

**United States Court of Appeals
for the Federal Circuit**

WESTERNGECO L.L.C.,
Plaintiff-Cross-Appellant

v.

ION GEOPHYSICAL CORPORATION,
Defendant-Appellant

2013-1527, 2014-1121, 2014-1526, 2014-1528

Appeals from the United States District Court for the Southern District of Texas in No. 4:09-cv-01827, Judge Keith P. Ellison.

Decided: July 2, 2015

GREGG F. LOCASCIO, Kirkland & Ellis LLP, Washington, DC, argued for plaintiff-cross-appellant. Also represented by WILLIAM H. BURGESS, JOHN C. O'QUINN; TIMOTHY K. GILMAN, LESLIE M. SCHMIDT, New York, NY; LEE LANDA KAPLAN, Smyser, Kaplan & Veselka, LLP, Houston, TX.

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KATHLEEN HARRIS, JACKOB BEN-EZRA, BRIAN GREGORY STRAND, Houston, TX; OLGA I. MAY, JUSTIN BARNES, FRANCIS J. ALBERT, San Diego, CA.

Before DYK, WALLACH, and HUGHES, *Circuit Judges*.

Opinion for the court filed by *Circuit Judge* DYK.

Dissenting-in-part opinion filed by *Circuit Judge*
WALLACH.

DYK, *Circuit Judge*.

WesternGeco L.L.C. (“WesternGeco”) filed suit against ION Geophysical Corp. (“ION”) for infringement of, *inter alia*, U.S. Patent Nos. 6,691,038 (“the ’038 patent”), 7,080,607 (“the ’607 patent”), 7,162,967 (“the ’967 patent”), and 7,293,520 (“the ’520 patent”). The jury found infringement and no invalidity with respect to all asserted claims for each of the four patents, and awarded \$93,400,000 in lost profits and \$12,500,000 in reasonable royalties.

ION appeals, arguing that WesternGeco is not the owner of the ’607, ’967, and ’520 patents and therefore lacks standing to assert them; that the district court applied an incorrect standard in granting summary judgment as to claim 18 of the ’520 patent under 35 U.S.C. § 271(f)(1) and that this ruling infected the trial with respect to liability for all other claims; and that lost profits were impermissibly awarded for conduct abroad.

WesternGeco conditionally cross-appeals, arguing that, if we find in favor of ION with respect to any of its appealed issues, we should set aside the damages award because the district court erred in preventing WesternGeco’s damages expert from testifying on the issue of a reasonable royalty. WesternGeco also challenges the

district court's refusal to award enhanced damages for willful infringement.

We affirm in all respects, except that we reverse the district court's award of lost profits resulting from conduct occurring abroad.

BACKGROUND

WesternGeco asserts that it owns the four patents at issue: the '038 patent, the '607 patent, the '967 patent, and the '520 patent. The asserted claims of all four patents are system claims relating to technologies used to search for oil and gas beneath the ocean floor. To search for oil and gas, ships tow a series of long streamers. Each streamer is equipped with a number of sensors. An airgun bounces sound waves off of the ocean floor. The sensors pick up the returning sound waves and, in combination with each other, create a map of the subsurface geology. This generated map can aid oil companies in identifying drilling locations for oil or gas.

The streamers can be miles in length, and vessel movements, weather, and other conditions can cause the streamers to tangle or drift apart. This, in turn, can cause the sensors on the streamers to generate imperfect or distorted maps. The patents here relate to two improvements to that technology: first, controlling the streamers and sensors in relation to each other through the use of winged positioning devices; second, using the sensors to generate four-dimensional maps—that is, maps in which it is possible to see changes in the seabed over time.

Both parties are involved in this industry. WesternGeco manufactures its commercial embodiment of the patented technologies, the Q-Marine, and performs surveys on behalf of oil companies. ION manufactures its allegedly patent-practicing device, the DigiFIN, and sells

that device to its customers, who perform surveys on behalf of oil companies.

On June 12, 2009, WesternGeco filed suit against ION, accusing ION of willfully infringing various claims of four patents. WesternGeco's theory of infringement was based on, *inter alia*, 35 U.S.C. § 271(f)(1) and § 271(f)(2). Broadly speaking, (f)(1) prohibits supplying a substantial portion of the components of a patented system in a manner that actively induces their combination abroad, and (f)(2) prohibits supplying components that are especially adapted to work in a patented invention and intending that the components be combined abroad in a manner that would infringe if combined domestically. *See* 35 U.S.C. § 271(f).

On June 29, 2012, the court granted summary judgment of infringement in favor of WesternGeco for claim 18 of the '520 patent under 35 U.S.C. § 271(f)(1). In so ruling, the court interpreted § 271(f)(1) as requiring that the "alleged infringer (1) actively induce the combination of the components in question; and (2) that the combination of those components would infringe the patent if such combination occurred within the United States." J.A. 52. Section 271(f)(2), the district court concluded, required a heightened standard: "that the defendant (1) intended the combination of components; (2) knew that the combination he intended was patented; and (3) knew that the combination he intended would be infringing if it occurred in the United States." J.A. 55. The court determined that WesternGeco proved that ION intended that the components be combined and therefore infringed under § 271(f)(1) with respect to claim 18, but concluded that, with respect to claim 18 under § 271(f)(2), there was a genuine issue of material fact as to whether the "Defendants *knew* that the combination was infringing." J.A. 56.

Trial was held in July and August of 2012. On August 16, 2012, the jury rendered its verdict, finding that ION infringed claims 19 and 23 of the '520 patent, claim 15 of the '967 patent, claim 15 of the '607 patent, and claim 14 of the '038 patent under §§ 271(f)(1) and (f)(2). The jury also found that ION infringed claim 18 of the '520 patent under § 271(f)(2) (infringement under (f)(1) as to claim 18 having already been decided on summary judgment). Finally, the jury found that the infringement was willful (applying the so-called “subjective” prong of *In re Seagate Technology, LLC*, 497 F.3d 1360, 1371 (Fed. Cir. 2007) (en banc)). The jury awarded \$93,400,000 in lost profits and \$12,500,000 in reasonable royalties.

ION filed motions for judgment as a matter of law or for a new trial. ION also filed a motion to dismiss, for the first time alleging that WesternGeco did not have standing to assert the '607 patent, the '967 patent, and the '520 patent because WesternGeco did not own the patents. WesternGeco filed, *inter alia*, a motion for enhanced damages under 35 U.S.C. § 284.

On June 19, 2013, the district court denied ION's JMOLs and motion to dismiss and WesternGeco's motion for enhanced damages, finding that ION's positions were reasonable and not objectively baseless.

ION appealed. WesternGeco conditionally cross-appealed. We have jurisdiction pursuant to 28 U.S.C. § 1295(a)(1).

DISCUSSION

I

We first address ION's contention that WesternGeco does not own the '607 patent, the '967 patent, and the '520 patent, and therefore lacked standing to assert them. The question is whether WesternGeco owned the patents when the suit was filed in 2009. It is uncontroverted that

a sole owner of a patent has standing to assert it and that an entity that does not own the patent (or is not the exclusive licensee) does not have standing to sue. *See Rite-Hite Corp. v. Kelley Co., Inc.*, 56 F.3d 1538, 1551–52 (Fed. Cir. 1995) (en banc).

Although standing is reviewed de novo, we review factual determinations relating to standing for clear error. *See Enovsys LLC v. Nextel Commc'ns, Inc.*, 614 F.3d 1333, 1340–41 (Fed. Cir. 2010). The district court reviewed the parties' arguments with respect to the chain-of-title and concluded that "WesternGeco has presented sufficient evidence to prove its ownership of the patents" and that "WesternGeco was assigned the rights." J.A. 7. We have reviewed the record relating to the chain of title between the original inventors and WesternGeco. We conclude that the district court's findings are not clearly erroneous.

The three patents each list two inventors: Oyvind Hillesund and Simon Bittleston. In 1993, Bittleston started working for a subsidiary of Schlumberger Ltd., and Hillesund started working for a subsidiary of Schlumberger Ltd. the following year. Schlumberger Ltd. is one of the world's largest oil and gas companies, incorporated in Curacao and with offices throughout the world. Although the precise Schlumberger corporate structure existing in the early 1990s is not clear from the record, and it is not clear precisely for which subsidiaries Bittleston and Hillesund worked at the time of their invention, ION admits that Hillesund and Bittleston worked for so-called "Geco" subsidiaries of Schlumberger Ltd. *See* Appellant's Br. 10 (characterizing Hillesund and Bittleston as having "originally went to work for Geco in" 1994 and 1993, respectively).

Both inventors testified that they transferred their rights to the inventions they developed to their employers pursuant to their employment contracts. Bittleston

testified: “[W]hen [Hillesund and I] joined the company [one of the Geco companies], we signed something saying that any inventions we made were going to be owned by the company, not by us, so they’re the owners.” J.A. 1504. Hillesund’s testimony is similar. When asked: “Mr. Hillesund, as an employee of Geco and later WesternGeco, did you assign your rights of the intellectual property to the company?”, Hillesund responded: “Yes. Part of the—my contract was that intellectual property—there was also something in the contract that I was to be given reasonable coverage of—in the form of a bonus, all in accordance to the significance of the patent.” J.A. 12805.

If, in fact, Geco subsidiaries of Schlumberger, Ltd. acquired those rights in the early 1990s, they were transferred to Schlumberger Technology Corporation (“STC”) pursuant to a 1998 agreement. In 1998, four Schlumberger companies, Schlumberger Holdings Limited, STC, Schlumberger Canada Limited, and Services Petroliers Schlumberger S.A., entered into a cost-sharing agreement. As a part of that agreement, the parties assigned intellectual property rights to each other to consolidate those rights on a geographical basis:

[O]wnership of the Patent Rights, Proprietary Technical Information and Copyrights which are subject to this Agreement shall be vested in the Participants in their Respective Areas

J.A. 12828–29. STC’s “respective area” was the United States. J.A. 12820. The agreement defined “Patent Rights” to include “any and all patents and patent applications, certificates of invention and the like, throughout the world, and interests therein, based upon inventions relating to seismic oil field services or equipment which are obtained by or for the Geco Prakla companies.” J.A.

12824.¹ Thus, there is substantial evidence to conclude that the agreement here assigned the intellectual property in the Geco companies (originally assigned from the inventors) to STC in 1998.

The next event in the chain-of-title occurred in 2000, when Schlumberger and Baker-Hughes formed a joint venture, WesternGeco, to which STC assigned its intellectual property rights “primarily related to the Seismic Business in the U.S.”² J.A. 12780. And there is substan-

¹ “Geco Prakla” was defined to mean: SHL; STC and specifically its Geco Prakla engineering, manufacturing and operating divisions and research centers; SCL and specifically its Geco Prakla seismic operating division; SPS; and any other seismic service and/or data processing oil field corporation, firm, partnership or other entity (“entities”) which may, directly or indirectly, be wholly or majority owned by Schlumberger Limited (SL); and successors of such entities so long as each remains a wholly or majority-owned subsidiary of SL or a successor of SL.

J.A. 12820.

² The agreement defined “Transferred IP” to refer to, *inter alia*, “Schlumberger Transferred IP,” which is in turn defined to mean “Intellectual Property that (i) is owned by Schlumberger or its Affiliates or to which Schlumberger or its Affiliates otherwise have rights, (ii) is used or held for use primarily in connection with or otherwise primarily related to the Schlumberger Seismic Business, and (iii) exists as of the Closing Date, including the Schlumberger Proprietary Rights that are identified by Schedule 4.18(a) to the Schlumberger Disclosure Letter.” J.A. 12711; 12713. The contract defined “Intellectual Property” to mean:

tial evidence to conclude that the intellectual property at issue in this case is “primarily related to the Seismic Business” because a British application and Patent Cooperation Treaty (“PCT”) application, from which the three patents at issue derive, were expressly included in a list of IP used primarily for the Seismic Business.³ As a

patents, patent applications (filed, unfiled or being prepared), records of invention, invention disclosures, trademarks (registered or unregistered), trademark applications (filed, unfiled or being prepared), trade names, copyrights (registered or unregistered), copyright applications (filed, unfiled or being prepared), service marks (registered or unregistered), service mark applications (filed, unfiled or being prepared), database rights (registered or unregistered), all together with the goodwill associated with such marks or names, trade secrets, shop and royalty rights, technology, inventions, know-how, processes and confidential and proprietary information, including any being developed (including but not limited to designs, manufacturing data, design data, test data, operational data, and formulae), whether or not recorded in tangible form through drawings, software, reports, manuals or other tangible expressions, whether or not subject to statutory registration, whether foreign or domestic, and all rights to any of the foregoing.

J.A. 12706 (emphases added).

³ The three patents at issue here are all continuations of U.S. Patent No. 6,932,017, which was itself based on the PCT application expressly transferred in the 2000 merger. The '017 patent application was initiated under 35 U.S.C. § 371, which provides for the national filing of PCT applications. The three patents at issue could not

result of this series of transfers, it appears that the inventors' patent rights were transferred first to the Geco companies, then in 1998 to STC, and then in 2000 to WesternGeco, the plaintiff in this case.

However, ION argues that there is a defect in this chain of title. It contends that the inventors, while perhaps obligated to transfer rights in the invention to their employers (Geco subsidiaries) under their employment agreements, failed to testify that such a transfer in fact occurred. It is well-established that employment contracts do not necessarily automatically assign patent rights to the employer. See *Abraxis Bioscience, Inc. v. Navinta LLC*, 625 F.3d 1359, 1364 (Fed. Cir. 2010). “[C]ontracts that obligate the owner to grant rights in the future do not vest legal title to the patents in the assignee.” *Id.* at 1364–65. In such circumstances, the employee must still formally assign the rights to the patent to the employer in order to convert the employer’s contractual right to the technology into a vested ownership interest.

The simple answer is that even if the inventors still owned the rights to the invention after the 2000 merger agreement, the inventors transferred their interests in the pending patent applications to STC in 2001. The 2001 assignment forms executed by each of the two inventors provided that “[STC] is desirous of acquiring or confirming its ownership of the entire right, title and interest in and to [the invention]” and confirmed that the inventors “have sold, assigned, transferred and conveyed, and by this assignment, do sell, assign, transfer and convey, unto Assignee, its successors and assigns, the entire right, title and interest throughout the United States . . . in and to my invention” J.A. 12195–98. These 2001 assign-

have been listed in the 2000 agreement because they had not yet been filed.

ments were filed as to U.S. Patent Application No. 09/787,723 (“App. No. ’723”) and PCTIB99/01590. As noted above, the three patents for which ION challenges ownership were all continuations of the patent resulting from App. No. ’723. ION admits that STC was assigned the patents in 2001, and argues that STC is the patent owner.

No further transfer instrument from STC to WesternGeco was required to vest these patents in WesternGeco after the rights were transferred to STC in 2001. The transfer from STC to WesternGeco occurred automatically under the previously executed 2000 agreement. It is well-established that when an agreement provides for the transfer of an interest in a patent and the transferring party later receives formal title, the formal title is automatically transferred by operation of the prior agreement to the transferee party. *See Abraxis*, 625 F.3d at 1364 (“If [a] “contract expressly conveys rights in future inventions, no further act is required once an invention comes into being, and the transfer of title occurs by operation of law.”); *SiRF Tech., Inc. v. Int’l Trade Comm’n*, 601 F.3d 1319, 1326 (Fed. Cir. 2010) (same).⁴

Here, the 2000 merger agreement was a present assignment of STC’s rights to the intellectual property at issue. The merger agreement provided: “STC assigns to [WesternGeco] in accordance with Article 2 all right, title,

⁴ Indeed, 35 U.S.C. §§ 118 and 261 contemplate assignment of a right to receive a patent. Section 261 provides in part: “Applications for patent, patents, or any interest therein, shall be assignable in law by an instrument in writing.” Similarly, § 118 provides in part: “A person to whom the inventor has assigned or is under an obligation to assign the invention may make an application for patent.”

and interest in and to the Schlumberger Transferred IP primarily related to the Seismic Business in the U.S.” J.A. 12780. Intellectual Property was defined to include: “patents, patent applications (filed, unfiled or being prepared),” and “inventions,” “including any being developed.” J.A. 12706. The 2000 assignment here included the rights to future patents resulting from the existence of a previous invention.

There is thus substantial evidence to conclude that WesternGeco owns the patents at issue and has standing to sue, regardless of whether the inventors transferred their rights to the inventions to the Geco companies by operation of their employment agreements or whether they merely agreed to a future transfer in the early 1990s and then formally transferred their rights to STC in 2001. The district court did not err in ruling that WesternGeco was the owner of the patents-in-suit and had standing to sue.

II

We next turn to ION’s challenges to the determination of infringement. As stated earlier, the district court granted summary judgment of infringement on claim 18 of the ’520 patent under § 271(f)(1). The jury determined that ION infringed the other asserted claims under § 271(f)(1), and the jury separately determined that ION infringed all of the asserted claims (including claim 18) under § 271(f)(2) as well.

Section 271(f)(1) provides:

Whoever without authority supplies or causes to be supplied in or from the United States all or a substantial portion of the components of a patented invention, where such components are uncombined in whole or in part, *in such manner as to actively induce the combination of such compo-*

nents outside of the United States in a manner that would infringe the patent if such combination occurred within the United States, shall be liable as an infringer.

35 U.S.C. § 271(f)(1) (emphasis added). Section 271(f)(2) provides:

Whoever without authority supplies or causes to be supplied in or from the United States any component of a patented invention that is especially made or especially adapted for use in the invention and not a staple article or commodity of commerce suitable for substantial noninfringing use, where such component is uncombined in whole or in part, *knowing that such component is so made or adapted and intending that such component will be combined outside of the United States in a manner that would infringe the patent if such combination occurred within the United States*, shall be liable as an infringer.

35 U.S.C. § 271(f)(2) (emphasis added).

ION contends that three errors by the district court require reversal. First, ION contends that the district court misconstrued (f)(1)'s "actively induce" intent requirement in granting summary judgment for claim 18 of the '520 patent and in instructing the jury as to (f)(1) infringement for the other asserted claims. The parties dispute the meaning of the following language of (f)(1): "actively induce the combination of such components outside of the United States in a manner that would infringe the patent if such combination occurred within the United States." 35 U.S.C. § 271(f)(1). The district court held that this requirement was satisfied if the alleged infringer "actively induce[d]" the combination abroad, irrespective of whether the infringer had knowledge that there would be infringement if combined

domestically. J.A. 52. ION disagrees with that reading, arguing that the language of (f)(1) requires that ION knew the intended combination would be infringing if done domestically.

We need not reach the question whether the district court applied the correct standard under § 271(f)(1). The verdict was clear that the jury found liability under § 271(f)(2) for all asserted claims. The district court expressly instructed the jury to “determine infringement . . . on a claim-by-claim basis” for both § 271(f)(1) and (f)(2) and instructed them to determine infringement as to claim 18 of the ’520 patent under § 271(f)(2). Because there was no contention raised before the district court that the (f)(2) instruction as to the standard of intent was erroneous,⁵ and, as discussed below, there were no other errors with respect to the (f)(2) instruction, the correctness of the infringement finding with respect to (f)(2) forms an adequate basis for liability.

ION’s second challenge is to the lack of limiting instructions to the jury with respect to (f)(2). ION proposed that the jury be instructed:

I have previously determined that ION . . . infringe[s] Claim 18 of the ’520 Patent by supplying DigiFIN and the Lateral Controller from the United States intending the two components be combined into a system that infringes

⁵ On appeal, ION argues that the (f)(2) jury instruction was incorrect in light of *Commil USA, LLC v. Cisco Sys., Inc.*, 720 F.3d 1361 (Fed. Cir. 2013), which was decided six days after the district court’s JMOL order. This argument is mooted by the Supreme Court’s recent decision in *Commil USA, LLC v. Cisco Systems, Inc.*, 135 S. Ct. 1920 (2015).

Claim 18 utilizing the streamer separation mode. You must accept my finding on infringement as it relates to Claim 18 of the '520 Patent under § 271(f)(1). *You should not consider this finding in deciding the question of infringement as to any other claim or when deciding infringement under § 271(f)(2).*

J.A. 10913 (emphasis added). The district court did not err in rejecting this proposed instruction. The district court held that, for both (f)(1) and (f)(2), WesternGeco was required to prove that ION intended that the components be combined abroad (quite apart from other intent requirements). In granting summary judgment on claim 18, the district court resolved this issue in favor of WesternGeco. The jury was entitled to be advised that this issue—applicable to both (f)(1) and (f)(2)—had been resolved against ION. Because ION's proposed instruction would have precluded that, it was overly broad, and the district court did not err in refusing to give the instruction. *See Bettcher Indus., Inc. v. Bunzl USA, Inc.*, 661 F.3d 629, 638–39 (Fed. Cir. 2011); *Biodex Corp. v. Loredan Biomedical, Inc.*, 946 F.2d 850, 862 (Fed. Cir. 1991) (“In order to prevail on the jury instruction issue in this case, [the appellant] must demonstrate both that the jury instructions actually given were fatally flawed and that the requested instruction was proper and could have corrected the flaw.”).⁶

⁶ ION's denied motions in limine were equally overbroad. For example, ION requested that WesternGeco be precluded from making “[a]ny mention of or reference to this Court's Orders denying or granting motions for summary judgment.” J.A. 10653; *see also* J.A. 10793 (refusing to give the instruction).

Finally, ION complains that WesternGeco during trial made improper references to the (f)(1) summary judgment order when arguing that the jury should find (f)(2) infringement. ION did not object to the references when they were made, and ION fails to demonstrate that they constituted plain error requiring reversal in the absence of an objection. *See Minks v. Polaris Indus., Inc.*, 546 F.3d 1364, 1379–80 (Fed. Cir. 2008) (plain error reversible only where substantial rights are affected).

III

Although ION does not challenge the reasonable royalty award, ION challenges the award of lost profits resulting from lost contracts for services to be performed abroad. We hold that lost profits cannot be awarded for damages resulting from these lost contracts.

WesternGeco makes the Q-Marine domestically and performs the surveys abroad on behalf of its customers—oil companies looking to extract oil from the sea floor. ION makes the DigiFINs domestically and then ships them overseas to its customers, who, in competition with WesternGeco, perform surveys abroad on behalf of oil companies. WesternGeco identified ten surveys for which it believes that, but for ION’s supplying of DigiFINs to ION’s customers, WesternGeco would have been awarded the contract. These ten surveys allegedly would have generated over \$90,000,000 in profit. According to WesternGeco, ION’s customers would not have been able to win the contracts if they did not have access to the DigiFINs. Thus, according to WesternGeco, but for ION’s sales to its customers, WesternGeco would have earned over \$90 million in profit from the ten lucrative services contracts performed abroad.

ION argues that WesternGeco cannot receive lost profits resulting from the failure to win these contracts. The service contracts were all to be performed on the high

seas, outside the jurisdictional reach of U.S. patent law. There is also no contention that the service contracts were entered into in the United States.

The presumption against extraterritoriality is well-established and undisputed. As the Supreme Court ruled in *Microsoft Corp. v. AT&T Corp.*, 550 U.S. 437 (2007), “[t]he presumption that United States law governs domestically but does not rule the world applies with particular force in patent law. The traditional understanding that our patent law operates only domestically and does not extend to foreign activities is embedded in the Patent Act itself, which provides that a patent confers exclusive rights in an invention within the United States.” *Id.* at 454–55 (citation, alterations, and internal quotation marks omitted). *See also Deepsouth Packing Co. v. Laitram Corp.*, 406 U.S. 518, 531 (1972) (“Our patent system makes no claim to extraterritorial effect; ‘these acts of Congress do not, and were not intended to, operate beyond the limits of the United States.’” (quoting *Brown v. Duchesne*, 60 U.S. 183, 195 (1856))); *Equal Emp’t Opportunity Comm’n v. Arabian Am. Oil Co.*, 499 U.S. 244, 248 (1991) (“It is a longstanding principle of American law ‘that legislation of Congress, unless a contrary intent appears, is meant to apply only within the territorial jurisdiction of the United States.’” (quoting *Foley Bros. v. Filardo*, 336 U.S. 281, 285 (1949))).

Here, the enactment of § 271(f) expanded the territorial scope of the patent laws to treat the export of components of patented systems abroad (with the requisite intent) just like the export of the finished systems abroad. The genesis of Congressional action lay in the Supreme Court’s decision in *Deepsouth*. In *Deepsouth*, the Supreme Court determined that a domestic manufacturer who manufactured components of an infringing product and then exported those components abroad without first combining them was not an infringer under § 271(a). 406

U.S. at 527–29. In response, Congress enacted § 271(f), which overruled *Deepsouth* to impose liability on domestic entities shipping components abroad (with the requisite intent), just as if they had manufactured the infringing product itself in the United States. See *Microsoft*, 550 U.S. at 442–45 (explaining that Congress enacted § 271(f) to hold manufacturers of exported components liable as infringers). There is no indication that in doing so, Congress intended to extend the United States patent law to cover uses abroad of the articles created from the exported components.

It is clear that under § 271(a) the export of a finished product cannot create liability for extraterritorial use of that product. The leading case on lost profits for foreign conduct is *Power Integrations, Inc. v. Fairchild Semiconductor Int'l, Inc.*, 711 F.3d 1348 (Fed. Cir. 2013). There, the patentee, a chip supplier, lost contracts to supply a prospective customer with computer chips in the United States and abroad because the accused infringer became a competitor for such contracts as a result of the U.S. infringing sales. If the accused infringer had been precluded from U.S. infringement, the patentee alleged that the accused infringer could not have competed for the contracts which necessarily involved supplying chips both in the United States and abroad. The patentee argued that it should recover world-wide lost profits.

We rejected that argument: “[Our patent laws] do not thereby provide compensation for a defendant’s foreign exploitation of a patented invention, which is not infringement at all.” *Power Integrations*, 711 F.3d at 1371. Rather, “we find neither compelling facts nor a reasonable justification for finding that [the patentee] is entitled to ‘full compensation’ in the form of damages based on loss of sales in foreign markets which it claims were a foreseeable result of infringing conduct in the United States.” *Id.* at 1372. “[T]he entirely extraterritorial production, use,

or sale of an invention patented in the United States is an independent, intervening act that, under almost all circumstances, cuts off the chain of causation initiated by an act of domestic infringement.” *Id.* at 1371–72.

Under *Power Integrations*, WesternGeco cannot recover lost profits resulting from its failure to win foreign service contracts, the failure of which allegedly resulted from ION’s supplying infringing products to WesternGeco’s competitors. *See also Duchesne*, 60 U.S. at 195–96 (“And the use of [the patented technology] outside of the jurisdiction of the United States is not an infringement of [the patentee’s] rights, and [the patentee] has no claim to any compensation for the profit or advantage the party may derive from it.”); *Halo Elecs., Inc., v. Pulse Elecs., Inc.*, 769 F.3d 1371, 1380 (Fed. Cir. 2014) (“Following Halo’s logic, a foreign sale of goods covered by a U.S. patent that harms the business interest of a U.S. patent holder would incur infringement liability under § 271(a). Such an extension of the geographical scope of § 271(a) in effect would confer a worldwide exclusive right to a U.S. patent holder, which is contrary to the statute and case law.”).

WesternGeco argues that *Power Integrations* applies to infringement under § 271(a)–(b), not infringement under § 271(f). WesternGeco’s argument misunderstands the role of § 271(f) in our patent law. Section 271(f) does not eliminate the presumption against extraterritoriality. Instead, it creates a limited exception. *Microsoft*, 550 U.S. at 442, 455–56. As we have discussed, by its terms, § 271(f) operates to attach liability to domestic entities who export components they know and intend to be combined in a would-be infringing manner abroad. But the liability attaches in the United States. It is the act of exporting the components from the United States which creates the liability. A construction that would allow recovery of foreign profits would make § 271(f), relating to

components, broader than § 271(a), which covers finished products. In fact, § 271(f) was designed to put domestic entities who export components to be assembled into a final product in a similar position to domestic manufacturers who sell the final product domestically or export the final product. Just as the United States seller or exporter of a final product cannot be liable for use abroad, so too the United States exporter of the component parts cannot be liable for use of the infringing article abroad.

Of course, the fact that WesternGeco is not entitled under United States patent law to lost profits from the foreign uses of its patented invention does not mean that it is entitled to no compensation. Patentees are still entitled to a reasonable royalty, and WesternGeco received such a royalty here.⁷

The dissent raises three principal arguments in favor of allowing WesternGeco to recover lost profits resulting from failing to win the contracts to perform the seismic surveys on the high seas.

First, the dissent identifies Supreme Court cases it believes approved awards of lost profits for foreign sales, citing *Goulds' Manufacturing Co. v. Cowing*, 105 U.S. 253 (1881), *Dowagiac Manufacturing, Co. v. Minnesota Moline Plow Co.*, 235 U.S. 641 (1915), and *Duchesne*, 60 U.S. 183. None of these cases is remotely similar to this one. To be

⁷ The extent to which these royalties may be affected by lost profits suffered abroad is an issue not presented here. See *Union Carbide Chems. & Plastics Tech. Corp. v. Shell Oil Co.*, 425 F.3d 1366, 1378 (Fed. Cir. 2005), *overruled on other grounds*, *Cardiac Pacemakers, Inc. v. St. Jude Med., Inc.*, 576 F.3d 1348, 1365 (Fed. Cir. 2009) (en banc); see also *Warsaw Orthopedic, Inc. v. NuVasive, Inc.*, 778 F.3d 1365, 1378 n.7 (Fed. Cir. 2015).

sure, they suggest that profits for foreign sales of the patented items themselves are recoverable when the items in question were manufactured in the United States and sold to foreign buyers by the U.S. manufacturer. *See Goulds' Mfg.*, 105 U.S. at 254; *Dowagiac Mfg.*, 235 U.S. at 642–43; *Duchesne*, 60 U.S. at 196. There is no such claim here. Rather, the claim is for lost profits from the use abroad of the items in question. The dissent's own authority, *Dowagiac Manufacturing*, makes clear that absent sales to foreign buyers by the U.S. manufacturer, there can be no recovery of lost profits for foreign sales:

Some of the drills, about 261, sold by the defendants, were sold in Canada, no part of the transaction occurring within the United States, and as to them there could be no recovery of either profits or damages. The right conferred by a patentee under our law is confined to the United States and its Territories and infringement of this right cannot be predicated of acts wholly done in a foreign country.

235 U.S. at 650.

Second, the dissent argues that the surveys should be recoverable as “convoyed sales” of the domestically manufactured components of the infringing DigiFINs. But, WesternGeco did not raise this argument before the district court or this court. And, the dissent points to no case extending the convoyed sales doctrine to cover sales of related products or services abroad. *See, e.g., State Indus., Inc. v. Mor-Flo Indus., Inc.*, 883 F.2d 1573, 1575 (Fed. Cir. 1989) (making no mention of foreign sales or uses); *Minco, Inc. v. Combustion Eng'g, Inc.*, 95 F.3d 1109, 1118 (Fed. Cir. 1996) (same). We see no basis for extending § 271(f)(2) to cover lost profits resulting from the use abroad of U.S. manufactured goods or components thereof in light of the “particular force” of the presumption

against extraterritoriality in our patent laws. *See Microsoft Corp.*, 550 U.S. at 454–55. Certainly in drafting 271(f)(2) Congress did not provide for liability in conveyed-sales situations.

Third, the dissent expresses concern that our ruling today might effectively prevent WesternGeco from recovering lost profits at all, as the surveys were conducted on the high seas and were outside of the territorial reach of any patent jurisdiction in the world. This may or may not be the case. Indeed, WesternGeco does not contend that it is barred from recovering in the jurisdiction in which the services contracted was negotiated and signed, nor does it contend that it is barred from recovering in the jurisdiction from which the ship performing the seismic surveys is flagged. In any event, the possible failure of liability provides no basis for ignoring the presumption against extraterritoriality.

IV

Because we reverse the district court’s lost profits decision, we turn next to WesternGeco’s conditional cross-appeal.

WesternGeco first challenges the district court’s grant of ION’s motion to exclude WesternGeco’s expert from testifying as to a reasonable royalty. WesternGeco’s damages expert, Raymond Sims, submitted an expert report in which he determined that the reasonable royalty rate for ION’s alleged infringement was 10% of the revenue of ION’s customers. In support of this, he explained that ION’s customers had received \$3.3 billion in revenue for performing surveys with the DigiFINs, and that they would not have been able to receive that revenue without the DigiFINs.

The district court excluded Sims from testifying as to a reasonable royalty. The district court reasoned “that

ION, in a hypothetical negotiation with [WesternGeco], would [not] have . . . agreed to a huge, profit-eliminating (and even revenue eliminating) royalty obligation for itself. As a matter of law, no such risk can be taken in a hypothetical negotiation in which infringement is deemed known. With knowledge of validity and infringement, such a financially catastrophic agreement would have been totally unreasonable.” J.A. 62.

District courts are tasked with the gatekeeping function of determining whether to allow an expert to testify. *See Daubert v. Merrell Dow Pharm., Inc.*, 509 U.S. 579, 592 (1993). “Faced with a proffer of expert scientific testimony, then, the trial judge must determine at the outset, pursuant to Rule 104(a), whether the expert is proposing to testify to (1) scientific knowledge that (2) will assist the trier of fact to understand or determine a fact in issue.” *Id.* (footnote omitted). We review the district court’s decision to exclude an expert for an abuse of discretion. *Gen. Elec. Co. v. Joiner*, 522 U.S. 136, 146 (1997).

WesternGeco argues that the court improperly adopted a rule that a profit-eliminating royalty was per se unreasonable. It is true that there is no legal rule that caps the reasonable royalty by the amount of the infringer’s profit.⁸

We conclude that the district court adopted no such absolute rule and did not abuse its discretion in excluding

⁸ *See, e.g., Aqua Shield v. Inter Pool Cover Team*, 774 F.3d 766, 770–71 (Fed. Cir. 2014); *Mars, Inc. v. Coin Acceptors, Inc.*, 527 F.3d 1359, 1374 (Fed. Cir. 2008), *modified on other grounds*, 577 F.3d 1377 (Fed. Cir. 2009); *Monsanto Co. v. Ralph*, 382 F.3d 1374, 1384 (Fed. Cir. 2004); *State Indus., Inc. v. Mor-Flo Indus., Inc.*, 883 F.2d 1573, 1580 (Fed. Cir. 1989).

the expert. The district court expressly based its ruling on two facts—that the royalty was profit eliminating and that it was revenue eliminating. Indeed, the proposed royalty was so high that it would have exceeded ION’s revenue by four times. WesternGeco cites no case, and we are aware of none, in which we have held that a reasonable royalty can exceed, by a factor of four, the market price for the patented invention. As such, we see no error in the district court exercising its discretion to exclude the expert from testifying as to a reasonable royalty.⁹

V

Finally, WesternGeco challenges the district court’s refusal to award enhanced damages for willful infringement.

In *In re Seagate*, we announced a two-prong test for willfulness:

[T]o establish willful infringement, a patentee must show by clear and convincing evidence that the infringer acted despite an objectively high

⁹ Although not expressly articulated by the district court, it is also worth noting that there were other reasons to exclude the expert’s testimony. For example, after determining that the patented technology was worth 10% of total revenue, the expert used the revenue generated by ION’s customers resulting from performing the oceanic surveys as the base for that 10% number, rather than the revenue generated by ION resulting from selling the infringing products. This increased, by more than tenfold, the estimated reasonable royalty. Again, we are aware of no case in which the plaintiff has used the defendant’s customer’s revenue as the revenue base for calculating a reasonable royalty, and WesternGeco does not identify one.

likelihood that its actions constituted infringement of a valid patent. . . . The state of mind of the accused infringer is not relevant to this objective inquiry. If this threshold objective standard is satisfied, the patentee must also demonstrate that this objectively-defined risk (determined by the record developed in the infringement proceeding) was either known or so obvious that it should have been known to the accused infringer.

497 F.3d at 1371. In *Bard Peripheral Vascular, Inc. v. W.L. Gore & Associates, Inc.*, we explained that the objective inquiry is a legal question, to be answered by the judge and reviewed de novo. 682 F.3d 1003, 1007 (Fed. Cir. 2012).

The jury determined that WesternGeco demonstrated, “by clear and convincing evidence[,] that ION actually knew, or it was so obvious that ION should have known, that its actions constituted infringement of a valid patent claim[.]” J.A. 77. WesternGeco subsequently sought enhanced damages in light of the jury’s finding. The district court denied WesternGeco’s motion. The court noted that the jury already determined that the subjective prong was satisfied, but that it was the responsibility of the court to determine if the objective prong had been satisfied. After carefully reviewing ION’s non-infringement and invalidity defenses, the district court concluded that they were “not unreasonable by clear and convincing evidence,” “not objectively baseless,” and “reasonable.” J.A. 26–28.

WesternGeco has not established that the district court erred in concluding that ION’s defenses were reasonable and indeed gives relatively little attention to this issue. Instead, WesternGeco argues that ION was not successful with any of its defenses and that ION did not raise any of those defenses on appeal. But unreasonable-

ness, not a lack of success, determines whether enhanced damages are awarded. *See Spine Solutions, Inc. v. Medtronic Sofamor Danek USA, Inc.*, 620 F.3d 1305, 1319 (Fed. Cir. 2010) (“Th[e] ‘objective’ prong of *Seagate* tends not to be met where an accused infringer relies on a reasonable defense to a charge of infringement.”).

WesternGeco also argues that ION’s customers brought the patents to ION’s attention and voiced their concerns regarding possible infringement, and that ION was so concerned about the possibility of infringement that it hesitated to enter into indemnity agreements with its customers. These arguments bear on the subjective inquiry, not the objective inquiry—whether WesternGeco had objectively reasonable defenses. Whether our review is *de novo* or deferential, we see no error in the district court’s determination.

CONCLUSION

We affirm in all respects, except that we reverse the district court’s refusal to grant JMOL eliminating the lost profits component of the jury award.

AFFIRMED-IN-PART, REVERSED-IN-PART, AND REMANDED

COSTS

Costs to neither party.

States Court of Appeals for the Federal Circuit

WESTERNGECO L.L.C.,
Plaintiff-Cross-Appellant

v.

ION GEOPHYSICAL CORPORATION,
Defendant-Appellant

2013-1527, 2014-1121, 2014-1526, 2014-1528

Appeals from the United States District Court for the Southern District of Texas in No. 4:09-cv-01827, Judge Keith P. Ellison.

WALLACH, *Circuit Judge*, dissenting-in-part.

I agree with the majority's holdings with respect to standing, infringement, and willfulness. However, in an effort to respect the presumption against the extraterritorial application of United States law, the majority erroneously declines to consider WesternGeco L.L.C.'s ("WesternGeco") lost foreign sales when determining damages for infringement under 35 U.S.C. § 271(f) (2012). Because, under this court's precedents and those of the United States Supreme Court, the patent statute requires consideration of such sales as part of the damages calculation, I respectfully dissent.

It is beyond question that patent rights granted by the United States are geographically limited. As the Supreme Court long ago explained, “[t]he power . . . granted [by the Constitution to promote the progress of . . . useful arts] is domestic in its character, and necessarily confined within the limits of the United States.” *Brown v. Duchesne*, 60 U.S. (19 How.) 183, 195 (1856); *see also Deepsouth Packing Co. v. Laitram Corp.*, 406 U.S. 518, 531 (1972) (“Our patent system makes no claim to extraterritorial effect; ‘these 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 *Duchesne*, 60 U.S. at 189)), *superseded in part by statute*, Patent Law Amendments Act of 1984, Pub. L. No. 98-622, 98 Stat. 3383.

Consistent with this approach, Congress has conferred on patentees “the right to exclude others from making, using, offering for sale, or selling the invention *throughout the United States*.” 35 U.S.C. § 154(a)(1) (emphasis added). Although “[t]he presumption that United States law governs domestically but does not rule the world” is not unique to the patent context, it “applies with particular force in patent law.” *Microsoft Corp. v. AT&T Corp.*, 550 U.S. 437, 454–55 (2007).

Nevertheless, the limited geographic reach of United States patent law does not mean activities occurring outside the United States are categorically disregarded when determining issues of patent infringement. For example, 35 U.S.C. § 271(g) imposes liability based upon an underlying foreign use of a patented process, if the product made by that process is imported into the United States. Similarly, and relevant to the present matter, by enacting § 271(f) Congress imposed liability on those supplying from the United States components of a patented invention “in such manner as to actively induce

the combination of such components *outside of the United States* in a manner that would infringe the patent if such combination occurred within the United States.” 35 U.S.C. § 271(f)(1) (emphasis added).

The Supreme Court has described § 271(f) as “an exception to the general rule that our patent law does not apply extraterritorially.” *Microsoft*, 550 U.S. at 442; see also *Limelight Networks, Inc. v. Akamai Techs., Inc.*, 134 S. Ct. 2111, 2118 (2014) (Section 271(f)(1) “illustrates [that] when Congress wishes to impose liability for inducing activity that does not itself constitute direct infringement, it knows precisely how to do so.”); *Promega Corp. v. Life Techs. Corp.*, 773 F.3d 1338, 1351 (Fed. Cir. 2014) (“Under 35 U.S.C. § 271(f)(1), a party may infringe a patent based on its participation in activity that occurs both inside *and outside the United States*.”) (emphasis added); *Power Integrations, Inc. v. Fairchild Semiconductor Int’l, Inc.*, 711 F.3d 1348, 1371 (Fed. Cir. 2013) (“[I]ndirect infringement, *which can encompass conduct occurring elsewhere*, requires underlying direct infringement in the United States.”) (emphasis added) (citations omitted).

The relevance of foreign activities is not limited to the underlying issue of liability for *infringement*, but also relates to the associated issue of *damages*. It is on the issue of damages that the majority errs.

In general, a patentee is entitled to full compensatory damages where infringement is found. *Gen. Motors Corp. v. Devex Corp.*, 461 U.S. 648, 654–55 (1983) (By enacting § 284, “Congress sought to ensure that the patent owner would in fact receive full compensation for ‘any damages’ he suffered as a result of the infringement.”) (citation omitted); *Carborundum Co. v. Molten Metal Equip. Innovations, Inc.*, 72 F.3d 872, 881 (Fed. Cir. 1995) (“The primary purpose of compensatory damages is to return

the patent owner to the financial position he would have occupied but for the infringement.”); H.R. Rep. No. 1587, 79th Cong., 2d Sess. (1946) (“The object of the bill is to make the basis of recovery in patent infringement suits general damages, that is, *any damages the complainant can prove . . .*”) (emphasis added). This general approach is rooted in the patent statute, which provides: “Upon finding for the claimant the court shall award the claimant damages *adequate to compensate for the infringement*, but in no event less than a reasonable royalty.” 35 U.S.C. § 284 (emphasis added). Section 284 is a particular variation of the more general principle that, “when a wrong has been done, and the law gives a remedy,” “[t]he injured party is to be placed, as near as may be, in the situation he would have occupied if the wrong had not been committed.” *Albemarle Paper Co. v. Moody*, 422 U.S. 405, 418–19 (1975) (quoting *Wicker v. Hoppock*, 73 U.S. (6 Wall.) 94, 99 (1867)).

These general principles of full compensation, of course, do not directly address the question of whether foreign activities may be considered when calculating such compensation. The Supreme Court, however, has answered this question in the affirmative, looking to non-infringing foreign sales to calculate lost profits where the patented product is manufactured in the United States. For example, in *Goulds’ Manufacturing Co. v. Cowing*, the defendant manufactured 298 pumps “specially designed for drawing off the gas from oil-wells,” for which “there was no market . . . except in the oil-producing regions of Pennsylvania and Canada.” 105 U.S. 253, 254–55 (1881) (internal quotation marks omitted). Without excluding the pumps sold in Canada, the Supreme Court found “a reasonable allowance for profits will be fifteen dollars on each pump, or \$4,470 [i.e., 298 multiplied by \$15 equals \$4,470] in all.” *Id.* at 258. The Court thus relied in part on foreign sales to calculate lost profits, explaining the

appellant “could easily, and with reasonable promptness, [have filled] every order that was made.” *Id.* at 256.

In *Dowagiac Manufacturing Co. v. Minnesota Moline Plow Co.*, the Court reviewed “an accounting of profits and an assessment of damages resulting from the infringement of a patent granted . . . for certain new and useful improvements in grain drills, commonly known as shoe drills.” 235 U.S. 641, 642–43 (1915) (internal quotation marks omitted). The defendants included wholesale dealers who purchased from manufacturers (who also infringed the patent). *Id.* at 643. Some of the drills were sold in Canada by the defendants. *Id.* at 650. The Court held the plaintiff was unable to recover “either profits or damages” as to these sales, specifically distinguishing *Goulds*’ on the basis that “while [the infringing drills] were made in the United States, they were not made by the defendants.” *Id.* By implication, had the defendants manufactured within the United States the infringing articles that were the subject of the foreign sales, those sales could have been used in the calculation of profits and therefore damages.

Consistent with Supreme Court precedent, this court has previously considered lost foreign sales to inform patent damages calculations. In *Railroad Dynamics, Inc. v. A. Stucki Co.*, the district court awarded \$2,182,986 in damages based upon 52,183.5 infringing carsets multiplied by a royalty of \$35 per carset, plus 6% compound interest. 727 F.2d 1506, 1510 n.1 (Fed. Cir. 1984). In upholding the award, this court noted:

The award includes royalties for 1,671 carsets sold to foreign customers When it made the 1,671 carsets in this country, it infringed *Whether those carsets were sold in the U.S. or elsewhere is therefore irrelevant*, and no error occurred in

including those carsets among the infringing products on which royalty was due.

Id. at 1519 (emphasis added).

The use of non-infringing foreign sales, following infringing domestic manufacture, as part of the base on which royalties or lost profits are calculated is only one example of reliance on non-infringing activity to arrive at an appropriate damages figure. Where method patents are involved, non-infringing *domestic* sales of products resulting from domestic infringement of the patent have been held relevant to the damages calculation. In *State Industries, Inc. v. Mor-Flo Industries, Inc.*, for example, the plaintiff held a patent on “a method of insulating the tank of a water heater by using polyurethane foam.” 883 F.2d 1573, 1575 (Fed. Cir. 1989). “The district court awarded [the plaintiff] its incremental profit on [the non-infringing] foam-insulated gas water heaters reflecting the percentage of sales revenue [the plaintiff] lost because of [the defendant’s] infringement that would have been its profit,” and this court affirmed. *Id.* at 1579–80; *see also* *Soverain Software LLC v. J.C. Penney Corp.*, 899 F. Supp. 2d 574, 583 (E.D. Tex. 2012) (upholding a damages calculation that relied on “the value of [non-infringing] products sold via the infringing websites as the royalty base,” considering in particular “the profit earned on these [non-infringing] products”), *rev’d on other grounds*, 778 F.3d 1311 (Fed. Cir. 2015). Similarly, where a patented device is used to manufacture unpatented products that are later sold, the non-infringing sales can be used to calculate lost profits or reasonable royalties. *See Minco, Inc. v. Combustion Eng’g, Inc.*, 95 F.3d 1109, 1118 (Fed. Cir. 1996) (“In awarding both lost profits and a reasonable royalty, the trial court used the sale of [non-infringing] fused silica [produced using a patented kiln] as the baseline for measuring damages.”).

In this case, the foreign sales of unpatented seismic surveys were made not by defendant-appellant ION Geophysical Corporation (“ION”), but by its customers. Maj. Op. at 3–4, 16. WesternGeco’s lost profits might therefore be distinguished from those at issue in *Goulds*,¹ *Dowagiac*, and *Railroad Dynamics* on two separate bases: first, the foreign sales were not of a patented product but of an unpatented service in which a patent-practicing device was used; and second, the foreign sales in the present matter were not made by the defendant.¹

With respect to the first difference, this court has previously allowed recovery of lost profits based on the recognition that “the economic value of a patent may be greater than the value of the sales of the patented part alone.” *King Instruments Corp. v. Perego*, 65 F.3d 941, 950 n.4 (Fed. Cir. 1995). For example, under the doctrine of “convoyed sales,” a patentee may recover lost profits based on lost sales of *unpatented* products if they are “sufficiently related to the patented product.” *Warsaw Orthopedic, Inc. v. NuVasive, Inc.*, 778 F.3d 1365, 1375 (Fed. Cir. 2015). Similarly, “when claims are drawn to an individual component of a multi-component product” a patentee may recover “damages based on the entire

¹ The majority overreads *Dowagiac*. Maj. Op. at 20–21. *Dowagiac* declined to impose liability for downstream foreign sales because the defendant was the downstream seller rather than the U.S. manufacturer and its “infringement consisted only in selling the drills after they passed out of the makers’ hands.” 235 U.S. at 650. That is, the defendant—who was comparable not to ION but to ION’s customers—*did not infringe* as to the products sold to foreign buyers. In the present action, WesternGeco is not bringing suit against the downstream sellers, and the issue is not infringement, but damages.

market value of the accused product” so long as “the patented feature creates the basis for customer demand or substantially creates the value of the component parts.” *VirnetX, Inc. v. Cisco Sys., Inc.*, 767 F.3d 1308, 1326 (Fed. Cir. 2014) (internal quotation marks and citation omitted); *see also Westinghouse Elec. & Mfg. Co. v. Wagner Elec. & Mfg. Co.*, 225 U.S. 604, 615 (1912) (Upon a sufficient showing, a patentee may recover “the profits and damages . . . on the whole machine” if “the entire value of the whole machine, as a marketable article, is properly and legally attributable to the patented feature.”) (internal quotation marks and citation omitted).

Although discussions of conveyed sales and the entire market value rule are generally addressed to products, there is no statutory or doctrinal reason to exclude functionally related services, as this court has acknowledged. *See State Contracting & Eng’g Corp. v. Condotte Am., Inc.*, 346 F.3d 1057, 1074 (Fed. Cir. 2003) (quoting with approval a jury instruction that “if . . . an entire construction job is functionally a part of the patented inventions used on the job, then . . . lost profits” may be awarded “for that entire construction job”). Moreover, the sale of the patented and unpatented products or services need not occur simultaneously. *See DePuy Spine, Inc. v. Medtronic Sofamor Danek, Inc.*, 567 F.3d 1314, 1333 (Fed. Cir. 2009) (Whether patented and unpatented products are sold together or in separate transactions “is a distinction without a difference.”); *see also Carborundum*, 72 F.3d at 881–82 (affirming the district court’s holding that the patentee was “clearly entitled to lost profits on all [unpatented] spare parts sales,” and finding, absent an injunction, it would have been entitled to lost profits on “future lost sales of repair parts”). Here, where it appears WesternGeco “could [have] easily, and with reasonable promptness, fill[ed] every order that was made” for marine surveys, *Goulds’*,

105 U.S. at 256, where the patent-practicing devices “were made in the United States” and were made “by the defendants,” *Dowagiac*, 235 U.S. at 650, and where “the patented feature creates the basis for customer demand” of the marine surveys, *VirnetX*, 767 F.3d at 1326, recovery should not be precluded.

With respect to the second difference—that ION did not itself make the downstream sales—there is no reason to allow ION to escape liability for lost profits simply based upon the business model it chose to employ. Under § 284, damages are based not on the infringer’s profits but on harm suffered by the patentee. *See Robert Bosch, LLC v. Pylon Mfg. Corp.*, 719 F.3d 1305, 1315–16 (Fed. Cir. 2013). In this case, damages to WesternGeco are the same whether ION competes directly or indirectly. Moreover, had ION chosen to compete against WesternGeco directly by manufacturing components in the United States, assembling them abroad, and then underbidding WesternGeco to win and perform seismic survey contracts, there would be no sales of patent-practicing devices (or components thereof) on which to base a reasonable royalty. This case would then resemble *Minco* in that “[b]oth [the defendant] and [the patentee] used the invention to compete in [the same] market.” *Minco*, 95 F.3d at 1118. That is, *Minco* upheld a calculation of lost profits based on a downstream, non-infringing sale of something other than the patented product. The court should do so here.²

² The majority see[s] no basis for extending § 271(f)(2) to cover lost profits *resulting from the use abroad* of U.S. manufactured goods or components thereof in light of the ‘particular force’ of the presumption against extraterritoriality in our patent laws.

This court's en banc decision in *Cardiac Pacemakers*, cited by ION in support of its argument that extraterritorial sales cannot be considered, is not contrary. See *Cardiac Pacemakers, Inc. v. St. Jude Med., Inc.*, 576 F.3d 1348, 1362 (Fed. Cir. 2009) (en banc). In that case, this court “[held] that Section 271(f) does not cover method claims.” *Id.* at 1359. The export of non-infringing implantable cardioverter defibrillators that were then used abroad to practice a patented method could not give rise to liability under § 271(f) because “a component of a method or process is a step in that method

Certainly in drafting 271(f)(2), Congress did not provide for *liability* in convoyed-sales situations. Maj. Op. at 21–22 (emphases added) (citation omitted). In so stating, the majority elides three important issues. First, by categorizing the damages as “resulting from . . . use abroad,” it assumes without analysis that there is an insufficient connection between ION’s proven infringement in the United States and damages (see discussion of *Power Integrations, infra*). Second, it fails to consider that the Supreme Court in *Goulds’* did not rely on an explicit authorization of Congress to award damages based upon activities occurring overseas. Third, by using the term “liability,” the majority’s statement ignores the critical distinction between *whether* a defendant is liable and *the amount for which* a defendant is liable. In any event, Congress stated whoever violates § 271(f) “shall be liable as an infringer.” 35 U.S.C. § 271(f)(1) & (2). Under this court’s precedents, the extent of liability for infringement, in appropriate cases, is determined by considering the sale of non-infringing products or services. See generally *King Instruments*, 65 F.3d at 947 (“Section 284 imposes no limitation on the types of harm resulting from infringement that the statute will redress.”).

or process,” *id.* at 1362, but “one cannot supply the step of a method,” *id.* at 1364. In simple terms, *Cardiac Pacemakers* held that because method claims are intangible, they cannot be exported (“supplie[d]”) within the meaning of § 271(f). The point of law with respect to *infringement* under § 271(f) in *Cardiac Pacemakers*, however, is inapposite to the issue of *damages* the court now decides. Unlike the defendant in *Cardiac Pacemakers*, who shipped non-infringing implantable cardioverter defibrillators, there is no question that ION shipped components of a patented invention for combination abroad and that infringement liability under § 271(f) is proper. *See* Maj. Op. at 12–14.

Most significantly, this court’s decision in *Power Integrations* does not support the majority’s view of damages. It is true that case stated damages for infringement under § 271(a) cannot be based on foreign sales simply “because those foreign sales were the direct, foreseeable result of . . . domestic infringement.” *See Power Integrations*, 711 F.3d at 1371. Read in isolation, this statement is inconsistent with *Goulds’*, *Dowagiac*, and *Railroad Dynamics*.

However, despite its use of the word “direct,” the court in *Power Integrations* was clearly concerned with the sufficiency of the connection between the foreign activity and the domestic infringement. *Power Integrations* explained the plaintiffs had cited no case law supporting the use of “sales consummated in foreign markets, regardless of any connection to infringing activity in the United States,” when calculating damages. *Id.* at 1371 (emphasis added). It noted the “estimate [of the plaintiff’s expert witness] of \$30 million in damages was *not rooted in [the defendant’s] activity in the United States.*” *Id.* at 1372 (emphasis added) (internal quotation marks and citation omitted). Similarly, the district court decision expressed concern that the “estimate [of the plaintiff’s

expert witness] of \$30 million in damages was *not* related to parts that were manufactured, used, or sold in the United States by [the defendant].” *Power Integrations, Inc. v. Fairchild Semiconductor Int’l, Inc.*, 589 F. Supp. 2d 505, 511 (D. Del. 2008).

Although the record in *Power Integrations* does not clearly describe the nature of the infringing conduct (e.g., sale, manufacture, or sample testing as part of the design process) in relation to the foreign sales activities, *see, e.g.*, 711 F.3d at 1370–71, what is clear is that both the district court and this court found the connection insufficient. Such an approach merely applies the sensible requirement that there be an appropriate connection between the infringing activity and the resulting lost sales. *See Rite-Hite Corp. v. Kelley Co.*, 56 F.3d 1538, 1546 & n.5 (Fed. Cir. 1995) (en banc) (explaining that damages for “remote consequences” of patent infringement “are not compensable,” and noting disagreement with the dissent on “where those lines are to be drawn”); *cf. F. Hoffmann–La Roche Ltd. v. Empagran S.A.*, 542 U.S. 155, 166 (2004) (indicating it is not “reasonable to apply [American antitrust] laws to foreign conduct insofar as that conduct causes *independent* foreign harm and that foreign harm *alone* gives rise to the plaintiff’s claim”) (emphasis modified). In contrast to the tenuous connection between infringement and harm in *Power Integrations*, *see* 711 F.3d at 1371–72, the majority does not question WesternGeco’s assertion that “but for ION’s sales to its customers, WesternGeco would have earned over \$90 million dollars in profit from the ten lucrative services contracts performed abroad.” Maj. Op. at 16.

In any event, *Power Integrations* is distinguishable because the patentee in that case could presumably have protected itself from the foreign manufacture, sale, and use by obtaining patents abroad. *See Deepsouth Packing*,

406 U.S. at 531 (“[T]he wording of 35 U.S.C. §§ 154 and 271 reveals a congressional intent to have [the patentee] seek [protection] abroad through patents secured in countries where his goods are being used.”); *see also Microsoft*, 550 U.S. at 456 (“If AT&T desires to prevent copying in foreign countries, its remedy today lies in obtaining and enforcing foreign patents.”). Such reasoning loses much of its force where the extraterritorial activity takes place or could take place entirely on the high seas. *See* Maj. Op. at 16–17 (“The service contracts were all to be performed on the high seas, outside the jurisdictional reach of U.S. patent law.”); *see also* J.A. 10151 (“international waters”); *id.* at 1182 (“high seas”). *See generally United States v. Louisiana (The Louisiana Boundary Case)*, 394 U.S. 11, 23 (1969) (“Outside the territorial sea are the high seas, which are international waters not subject to the dominion of any single nation.”); *WesternGeco L.L.C. v. ION Geophysical Corp.*, 776 F. Supp. 2d 342, 370 (S.D. Tex. 2011) (“[A]ctivities in the [Exclusive Economic Zone] do not occur within the territory of the United States for purposes of U.S. patent law.”).

For similar reasons, concerns that extraterritorial application of U.S. patent law could result in double recovery (e.g., by parallel suits brought under the patent laws of more than one country based on the same infringing act) or possibly interfere with foreign sovereignty are of minimal relevance here. Where components of a patented invention are supplied from one country and used exclusively on the high seas, it may be that no country’s patent laws reach the conduct occurring in international waters absent a provision such as § 271(f). *See, e.g., Duchesne*, 60 U.S. (19 How.) at 196 (“[T]he high seas [are] out of the jurisdiction of the United States.”); *Ocean Sci. & Eng’g, Inc. v. United States*, 595 F.2d 572, 574 (Ct. Cl. 1979) (It is uncertain whether

Congress intended the patent laws to apply “to processes carried out on U.S. flag ships and planes at sea.”) *See generally Equal Emp’t Opportunity Comm’n v. Arabian Am. Oil Co.*, 499 U.S. 244, 265 (1991) (Marshall, J., dissenting) (“[T]he law of the flag state ordinarily governs the *internal* affairs of a ship.”) (emphasis added) (internal quotation marks and citation omitted), *superseded by statute on other grounds*, Civil Rights Act of 1991, Pub. L. No. 102-166, § 109, 105 Stat. 1071, 1077, *as recognized in Arbaugh v. Y&H Corp.*, 546 U.S. 500, 513 n.8 (2006); *Gardiner v. Howe*, 9 F. Cas. 1157, 1158 (C.C.D. Mass. 1865) (No. 5219) (“[Patent] jurisdiction extends to the *decks* of American vessels on the high seas”) (emphasis added); Restatement (Third) of Foreign Relations Law § 502(2) (1987) (“The flag state may exercise jurisdiction to prescribe, to adjudicate, and to enforce, with respect to the ship or any conduct that takes place *on the ship.*”) (emphasis added).

The greater concern, therefore, is not the possibility of recovering too much, but the possibility that patent owners will be unable to obtain full compensation, as may well be the import of the majority’s holding today. Under the majority’s view of damages, plaintiffs such as WesternGeco who are the victims of proven infringement and who have sustained damages caused by the defendant’s activity in the United States may not be able to fully recover even if they obtain patent rights abroad.³

³ Even if every country applies the law of the flag to prohibit vessel-based activities in international waters that are claimed in a patent issued by that country, it may be difficult for United States patentees to predict, at the time of patenting, either the flag that future vessels are likely to fly or the countries in which future contracts are likely to be “negotiated and signed.” Maj. Op. at 22.

No legislative history shows Congress intended to leave such patentees with an incomplete remedy.

The majority points out that § 271(f) is not broader than § 271(a),⁴ that “liability attaches in the United States,” and that “[i]t is the act of exporting the component from the United States which creates the liability.” Maj. Op. at 19; *see also* 35 U.S.C. § 271(b), (f)(1), (f)(2) & (g) (indicating who “shall be liable as an infringer”). The question here, however, is not whether “the export of a finished product can[] create liability for extraterritorial use of that product,” Maj. Op. at 18, but instead, what is the proper measure of damages *given* a finding of liability. Infringement has been consistently addressed at the various stages of the proceeding, and the majority acknowledges the role of foreign activities in the infringement determination under the statute. *Id.* at 12–13. The jury found ION infringed under § 271(f)(1) and (2), and that it did so willfully. The district court denied

This difficulty in prediction distinguishes patents related to activities on the high seas from those obtained in the more common situation where businesses can attempt to predict the need for patenting in a given country based upon factors such as population size or historical market demand. *See Deepsouth Packing*, 406 U.S. at 531 (“[T]he wording of 35 U.S.C. [§ 271] reveals a congressional intent to have [the patentee] seek [protection] abroad through patents secured in countries *where his goods are being used.*”) (emphasis added).

⁴ Of course, § 271(f) is broader than § 271(a) in that it reaches the supply of “all *or a substantial portion of* the components of a patented invention.” 35 U.S.C. § 271(f)(1) (emphasis added); *see also Microsoft*, 550 U.S. at 458 n.18 (explaining how § 271(f), “in one respect, reach[es] past the facts of *Deepsouth*”).

ION's Renewed Motion for Judgment as a Matter of Law and Alternative Motion for New Trial Regarding Non-Infringement, and this court now affirms "the infringement finding with respect to (f)(2) [as] an adequate basis for liability." *Id.* at 14. The question of whether ION is liable for infringement has been answered in the affirmative.

The majority states "§ 271(f) was designed to put domestic manufacturers who export components to be assembled into a final product in a similar position to domestic manufacturers who sell the final product domestically." *Id.* at 20; *see also* S. Rep. No. 98-663, 98th Cong., 2d Sess., at 3 (1984) ("The bill simply amends the patent law so that when components are supplied for assembly abroad to circumvent a patent, the situation will be treated the same as when the invention is 'made' or 'sold' in the United States."). It asserts "[j]ust as the United States seller or exporter of a final product cannot be liable for use abroad, so too the United States exporter of the component parts cannot be liable for use abroad." *Maj. Op.* at 20.

However, the cases from which the majority apparently draws this conclusion do not hold that foreign use can never be considered when calculating damages resulting from domestic infringement. In *Microsoft*, 550 U.S. 437, *see Maj. Op.* at 17, the Court found no infringement under § 271(f); it did not address the issue of damages. Similarly, in *Halo Electronics, Inc. v. Pulse Electronics, Inc.*, 769 F.3d 1371, 1380 (Fed. Cir. 2014), *see Maj. Op.* at 19, this court found the defendant's "activities in the United States were insufficient to constitute a sale within the United States to support direct infringement," and did not reach the issue of damages with respect to those non-sales. Finally, the Supreme Court in *Duchesne*, 60 U.S. (19 How.) at 193–94, 198, *see Maj. Op.* at 19, found no infringement based on the extraterritorial use of

an improved gaff on a foreign sailing vessel that was temporarily present in Boston harbor.

Duchesne actually undermines the majority's assertion that damages for domestic manufacture cannot take into account value from use on the high seas. The *Duchesne* Court specifically stated that if the patented invention "had been manufactured on [the vessel's] deck while she was lying in the port of Boston, or if the captain had sold it there, he would undoubtedly have trespassed upon the rights of the plaintiff, *and would have been justly answerable for the profit and advantage he thereby obtained.*" *Duchesne*, 60 U.S. (19 How.) at 196 (emphasis added). Significantly, the Court noted "[t]he chief and almost only advantage which the defendant derived from the use of this improvement was on the high seas." *Id.* The Court thus concluded that where domestic manufacture leads to "profit and advantage" on the high seas, the defendant is answerable for that profit. *Id.*

Unsurprisingly, this court has indicated damages under § 271(f) may be based on lost foreign sales. In *Union Carbide Chemicals & Plastics Technology Corp. v. Shell Oil Co.*, this court held the district court "was in error" when it "prohibited Union Carbide from submitting evidence of Shell's foreign sales for the purpose of recovering additional damages under 35 U.S.C. § 271(f)(2)." 425 F.3d 1366, 1378 (Fed. Cir. 2005), *overruled on other grounds by Cardiac Pacemakers*, 576 F.3d 1348. Although this court sitting en banc overruled *Union Carbide*, it did so on the basis that the export of a catalyst for use abroad in a patented method did not infringe under § 271(f) because the catalyst was not a "component" as required by the statute, and because "[§] 271(f) does not apply to method patents." *Cardiac Pacemakers*, 576 F.3d at 1363 n.4, 1365. It left undisturbed *Cardiac Pacemakers'* holding that evidence of foreign sales is relevant to the damages determination

where infringement is found under § 271(f). *See id.* at 1365 (“We therefore overrule [*Union Carbide*] to the extent that it conflicts with our holding today”) (emphasis added).

In *Promega*, decided after *Cardiac Pacemakers*, this court confirmed that worldwide sales are relevant to the damages determination under § 271(f), i.e., that *Union Carbide*’s holding with respect to the relevance of foreign sales remains good law. 773 F.3d at 1350–51. This court noted the “jury awarded lost profits . . . based on worldwide sales . . . under 35 U.S.C. § 271(f)(1).” *Id.*; see also *W.R. Grace & Co. v. Intercat, Inc.*, 60 F. Supp. 2d 316, 321 (D. Del. 1999) (“[P]laintiff is entitled to damages [under § 271(f)] based on Intercat’s international sales.”). Although this court vacated the damages award because “the challenged claims of four of the five asserted patents on which the jury based its damages verdict are invalid,” it did not preclude the district court on remand from again considering worldwide sales as part of a renewed damages calculation. *Promega Corp.*, 773 F.3d at 1358. To the contrary, *Promega* acknowledged the presumption “against the extraterritorial application” of the patent laws, but found that “Congress’ chosen language [in § 271(f)] assigns liability to [the defendant’s] conduct within the United States, based on its extraterritorial effect.” *Id.* at 1353 n.10 (emphasis added). The majority does not attempt to distinguish *Cardiac Pacemakers* or *Promega*.⁵

⁵ The majority distinguishes *Union Carbide* on the basis that it addressed “[t]he extent to which . . . royalties may be affected by lost profits suffered abroad,” while the present matter does not. Maj. Op. at 20 n.7. The majority offers no explanation as to why lost foreign sales should be relevant when calculating damages based on a

It is true some Federal Circuit decisions have stated lost profits are unavailable where the patentee does not sell its product in the United States. *See, e.g., Lindemann Maschinenfabrik GmbH v. Am. Hoist & Derrick Co.*, 895 F.2d 1403, 1406 n.2 (Fed. Cir. 1990) (“Because Lindemann did not compete in the sale of its invention in the United States, it did not, as it could not, seek damages on the basis of lost profits.”); *Trell v. Marlee Elecs. Corp.*, 912 F.2d 1443, 1445 (Fed. Cir. 1990) (“Because Trell did not sell its invention in the United States, he could not seek damages on the basis of lost profits.”). In these cases, however, the defendants’ conduct appears to have taken place in the United States and no exports were at issue. They therefore stand only for the proposition that there can be no lost profits where the patentee would not have made sales in any event. *See King Instruments*, 65 F.3d at 951 n.5 (“In *Trell* and *Lindemann* . . . the record does not show that the patentee sold *any* product in the United States. The patentee had no possible basis for a lost profits claim. These cases, like others, reflect the general rule that lost profits are recoverable only if demonstrated by adequate evidence in the record.”). In this case, the district court found “WesternGeco presented sufficient evidence for the jury reasonably to find that it had the capability to exploit the demand,” i.e., that but for the infringement, WesternGeco would have made additional sales. J.A. 34.

For these reasons, the majority’s near-absolute bar to the consideration of a patentee’s foreign lost profits is contrary to the precedent both of this court and of the Supreme Court. I therefore respectfully dissent in part.

reasonable royalty, but not when calculating damages based on lost profits.