optic cable to serve as an acoustic sensor, to detect perimeter intrusions over large spaces. Has uses not only for international borders and military bases, but also airports, power plants, oil and gas refineries, and pipelines.

National Geospatial Intelligence Agency zoom interfaces: A software solution for processing and analyzing geospatial imagery, combining various types of imagery using a friendly

¹⁵ See NAWCWD China Lake: Technology Transfer Past Successes Page I (1960-2008) (available at <http://www.navair.navy.mil/techTrans/index.cfm?map=local.ccms.view.aB&doc=awards.4>, last visited March 14, 2011).

interface to get meaningful information from image data.

Army digital fire software control systems: Software upgrades for Paladin tanks, including a new driver targeting display.¹⁶

Future success stories are at risk if the rules now change. Congress and DoD built this CRADA infrastructure, and achieved their many Technology Transfer successes, under a legal regime that assumed infringers needed clear and convincing evidence to invalidate a patent. If this Court reduces this burden, that will drive rights-holders to embrace secrecy and will reduce incentives to innovate. Such an outcome will negatively impact the military innovation pipeline.

In particular, private interests will find less value in what the government is able to offer under CRADAs – title to inventions developed under a CRADA. The right to commercialize for civilian use is less valuable when the exclusive rights covered by a patent are more easily defeated. Anything that weakens government efforts to lure private industry into Technology Transfer harms the national interest. Therefore, to keep the CRADA process strong, we urge this Court not to ease the infringer’s invalidity burden of proof.

¹⁶ See DoD Perspective Presentation, *supra* note 11 at 14-22.

C. Procurement

Beyond CRADAs, the military relies on conventional government procurement contracts. Often these contracts are for privately-developed patented technology. The same dynamics mentioned above will apply if this Court changes the rules mid-game.

A less attractive patent regime will steer more technologies toward trade secrecy protection. Trade secrecy protection frustrates the disclosure goal of the patent system.¹⁷ It slows down innovation.¹⁸ The reasons for this are easy to grasp: If companies do not receive timely information about the innovations developed by their competitors, they have less information for “designing around,” or making the next leap forward.¹⁹

Since national security relies on competition between contractors to win military bids (*i.e.*, the race to make a better system than the next company), incentivizing trade secrecy protection risks our wartime preparedness. How will competing contractors legitimately “build a better mousetrap” when everyone keeps the newest mousetrap designs secret? Maintaining the clear and convincing invalidity burden will support the needed disclosure goals of the patent system, whereas reducing the burden will weaken them.

¹⁷ Devlin, *supra* note 3 at 420.

¹⁸ Kieff, *supra* note 4 at 21.

¹⁹ Devlin, *supra* note 3 at 405.

D. Personnel and Morale

Finally, individual DoD employees may sometimes keep title to their own inventions. DoD employees may even participate in efforts to commercialize inventions that they made while employed by the United States.²⁰ Federally-employed inventors know that their employment might lead to ownership of patent rights over civilian technologies, allowing them to realize personal rewards from innovation. Likewise, the government might help pay for and acquire such rights for the employee by supplying government patent counsel. *See, e.g., Sony Electronics, Inc. v. Soundview Technologies, Inc.*, 157 F. Supp. 2d 172 (D. Conn. 2001) (discussing governmental license issues regarding patent invented by Air Force officer and procured by government attorneys while he was in active service).

These are known perquisites of government employment (including DoD and military employment). Military documents tout these very advantages of Army employment for Army inventors.²¹ If patents devalue, this perquisite devalues. Maintaining the clear and convincing standard will preserve the importance, and the benefits for morale, of this well-regarded benefit of government employment.

²⁰ *See, e.g.*, Air Force Instruction 61-302, “Cooperative Research and Development Agreements” (30 May 2001) § 4.9.

²¹ *See* OFFICE OF THE COMMAND COUNSEL U.S. ARMY MATERIAL COMMAND, PATENT GUIDE 2 (1997); DEP’T OF THE ARMY, ARMY PATENTS 15 (1979).

CONCLUSION

The flow of new technology into the national security innovation pipeline depends on strong, predictable patent rights. *Amici Curiae* urge this Court to resist any unpredictable weakening of patent rights, and reject arguments to ease the infringer's burden of proving invalidity.

Respectfully submitted,

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Appendix: Short Biographies of *Amici Curiae*

Rear Admiral Daniel R. Bowler, USN (Ret.) commanded a destroyer, a cruiser, a Carrier Battle Group (now called a Carrier Strike Group), and led the National War College. After retirement, Admiral Bowler served as Vice President, Navy Systems, Sensors and Advanced Technology Solutions at Lockheed Martin Corporation.

Captain Tom R. Murray, USN (Ret.) commanded a submarine.

Captain Robert N. Burton, SC, USN (Ret.) took charge of getting essential supplies to warfighters during the First Gulf War as a supply corps officer.

Captain Lynn H. Widener, USNR (Ret.) served as a service warfare officer and commanded three Naval Reserve units.

Captain Timothy M. Ahern, USN (Ret.) commanded two Navy ships, and was Program Manager for the Naval Sea Systems Command (NAVSEA).

Commander John K. Stenard, USN (Ret.) was an Engineering Duty Officer and Chief Engineer of Combatant Craft at the United States Special Operations Command (USSOCOM).

Commander Ronald A. Marchetti, SC, USN (Ret.) served in the supply corps.