

United States Court of Appeals  
for the Federal Circuit

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**DSM DESOTECH INC.,**  
*Plaintiff-Appellant,*

v.

**3D SYSTEMS CORPORATION AND**  
**3D SYSTEMS, INC.,**  
*Defendants-Appellees.*

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2013-1298

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Appeal from the United States District Court for the Northern District of Illinois in No. 08-CV-1531, Judge Sharon Johnson Coleman.

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Decided: April 18, 2014

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MICHELE L. ODORIZZI, Mayer Brown LLP, of Chicago, Illinois, argued for plaintiff-appellant. With her on the brief were ANDREW S. MAROVITZ, BRITT M. MILLER, THOMAS V. PANOFF, and MATTHEW D. PROVANCE. Of counsel on the brief was MICHAEL B. KIMBERLY, of Washington, DC.

PAULA W. RENDER, Jones Day, of Chicago, Illinois, argued for defendants-appellees. With her on the brief were MICHAEL SENNETT, ERIN L. SHENCOPP, and ALEX P. MIDDLETON.

Before MOORE, SCHALL, and REYNA, *Circuit Judges*.

SCHALL, *Circuit Judge*

This is an antitrust case. DSM Desotech Inc. (“Desotech”) is the plaintiff-appellant. Desotech makes, among other things, resins for use in stereolithography (“SL”) machines. 3D Systems Corp. and 3D Systems, Inc. (collectively “3DS”), the defendants-appellees, make and sell SL machines, as well as resins for use in those machines. Desotech brought suit in the United States District Court for the Northern District of Illinois, accusing 3DS of violating the federal and state antitrust laws and various other state laws by, inter alia, installing a technological lock on its machines that prevents customers from using Desotech resins that have not been approved by 3DS. Desotech also accused 3DS of patent infringement.

After the close of fact and expert discovery, 3DS moved for summary judgment on all counts of Desotech’s complaint. The district court granted 3DS’s motion as to the antitrust claims and certain state-law claims. After the parties stipulated to dismissal of the remaining claims, the court entered judgment in favor of 3DS. *DSM Desotech, Inc. v. 3D Sys. Corp.*, No. 08-cv-1531 (N.D. Ill. Mar. 4, 2013). Desotech appeals that judgment. For the reasons set forth below, we affirm.

## BACKGROUND

### I. SL TECHNOLOGY AND THE PARTIES

The district court described the background of the case extensively in its summary judgment order. See *DSM Desotech, Inc. v. 3D Sys. Corp.*, No. 08-cv-1531, 2013 WL 389003, at \*1–8 (N.D. Ill. Jan. 31, 2013) (“*Final Decision*”). We briefly recite the pertinent facts.

This case involves what is known as “rapid-prototyping technology.” There are two general forms of this technology: additive and subtractive. Additive technology creates parts by building layer upon layer with materials such as plastics, metals, or ceramics. Subtractive technology works by starting with a block of material and then cutting away layers. Examples of additive technology include SL, fused deposition modeling, laser sintering, 3D printing, direct metal laser sintering, and digital light processing. Computer numerically controlled machining is an example of subtractive technology.

3DS manufactures SL machines and is the sole supplier of those machines in the United States. SL machines use an ultraviolet laser to trace a cross section of the object being made on a vat of liquid polymer resin. The laser solidifies the resin it touches, while the remaining, untouched, areas remain in liquid form. After one cross-section has solidified, a vertical elevator lowers the newly formed layer below the surface of the resin. The process is repeated until the object is completed.

Users of SL machines include original equipment manufacturers, “service bureaus,” the government, the military, and academic researchers. Service bureaus build parts or prototypes for other companies and often own multiple types of rapid-prototyping machines. One reason that service bureaus use multiple types of rapid-prototyping machines is that, although all such machines perform the same essential function, they have varying characteristics, such as size, speed, and accuracy. Those varying characteristics might make one type of machine more preferable than another for a given project. For example, users might employ an SL machine for a fine-detailed model. By contrast, users might employ laser sintering—a robust manufacturing process—for parts that serve a more functional purpose.

3DS began selling SL machines in the United States in 1988. Since then, it has sold various models, including the SLA 250, 350, 500, 3500, 5000, 7000, the Viper, the Viper Pro, and the iPro. Among those models, 3DS offers various machine sizes that produce parts comparable to the size of parts produced by other additive technologies. 3DS makes one extra-large iPro machine, however, that produces parts larger than any competing technology. 3DS has sold a number of SL machines over the years, with approximately 2,000 to 3,500 such machines still in operation. According to Desotech's expert, 325 customers purchased resin for their SL machines in 2006; in 2010, 268 customers did so.

Around 2005, 3DS began equipping some of its machines with Radio Frequency Identification ("RFID") capability. RFID is a wireless technology that allows a receiver placed on the SL machine to communicate with a transmitter on the cap of a resin bottle. To ensure that customers use only 3DS-approved resins, a software-based lockout feature shuts the machine off if the RFID detects a resin that 3DS has not approved. 3DS has approved two of Desotech's resins for use in its RFID-equipped SL machines. Desotech and 3DS entered into negotiations for the approval of additional Desotech resins. After those negotiations broke down, Desotech filed suit.

## II. PROCEEDINGS IN THE DISTRICT COURT

In its suit, Desotech alleged multiple antitrust violations by 3DS, including tying under § 1 of the Sherman Act (Count I); tying under § 3 of the Clayton Act (Count II); unreasonable restraint of trade under § 1 of the Sherman Act (Count III); attempted monopolization under § 2 of the Sherman Act (Count IV); and antitrust violations under the Illinois Antitrust Act (Count V). Additionally, Desotech alleged a state law claim for violation of the Illinois Uniform Deceptive Trade Practices

Act (Count VI). It also alleged state law claims for Tortious Interference with Prospective Economic Advantage (Count VII) and for Tortious Interference with Contractual Relations (Count VIII). Finally, Desotech asserted a claim of patent infringement (Count IX).

Desotech based its tying claims on alternative theories, invoking both the “per se rule” and the “rule of reason.”<sup>1</sup> Pertinent to this case, to establish a per se illegal tying violation, Desotech was required to show (1) that 3DS’s tying arrangement was between two distinct products or services, (2) that 3DS had sufficient economic power in the tying market (the market for SL machines) to appreciably restrain free competition in the market for the tied product (the market for SL resin), and (3) that a not insubstantial amount of interstate commerce was affected. *Reifert v. S. Cent. Wis. MLS Corp.*, 450 F.3d 312, 316 (7th Cir. 2006) (quoting *Carl Sandburg Vill. Condo. Ass’n No. 1 v. First Condo. Dev. Co.*, 785 F.2d 203, 208 (7th Cir. 1985)). If Desotech failed to prove a per se tying violation, it could still show an illegal tie under the rule of reason. See *Carl Sandburg Vill. Condo. Ass’n No. 1*, 758 F.2d at 210. Under the rule of reason, “the factfinder weighs all of the circumstances of a case in deciding whether a restrictive practice should be prohibited as imposing an unreasonable restraint on competition.” *Leegin*, 551 U.S. at 885. As with a tying suit based on the per se rule, a tying suit based on the rule of reason requires a showing of market power. *Menasha Corp. v.*

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<sup>1</sup> Per se rules of antitrust liability apply to conduct deemed by the courts to be conclusively anticompetitive and, therefore, unlawful. Per se rules eliminate the need to consider the reasonableness of the conduct at issue. *Leegin Creative Leather Prods., Inc. v. PSKS, Inc.*, 551 U.S. 877, 886 (2007).

*News Am. Marketing In-Store, Inc.*, 354 F.3d 661, 663 (7th Cir. 2004) (citations omitted).

To prevail on its unreasonable restraint of trade claim, Desotech was required to show that the restraint had a substantially adverse effect on competition in the marketplace. *Magnus Petroleum Co. v. Skelly Oil Co.*, 599 F.2d 196, 204 (7th Cir. 1979). For its attempted monopolization claim, Desotech was required to show “(1) [3DS’s] specific intent to achieve monopoly power in a relevant market; (2) predatory or anticompetitive conduct directed to accomplishing this purpose; and (3) a dangerous probability that the attempt at monopolization [would] succeed.” *Mercatus Grp., LLC v. Lake Forest Hosp.*, 641 F.3d 834, 854 (7th Cir. 2011) (citations omitted).

Under its state law antitrust claim, Desotech was required to prove the same allegations as under its federal antitrust claims. *Ill. ex. rel. Burris v. Panhandle E. Pipe Line Co.*, 935 F.2d 1469, 1479–80 (7th Cir. 1991).

After the close of fact and expert discovery (which Desotech states resulted in the production of “millions of pages of documents” and “more than sixty depositions”), 3DS moved for summary judgment on all counts. Regarding the antitrust claims, 3DS argued that Desotech had failed to put forth sufficient evidence showing that (1) SL machines constituted an independent market; (2) SL resin constituted an independent market; (3) 3DS’s conduct was anticompetitive; and (4) Desotech had suffered an antitrust injury. The district court agreed. *Final Decision* at \*13–14. Finding this failure of proof dispositive, the court granted summary judgment against Desotech on all of its antitrust claims.

The district court also granted summary judgment on two of Desotech’s state law claims. Regarding the alleged violation of the Illinois Uniform Deceptive Trade Practices Act, the court found that Desotech could not prove that 3DS’s statements were false, ongoing, or otherwise more

than just general statements about a licensing policy.<sup>2</sup> *Final Decision* at \*15. Regarding Desotech’s claim for tortious interference with prospective economic advantage, the court found that Desotech’s claim failed because it could not show that 3DS’s actions about which it complained were motivated solely by spite or ill will. *Final Decision* at \*16. The court, however, denied summary judgment-in-part on Desotech’s state law claim of tortious interference with contractual relations. *DSM Desotech, Inc. v. 3D Sys. Corp.*, No. 08-cv-1531, 2013 WL 214677 (N.D. Ill. Jan. 18, 2013). In addition, it denied summary judgment on Desotech’s patent infringement claim. *DSM Desotech, Inc. v. 3D Sys. Corp.*, No. 08-cv-1531, 2012 WL 5463803 (N.D. Ill. Nov. 7, 2012).

After the parties stipulated to dismissal of the surviving claims—including the patent infringement claim—the district court entered final judgment, and Desotech timely appealed. The district court had federal jurisdiction over Desotech’s patent claim under 28 U.S.C. § 1338(a). Although the patent claim no longer remains, because the district court dismissed it with prejudice, we have jurisdiction over the remaining claims pursuant to 28 U.S.C. § 1295(a)(1). See *Chamberlain Grp., Inc. v. Skylink Techs., Inc.*, 381 F.3d 1178, 1189–90 (Fed. Cir. 2004) (explaining that the Federal Circuit retains jurisdiction over a case that arose under the patent laws, even if no patent claims remain on appeal, so long as those claims were dismissed with prejudice).

## DISCUSSION

### I. STANDARD OF REVIEW

We “review[ ] the district court’s grant or denial of summary judgment under the law of the regional circuit.”

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<sup>2</sup> Desotech based Count VI of its complaint on alleged false statements by 3DS.

*MicroStrategy Inc. v. Bus. Objects, S.A.*, 429 F.3d 1344, 1349 (Fed. Cir. 2005). The Seventh Circuit reviews a district court’s grant of summary judgment de novo, viewing all facts in the light most favorable to the non-movant. *McCoy v. Harrison*, 341 F.3d 600, 604 (7th Cir. 2003). Summary judgment is proper if there is no genuine issue as to any material fact and the moving party is entitled to judgment as a matter of law. Fed. R. Civ. P. 56(c). A genuine issue of material fact exists if the evidence would permit “a reasonable jury [to] return a verdict for the nonmoving party.” *Serednyj v. Beverly Healthcare, LLC*, 656 F.3d 540, 547 (7th Cir. 2011).

## II. RELEVANT PRODUCT MARKET—SL MACHINES

### A.

As noted, in the district court, Desotech alleged five antitrust claims. Desotech’s primary contention on appeal is that 3DS tied sales of resin (tied product) to sales of SL machines (tying product). According to Desotech, 3DS not only tied resin sales to machine sales via contracts (invoking per se antitrust liability), but also worked a “technological tie” via use of its RFID technology (invoking a rule of reason analysis). Desotech also contends that this alleged conduct by 3DS constituted an unreasonable restraint of trade and an illegal attempt at monopolization. Desotech acknowledges that, “[t]o prevail on its antitrust claims, [it] must prove that either SL machines or SL resins constitute an independent product market for antitrust purposes.”<sup>3</sup> Appellant’s Br. 22. The failure to define the relevant market as SL machines or

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<sup>3</sup> For purposes of summary judgment, the parties agreed that 3DS is the sole supplier of SL machines in the United States. They also agreed that, as far as SL machines are concerned, the United States is the relevant geographic market.

resins would thus be dispositive of Counts I–V. With this in mind, we address first whether SL machines constitute a relevant, independent market.

When reviewing a district court’s conclusion as to the relevant product market under antitrust law, we apply the law of the regional circuit. *See Nobelpharma AB v. Implant Innovations, Inc.*, 141 F.3d 1059, 1068 (Fed. Cir. 1998). The relevant product market consists of all products that are “reasonably interchangeable by consumers for the same purposes.” *United States v. E.I. du Pont de Nemours & Co.*, 351 U.S. 377, 395 (1956). The Seventh Circuit has characterized products and services that are in the same market as those that are “good substitutes for one another.” *Reifert*, 450 F.3d at 318. “The outer boundaries of a product market are determined by the reasonable interchangeability of use or the cross-elasticity of demand between the product itself and substitutes for it.” *Id.* (quoting *Brown Shoe Co. v. United States*, 370 U.S. 294, 325 (1962)). The Seventh Circuit has “explicitly rejected the proposition that a firm can be said to have monopoly power in its own product, absent proof that the product itself has no economic substitutes.” *Elliott v. United Center*, 126 F.3d 1003, 1005 (7th Cir. 1997). Determination of the relevant product market is a question of fact. *Blue Cross & Blue Shield United of Wis. v. Marshfield Clinic*, 881 F.Supp. 1309, 1321 (W.D. Wis. 1994).

For products to be substitutes for one another, they need not be identical or fungible. *United States v. Cont’l Can Co.*, 378 U.S. 441, 449 (1964). When products are not identical or fungible, they still may be in the same market as differentiated products:

Products are differentiated when many buyers regard them as different though the products still perform the same essential function. . . . Many machines performing the same function—such as

copiers, computers, or automobiles—differ not only in brand name but also in performance, physical appearance, size, capacity, cost, price, reliability, ease of use, service, customer support, and other features. Nevertheless, they generally compete with one another sufficiently that the price of one brand is greatly constrained by the price of others.

Phillip E. Areeda & Herbert Hovenkamp, *Antitrust Law*, ¶563a at 383–84 (3d. ed. 2007) (“Areeda & Hovenkamp”). “Most courts correctly define the presumptive market to include similar products, though differentiated by brand or features.” *Id.*, ¶ 563d at 389.

Differentiated products A and B may have a high cross-elasticity of demand and therefore be “good substitutes” for one another if enough customers would respond to a small but significant nontransitory increase in the price of product A by switching to product B, so that it would make the increase unprofitable for the seller of A. *Id.*, ¶ 536 at 284–87; *see also 42nd Parallel N. v. E St. Denim Co.*, 286 F.3d 401, 405–06 (7th Cir. 2002) (“The key inquiry in a market power analysis is whether the defendant has the ability to raise prices without losing its business . . . .” (internal quotations omitted)); *IGT v. Alliance Gaming Corp.*, 702 F.3d 1338, 1345 (Fed. Cir. 2012). Department of Justice (“DOJ”) guidelines suggest considering this question based on a 5% or more price increase. *United States v. H&R Block, Inc.*, 833 F. Supp. 2d 36, 52 (D.D.C. 2011) (citing *Fed. Trade Comm’n & U.S. Dep’t of Justice Horizontal Merger Guidelines* § 4.1.2 (2010)).

In determining whether products are “good substitutes” and therefore in the same market, the Seventh Circuit requires economic evidence. *Reifert*, 450 F.3d at 318; *see also Menasha Corp.*, 354 F.3d at 664 (requiring economic evidence to prove the existence of a distinct

market). Actual data and analysis are necessary. *Reifert*, 450 F.3d at 318.

Within a given relevant market, courts have also recognized submarkets in certain instances. These submarkets may on their own form the basis for antitrust liability. *IGT*, 702 F.3d at 1346. Under *Brown Shoe*, in determining whether a valid submarket exists, courts consider “practical indicia” such as “(1) the industry or public recognition of the submarket as a separate economic entity, (2) the product’s peculiar characteristics and uses, (3) unique production facilities, (4) distinct customers, (5) distinct prices, (6) sensitivity to price changes, and (7) specialized vendors.” *Beatrice Foods Co. v. FTC*, 540 F.2d 303, 308 (7th Cir. 1976) (citing *Brown Shoe*, 370 U.S. at 325)).

In granting summary judgment in favor of 3DS on Desotech’s antitrust claims, the district court held that Desotech failed to show that SL machines constitute a distinct market, finding it undisputed that alternatives for SL exist. In reaching its decision, the court found first that Desotech’s internal documents showed that SL competes with other technologies. Second, the court found that a DOJ report deemed SL to be in the same market as other rapid-prototyping technologies.<sup>4</sup> Third, the court found that, while five customers testified that certain technologies were not substitutes for SL, another five testified that some technologies are indeed substi-

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<sup>4</sup> DOJ filed a Competitive Impact Statement in 2001 during a challenge to 3DS’s acquisition of another rapid-prototyping company. The document states that SL and laser sintering technology were in direct competition with one another at that time. Competitive Impact Statement, *United States v. 3D Systems Corp.*, No. 1:01-cv-01237 (D.D.C. May 1, 2002) (No. 7), available at <http://www.justice.gov/atr/cases/f9000/9019.htm>

tutes for SL for certain purposes. The court dismissed the testimony, however, because none of the customers were asked about *reasonable* substitutes. Fourth, the court found that Desotech's expert conceded that other technologies are alternatives to SL for some uses.

Regarding customers who testified they would pay a 5–10% price increase in 3DS's SL machines, the court concluded that the testimony of three or four customers out of 268 total customers was insufficient for Desotech to meet its burden of showing that a "significant number of users" would not switch to alternatives.

Against this background and legal backdrop, we turn to the contentions of the parties.

## B.

Desotech contends that genuine issues of material fact should have precluded summary judgment. Urging that SL machines constitute a distinct product market, it argues first that, although other types of printing technologies exist, none are reasonable substitutes for SL technology because none can produce objects of the same size, and with the same precision, as an SL machine.

Second, Desotech urges, there are substantial price differences between SL machines and other rapid-prototyping technologies. 3DS's machines range in price from \$179,000 to \$1 million, whereas other printing technologies range in price from \$10,000 to \$59,000. Machines with such differentiated prices, Desotech concludes, are not reasonable substitutes.

Third, Desotech contends, the customers deposed in this case testified they do not consider other technologies to be substitutes for SL machines. For example, Desotech explains, laser sintering and fused deposition modeling each have their own characteristics. They could be substituted for SL for some projects but not for others. It was error, Desotech continues, for the district court to reject

this evidence simply because the witnesses were asked about substitutes and not *reasonable* substitutes. On summary judgment, Desotech concludes, the district court should have viewed this testimony in Desotech's favor—not 3DS's.

Fourth, Desotech argues, there is direct evidence that SL customers would not switch to an alternative technology in the face of a 5–10% price increase. Under the DOJ guidelines, Desotech urges, this indicates that SL machines are a separate market. Indeed, Desotech concludes, four separate customers testified to this effect. In addition, those four were among 3DS's very largest customers, comprising more than 12% of the annual SL resin consumption among all customers, and 34% of those whose resin consumption has been limited by RFID technology.

Regarding the documents and testimony upon which the district court relied, Desotech argues that the court erred by viewing the evidence all in 3DS's favor. In particular, Desotech maintains, the court weighed the evidence and improperly relied on certain Desotech internal marketing documents written by lay businesspeople—not economists. A jury might agree with the district court's interpretation of those documents (which refer to substitutes for SL), Desotech concludes, but it also might, just as plausibly, disagree.

3DS responds that the undisputed facts show there are substitutes for SL. For example, 3DS points out that Desotech's internal strategy documents describe other technologies as substitutes. And, according to 3DS, this is confirmed by DOJ's Competitive Impact Statement. 3DS also points to the deposition testimony of Desotech's expert, who stated, "I don't think there is actually really any material dispute that there are some technologies, which for certain uses, are an alternative to stereolithography." *Final Decision* at \*7. Regarding the customer

testimony, 3DS explains that five of the thirteen customer witnesses testified that other technologies are indeed substitutes for SL.

According to 3DS, the key question in defining the relevant market is whether, if a manufacturer raises the price of technology A, enough customers would switch from technology A to technology B, thus making the price increase unprofitable. Rather than conduct an economic analysis on this point, 3DS contends, Desotech instead chose to rely on the testimony of a small number of customers. This small amount of testimony, 3DS concludes, is insufficient as a matter of law to answer the key economic question of whether SL machines constitute a market.

### C.

With the relevant legal principles in mind, we consider whether Desotech has put forth sufficient evidence for a reasonable jury to find a distinct product market based on SL machines. As noted, the Seventh Circuit requires a plaintiff to set forth economic evidence showing whether products are good substitutes for one another. *Reifert*, 450 F.3d at 318. In that regard, one approach would be to analyze sales data and determine whether the prices of differentiated products move together. *Menasha Corp.*, 354 F.3d at 664 (describing various forms of econometric analyses). More generally, an economist might analyze price relationships, buying and selling patterns, or the existence of price discrimination. Areeda & Hovenkamp, ¶ 534 at 263. Such data and analyses might reveal whether customers switch between SL machines and other rapid-prototyping technologies, and would thus indicate whether the products are in the same market.

Rather than analyze economic data, Desotech and its expert relied on four of the *Brown Shoe* practical indicia: (1) distinct prices; (2) the product's peculiar characteristics and uses; (3) industry or public recognition of the

submarket as a separate economic entity; and (4) sensitivity to price changes. Although such practical indicia are generally discussed in the context of submarkets, *see Brown Shoe*, 370 U.S. at 325, identifying a submarket is in principle no different than identifying a market. Areeda & Hovenkamp, ¶ 533c at 255–57. Some circuits might accept the use of such practical indicia to prove a market in the absence of economic evidence. But the Seventh Circuit does not. *ChampionsWorld, LLC v. U.S. Soccer Fed'n, Inc.*, 890 F. Supp. 2d 912, 949 (N.D. Ill. 2012). As the Seventh Circuit has explained, “[w]hile the ‘practical indicia’ named in *Brown Shoe* and *Beatrice Foods Co.* are important considerations in defining a market, they were never intended to exclude economic analysis altogether.” *Reifert*, 450 F.3d at 320. For this reason alone, we believe the district court properly granted summary judgment on Desotech’s antitrust claims. We nevertheless consider the evidence Desotech proffers. For the reasons explained below, we find that evidence an insufficient basis for a reasonable jury to reach a verdict in Desotech’s favor.

First, Desotech contends that a significant price difference between SL machines and other products shows “distinct prices,” *Brown Shoe*, 370 U.S. at 325, thus suggesting that SL machines constitute a separate market from other kinds of rapid-prototyping technology. Specifically, Desotech argues that SL machines range in price from \$179,000 to \$1 million, whereas 3D printing machines range in price from \$10,000 to \$59,000. In making its argument, however, Desotech compares SL machines to some of the cheapest possible substitutes—3D printing machines. It thus ignores the evidence showing that 3DS offers a range of SL machines with a broad range of prices comparable to those of other rapid-prototyping technologies. For example, selective laser sintering and fused deposition modeling machines have prices commensurate with those of SL machines. Contrary to Desotech’s argu-

ment, therefore, the record demonstrates that SL machines do not have distinct prices in relation to all other rapid-prototyping technologies.

Second, Desotech urges that SL has “peculiar characteristics and uses,” *Brown Shoe*, 370 U.S. at 325, making it superior to other fabrication techniques. Specifically, Desotech argues that SL machines are more accurate and can produce larger parts than other technologies. Regarding the alleged size advantage of SL machines, Desotech focuses on one model at the top end of 3DS’s product line. Desotech, though, provides no evidence of how many machines of that model 3DS actually sold. Additionally, Desotech ignores the fact that 3DS sells many other models that are comparable in size to laser sintering and fused deposition modeling machines. Regarding the accuracy of SL machines, Desotech again compares them to one of the cheapest possible substitutes—3D printing machines—which its expert ranked as “among the least accurate.” The “peculiar characteristics and uses” Desotech alleges, therefore, are tenuous at best. Nevertheless, because this appeal comes from the grant of summary judgment, we view the evidence in the light most favorable to Desotech. Accordingly, we consider this factor as evidence of a potential distinct market for SL machines.

Third, Desotech maintains that there is “industry or public recognition of the [SL machine] submarket as a separate economic entity,” *Brown Shoe*, 370 U.S. at 325, based on testimony that some customers do not consider other products to be substitutes for SL machines. Five customers testified that other technologies are not substitutes for SL, whereas another five testified that some technologies are substitutes for certain uses. The district court dismissed the testimony favorable to Desotech because, although customers were asked about substitutes, none was asked about *reasonable* substitutes. *Final Decision* at \*11. Viewing the facts in the light most favorable to Desotech, however, the district court should

have credited this testimony. Nevertheless, the testimony is insufficient to establish that SL machines constitute a separate market. Rather, along with characteristics of size and accuracy, it establishes that SL machines and other rapid-prototyping technologies are differentiated products. In considering whether these differentiated products are in separate markets, we turn to the final *Brown Shoe* factor upon which Desotech relies.

Desotech argues that customers are insensitive to price changes in SL machines, *Brown Shoe*, 370 U.S. at 325 (“sensitivity to price changes”), thus indicating a separate market. Although labeled in *Brown Shoe* as one of the practical indicia of a submarket, the sensitivity of customers to price reflects the basic economic test of cross elasticity of demand. In measuring cross elasticity of demand, we typically consider whether a sufficient number of customers would switch to other technologies in response to a price increase in SL machines so as to make the increase unprofitable. If enough customers switch, then SL machines do not constitute an independent market.

In making this argument, Desotech relies on the testimony of four customers who indicated they would still buy an SL machine if faced with a 5–10% price increase. The district court considered the testimony, but found that four customers out of 268 for SL machines was not a significant enough proportion for Desotech to meet its burden. The district court did not provide a reason behind this conclusion, but a close look at the evidence shows why the court was correct.

In arguing that the four customers are representative, Desotech acknowledges they are a small portion of the 268 total customers for SL machines. It contends, however, that they nonetheless make up 12% of the market as measured by resin consumption. Although the amount of resin these four customers consume is tangentially rele-

vant, it does not address the more pertinent question, which is the percentage of the SL market they comprise. The record indicates that 3DS has produced a number of SL machine models over the past 20 years, with approximately 2,000 to 3,500 machines remaining in operation. Desotech provides little to no information about which machines the four customers purchased, how many they purchased, or when they purchased them. Further, the record shows that the four customers are service bureaus, whereas the overall customer base includes not only service bureaus, but also original equipment manufacturers, the government, the military, and academic researchers. Desotech provides no explanation for why the four service-bureau customers would be representative of the other classes of customers.

Further, the record indicates that the SL machine models that 3DS sells differ in price by more than a half-million dollars. Desotech, though, provides no justification for the conclusion that a purchaser of a \$900,000 machine is representative of a purchaser of a \$400,000 machine, or vice versa. For the testimony of the four customers to have been useful, Desotech would have at least needed to ask them about the full range of prices of 3DS's various machine models. *See, e.g., United States v. Country Lake Foods, Inc.*, 754 F.Supp. 669, 676–77 (D. Minn. 1990) (finding evidence insufficient to identify the market where it addressed only one price point out of a range of prices). But Desotech did not do that. That Desotech asked about a 5 to 10% price increase in the abstract without reference to an actual or hypothetical price makes the testimony even more questionable. *Id.* at 675. Adding to that questionability, one of the four customers testified that 3DS actually gave him a 5% *discount* to make him buy the machine.

Finally, as 3DS points out, the evidence and testimony Desotech relies on fails to answer the pertinent economic question of whether a sufficient number of

customers would switch to a competing technology if faced with a small but significant price increase. Desotech offered no evidence or argument for what would constitute a sufficient number. Instead, based on the testimony of four customers, Desotech would have one believe that *no* customers would switch technologies in the face of a price increase. But with such a small sampling (four) from only a single category of customer (service bureaus), and without regard to the broad range of price points of the various SL models, we believe the evidence is insufficient for a reasonable jury to draw that conclusion.

In sum, when considering the proffered evidence in total and viewing it in the light most favorable to Desotech, we conclude that only two of the *Brown Shoe* factors weigh in Desotech's favor. Some courts have found the existence of a submarket based on three or four of the indicia. *See* 2 J. Von Kalinowski, *Antitrust Laws and Trade Regulation* § 24.02[2][a] (Matthew Bender 2d ed.) (collecting cases). Although two indicia standing alone might be satisfactory in certain cases, this is not such a case. Given the limited and tenuous nature of the evidence, we conclude that a reasonable jury could not find an independent market for SL machines. We also conclude that Desotech failed to satisfy the stringent demand for economic data and analysis required by the Seventh Circuit. *See Reifert*, 450 F.3d at 318. Accordingly, the district court did not err in granting summary judgment that Desotech failed to prove an independent market for SL machines. *See Matsushita Elec. Indus. Co. v. Zenith Radio Corp.*, 475 U.S. 574, 587–88 (1986) (approving of summary judgment in antitrust cases where the plaintiff fails to raise a genuine issue for trial); *see also Collins v. Associated Pathologists, Ltd.*, 844 F.2d 473, 475 (7th Cir. 1988) (“[T]he use of summary judgment is not only permitted but encouraged in certain circumstances, including antitrust cases.”) (citations omitted).

### III. RELEVANT PRODUCT MARKET—SL RESIN

#### A.

As an alternative theory, Desotech argues that a distinct product market exists for SL resin. Even if a manufacturer does not have power in a primary market, it still may have power in an aftermarket and be liable under the antitrust laws for conduct in that market. *See Eastman Kodak Co. v. Image Tech. Servs., Inc.*, 504 U.S. 451, 465–71 (1992). However, “a court may conclude that the aftermarket is the relevant market for antitrust analysis only if the evidence supports an inference of monopoly power in the aftermarket that competition in the primary market appears unable to check.”<sup>5</sup> *SMS Sys. Maint. Servs., Inc. v. Digital Equip. Corp.*, 188 F.3d 11, 17 (1st Cir. 1999). For example, if the high cost of a machine “locks in” customers to using the manufacturer’s parts and service, the manufacturer could still exercise monopolistic power in the aftermarket, even though it competes in the primary market. *Kodak*, 504 U.S. at 476. Even so, “[i]t is an article of faith, for antitrust purposes, that unless a substantial number of preexisting customers are locked in, defections from the manufacturer’s installed base, coupled with losses in the foremarket, in all proba-

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<sup>5</sup> If competition exists in a primary market (e.g., rapid-prototyping machines) and a manufacturer treats its customers poorly in the aftermarket (e.g., resin), the manufacturer presumably will lose new sales of machines as well as lose some existing customers in the resin aftermarket. If the manufacturer wishes to stay in business, it will not bite the hand that feeds it for very long. *SMS Sys. Maint. Servs.*, 188 F.3d at 16–17 (citations omitted). Unless something exists that prevents market forces from operating this way, the antitrust laws are not concerned because market forces on their own will correct the anticompetitive conduct.

bility will sabotage any effort to exploit the aftermarket.” *SMS Sys. Maint. Servs.*, 188 F.3d at 21.

The district court considered Desotech’s argument that resin constituted a separate market, but ultimately ruled against Desotech, concluding that it had put forth no evidence that 3DS was limiting resin variety or charging supracompetitive prices for SL resin. *Final Decision* at \*12–13.

## B.

Desotech bases its contention regarding an alternative SL resin market on a lock-in theory. According to Desotech, materials other than SL resin cannot function in an SL machine. And, so the argument goes, because customers who have sunk hundreds of thousands of dollars into an SL machine are effectively unable to switch to alternative technologies, they are locked in to using that machine and the accompanying resins. The district court erred, Desotech concludes, by dismissing this argument out of hand.

3DS responds that Desotech’s theory that customers are “locked in” to using 3DS’s machines can only prevail where a substantial number of customers were locked in to their machine purchases before they learned of a restriction on aftermarket resins. Here, no lock-in could have occurred for any Viper Pro or iPro purchases after August 2007, and only seven customers purchased their machines before that time.<sup>6</sup> Seven customers out of 268,

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<sup>6</sup> The Viper Pro machines purchased by the seven customers prior to August 2007 came equipped with RFID technology. 3DS had not activated the RFID, however, at the time of sale. 3DS began activating the RFID lockout in mid 2007 by way of a software update for the Viper Pro machines. According to Desotech’s expert, there was a general market awareness by August 2007 of the impend-

3DS concludes, is not a “substantial” number. Further, six of those seven bought machines before 3DS’s licensing discussions with Desotech broke down. According to 3DS, it could not have violated the antitrust laws by failing to accurately predict the outcome of those discussions.

### C.

As noted, to show that SL resin constitutes an independent market in which anticompetitive conduct cannot be regulated by competition in the primary market, Desotech relies on a lock-in theory. We conclude that Desotech cannot succeed on this theory, however, because it has not presented evidence showing that a substantial number of customers are, in fact, locked in.

If the high cost of switching equipment locks customers in to using specific aftermarket parts or service, then the aftermarket might form the basis for antitrust liability. *Kodak*, 504 U.S. at 476–77. Crucial to the *Kodak* decision, however, was the fact that customers had already purchased their equipment before learning about Kodak’s policies on aftermarket parts and services. *Id.* at 477 n.24; *Digital Equip. Corp. v. Uniq Digital Techs., Inc.*, 73 F.3d 756, 763 (7th Cir. 1996) (“The Court did not doubt in *Kodak* that if spare parts had been bundled with Kodak’s copiers from the outset, or Kodak had informed customers about its policies before they bought its machines, purchasers could have shopped around for competitive life-cycle prices.”); see also *PSI Repair Servs., Inc. v. Honeywell, Inc.*, 104 F.3d 811, 820 (6th Cir. 1997) (“We likewise agree that the change in policy in *Kodak* was the crucial factor in the Court’s decision. By changing its policy after its customers were ‘locked in,’ Kodak took

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ing RFID activation. 3DS began selling its iPro machines in 2008, with the RFID lockout activated at the time of sale.

advantage of the fact that its customers lacked the information to anticipate this change.”) Accordingly, it is only the customers who learned about the RFID lock after purchasing their equipment that are relevant to the “locked-in” analysis.

Customers who learn about the RFID lock before buying the equipment cannot be exploited in the same way as the “locked-in” customers because they can shop around for competitive life-cycle prices. *Digital Equip. Corp.*, 73 F.3d at 763. In other words, if potential SL machine customers find the cost of resin too high due to the effect of 3DS’s RFID technology and licensing policies, they can simply opt for a different type of machine; they are not locked in by high switching costs. In *Kodak*, the Court voiced a concern that some customers may be unable to effectively compare life-cycle costs due to the difficulty in obtaining information. *Kodak*, 504 U.S. at 473–75. That concern, however, is not present here. The record indicates that resin prices may be readily obtained, and Desotech has not argued otherwise.

As explained in *SMS*, a *substantial* number of customers must be locked in for a party to be able to exert market power. *SMS Sys. Maint. Servs.*, 188 F.3d at 21; see also *Kodak*, 504 U.S. at 476 (explaining that a seller could maintain supracompetitive prices if “the number of locked-in customers were high relative to the number of new purchasers.”) Here, only seven out of 268 customers purchased their equipment before learning of the RFID lock. In our view, seven out of 268 is not substantial. Accordingly, the district court did not err in granting summary judgment on Desotech’s claims based on SL resin as the relevant market.

Because we conclude that Desotech failed to prove an independent market for SL machines or resins—as it acknowledged it must do—we affirm the district court’s grant of summary judgment on Desotech’s antitrust

claims. Desotech also appeals the district court's rulings that it failed to show anticompetitive conduct and failed to show it suffered an antitrust injury. Because the failure to prove the relevant market is dispositive of the antitrust claims, we do not reach those additional rulings of the district court.

### III. TORTIOUS INTERFERENCE

#### A.

Desotech also accused 3DS of tortious interference with prospective economic advantage. Under Illinois law, tortious interference with prospective economic advantage requires that "(1) [the] plaintiff must have a reasonable expectancy of a valid business relationship; (2) [the] defendant must know about it; (3) [the] defendant must intentionally interfere with the expectancy, and so prevent it from ripening into a valid business relationship; and (4) [the] intentional interference must injure the plaintiff." *Schuler v. Abbott Labs.*, 639 N.E.2d 144, 147 (Ill. App. Ct. 1993) (citation omitted). However, the "privilege to engage in business and to compete allows one to divert business from one's competitors generally as well as from one's particular competitors provided one's intent is, at least in part, to further one's business and is not solely motivated by spite or ill will." *Soderlund Bros., Inc. v. Carrier Corp.*, 663 N.E.2d 1, 8 (Ill. App. Ct. 1995).

The district court found that 3DS implemented RFID, at least in part, to further its business. In particular, the court found that 3DS implemented the technology to increase resin sales and provide its customers with useful functionality. Finding that 3DS was therefore shielded by the so-called privilege of competition, the district court granted summary judgment against Desotech on its tortious interference claim. *Final Decision* at \*16.

### B.

Desotech argues that the competitor's privilege does not apply under Illinois law when interference between competitors involves "wrongful means" or "an unlawful restraint of trade." Here, Desotech contends, a jury could find that the RFID resin lockout was an unlawful restraint of trade. Further, Desotech argues, even if 3DS's actions do not violate the letter of the law, they surely violate the public policies underlying the law.

3DS responds that, in Illinois, the competitor's privilege protects against claims of tortious interference when one acts to further its business and is not solely motivated by spite or ill will. The undisputed facts, 3DS contends, show it was not acting solely out of spite or ill will.

Regarding Desotech's argument about violating the spirit of the law, 3DS responds that the courts have already rejected arguments like Desotech's where the conduct was not independently actionable. Accordingly, 3DS concludes, Desotech's argument fails here as well.

### C.

Desotech presented evidence that 3DS's RFID technology interfered with its prospective business relationships with resin purchasers. 3DS, on the other hand, presented evidence that its reputation as a machine manufacturer depended on the quality of resins used in those machines, and Desotech came forward with no evidence to demonstrate that 3DS acted out of spite or ill will. The record indicates, therefore, that 3DS implemented its qualification and licensing policy, at least in part, to protect its reputation and thus advance its business by ensuring the use of quality resins in its machines. Accordingly, in our view, Desotech failed to create a genuine issue of fact as to whether 3DS acted out of spite or ill will rather than to advance its business interests. *See Soderlund Bros.*, 663 N.E.2d at 8. Finally, we are not

persuaded that Desotech's argument about violating the spirit of the law raises a genuine issue of material fact. Accordingly, the district court did not err in granting summary judgment against Desotech on its tortious interference claim.

#### IV. ILLINOIS UNIFORM DECEPTIVE TRADE PRACTICES ACT

##### A.

Desotech alleged that 3DS violated the Illinois Uniform Deceptive Trade Practices Act ("UDTPA") 815 ILCS § 510/2(a). In relevant part, that statute provides that a "person engages in a deceptive trade practice when, in the course of his or her business, vocation, or occupation, the person . . . represents that goods or services are of a particular standard, quality, or grade or that goods are a particular style or model, if they are of another . . ." *Id.* § 510/2(a)(7). The UDTPA applies only to statements that are false. *Fedders Corp. v. Elite Classics*, 279 F. Supp. 2d 965, 972 (S.D. Ill. 2003). Further, it does not provide a cause of action for damages, but only instead provides injunctive relief for ongoing or future practices. *Kensington's Wine Auctioneers & Brokers, Inc. v. John Hart Fine Wine, Ltd.*, 909 N.E.2d 848, 857 (Ill. App. Ct. 2009).

The district court granted summary judgment in 3DS's favor on the UDTPA claims. First, the court found that the UDTPA provides for only injunctive relief and that Desotech had provided no evidence of ongoing conduct. Second, relying on *Conditioned Ocular Enhancement, Inc. v. Bonaventura*, 458 F. Supp. 2d 704, 710 (N.D. Ill. 2006), the court found that statements regarding a licensing and qualification policy are not actionable. Third, the court found that Desotech did not present evidence creating a genuine issue of material fact that any of the alleged statements by 3DS were actually false. *Final Decision* at \*14–15.

## B.

Desotech contends that 3DS violated the UDTPA by, among other things, telling customers they could not use Desotech resins because those resins were not “authorized,” “approved,” “licensed,” or “qualified.” Desotech argues that the district court erred by relying on *Conditioned Ocular*, 458 F. Supp. 2d at 710. According to Desotech, *Conditioned Ocular* addressed only a general statement that the plaintiff did not have a patent license. By contrast, Desotech contends, 3DS’s statements about resins being “untested” or “unapproved” implied that the resins failed to meet quality standards. Whether those statements were false or misleading, Desotech contends, is a question for the jury.

Further, Desotech argues, it is of no bearing that the evidence relates to 3DS’s past conduct because evidence gained during discovery and used at trial will always be past conduct. The UDTPA provides relief against violations that are ongoing or simply “likely” to occur, Desotech concludes, and there is no reason to believe 3DS’s conduct will stop in the future.

3DS responds that the UDTPA does not apply to statements regarding whether a party has a “license or authorization” to use another party’s product. Further, 3DS continues, the UDTPA applies only to statements that are false or misleading. Here, the undisputed facts show that 3DS made true statements about licensing that are not actionable.

Moreover, 3DS argues, the UDTPA offers injunctive relief only, and the relief must be based on ongoing or future practices. Not only did Desotech fail to prove that 3DS made any disparaging statements, but it also had no basis to allege Desotech would do so in the future.

C.

In our view, Desotech failed to create a genuine issue of material fact on its UDTPA claim. The allegedly wrongful statements about Desotech's resins not being authorized, approved, licensed, qualified, or tested all relate to 3DS's licensing and approval policy. As 3DS points out, general statements that a company "does not have a license or authorization" to use another company's product do not violate the UDTPA. *Conditioned Ocular*, 458 F. Supp. 2d at 710. Further, we do not believe Desotech raised a genuine issue of material fact that those statements were false. Accordingly, summary judgment was appropriate on Desotech's UDTPA claim.<sup>7</sup>

**CONCLUSION**

For the foregoing reasons, we affirm the grant of summary judgment on Desotech's antitrust claims, its tortious interference claim, and its UDTPA claim.

**AFFIRMED**

**COSTS**

Each party shall bear its own costs.

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<sup>7</sup> Because separate grounds for summary judgment exist, we need not reach the parties' dispute about the ongoing nature of the conduct.