

PRECEDENTIAL

UNITED STATES COURT OF APPEALS
FOR THE THIRD CIRCUIT

No. 25-1278

HARBOR BUSINESS COMPLIANCE CORPORATION

v.

FIRSTBASE.IO, INC.,
Appellant

On Appeal from the United States District Court
for the Eastern District of Pennsylvania
(D.C. Civil No. 5:23-cv-00802)
District Judge: Honorable Joseph F. Leeson, Junior

Argued June 3, 2025
Before: HARDIMAN, BIBAS, and FISHER, *Circuit Judges*.

(Filed: August 18, 2025)

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OPINION OF THE COURT

FISHER, *Circuit Judge*.

Firstbase.io, Inc. and Harbor Business Compliance Corporation formed a temporary partnership to develop a software product for Firstbase. After the partnership fell apart and Firstbase independently took over the product, Harbor sued Firstbase for breach of contract, trade secret misappropriation, and unfair competition. A jury found for Harbor, awarding compensatory damages of approximately \$1 million for breach of contract; \$11 million for trade secret misappropriation; \$15 million for unfair competition; and punitive damages of \$1 million. Firstbase appeals the District Court's denial of several post-trial motions: for judgment as a matter of law; for a new trial on the grounds that the verdict was against the weight of the evidence and that expert testimony was improperly admitted; and for remittitur of the unfair competition damages. For the reasons below, we will affirm the denial of Firstbase's motions for judgment as a matter of law and a new trial but conditionally remand as to the

motion for remittitur.

I.

A.

Every state imposes regulations and reporting requirements on companies operating within it. For example, companies are required to file incorporation documents and designate a registered agent who is authorized to receive legal correspondence on their behalf. Some companies outsource their regulatory compliance tasks to a business compliance company. These compliance companies can file the appropriate documentation with the state authorities and track changes in compliance requirements on behalf of their clients.

Firstbase and Harbor are business compliance companies. Firstbase, founded in 2019 and based in New York, promotes itself as an “all-in-one” online platform that provides a range of services including incorporation and registered agent services. App. 95. Harbor, founded in 2012 and based in Pennsylvania, is a “software-focused provider” of services that “include . . . corporate formation, registered agent service, business licensing, and annual reporting.” *Id.* at 94–95.

Around February 2022, Firstbase contacted Harbor “seeking a business arrangement through which Harbor . . . would provide various ‘white-label’ services,” where Harbor’s “identity and role would not be identified to Firstbase’s customers and potential customers.” *Id.* at 95. This was a significant opportunity for both companies. Firstbase had already provided incorporation services to over a thousand companies in Wyoming and Delaware. It wanted to leverage Harbor’s expertise and platform to quickly expand into registered agent services across the country. Firstbase could then refer many of those customers to Harbor. The relationship would support a new product, “Firstbase Agent,” which was

ideally set to launch in June 2022. *Id.* at 96. Firstbase and Harbor assigned employees to be partnership leads who would negotiate the structure of the relationship and build the product.

Firstbase initially discussed its ideal workflow with Harbor. Firstbase wanted customers to first request incorporation or registered agent services on its website by filling out an intake form. Firstbase would then send that information to Harbor. Harbor would then file the information with the state and transmit approvals and relevant alerts (like registration deadlines) back to Firstbase for customers to access. Firstbase drafted this process in a narrative form. To facilitate the exchange of data between the companies' online platforms, Firstbase also wanted to use Harbor's application programming interface (API). An API defines how software components communicate and interact with each other. Conceptually, it provides a set of commands that one component can use to access the functionality of another, along with the specific format those commands must follow. Parth Sagdeo, *Application Programming Interfaces and the Standardization-Value Appropriation Problem*, 32 Harv. J.L. & Tech. 235, 236 (2018).

Harbor sent Firstbase a document outlining its API for registered agent services. Firstbase found Harbor's API to be inadequate for what it needed, and its engineers believed that they would need to invest resources in customization. On March 28, after the document transfer, the companies entered into a confidentiality agreement limiting the use of confidential information to the partnership. On March 30, the companies' teams discussed the proposed workflow and Harbor's partnership lead summarized the conversation in a sketch he called a "process map," App. 1254, which depicted a high-level flow of information between the companies. In the following months, the teams continued to iterate on Firstbase's

proposed “workflows” in anticipation of the June launch date. *Id.* at 1319–22, 1329.

In May, the parties executed a partnership agreement. Pursuant to the agreement, for two years, Harbor would file business-formation documents and provide registered agent services to Firstbase customers at per-unit rates, in exchange for either a guaranteed customer volume or equivalent payment. Harbor also reserved the right to charge for implementation of services “not included in the Scope of the Project.” *Id.* at 1359. Firstbase agreed not to contract with third parties for “Registered Agent, Business Formation and Change of Registered Agent Filings, and Annual Reports.” *Id.* at 1352. On June 2, Firstbase Agent launched and quickly gained traction. Within three weeks, Harbor had processed 558 filings—its fastest pace ever. Harbor’s growth continued into the summer, with record numbers in August and performance exceeding projections into October.

Despite its early success, the partnership began to fray. Although the terms of the partnership had been reduced to writing, Firstbase’s partnership lead believed there was “confusion about who would do what with regards to the process that [the parties] agreed [to].” *Id.* at 190. By August, the API still “was not fully functional,” according to Firstbase, and so Firstbase continued to manually enter information into Harbor’s site. *Id.* at 191. This led to customer complaints about service delays and quality issues.

In early September, Harbor sent Firstbase an invoice for \$36,926.50 for “Out-of-Scope Work” completed in August. *Id.* at 1269. Firstbase’s CEO wrote to the Harbor team contesting the invoice and conveying dissatisfaction with Harbor’s performance. He said that Firstbase would “just build our own infrastructure” and “legally finish[] this relationship” if things did not turn around. *Id.* at 478. Firstbase began considering

building its own registered agent infrastructure “as a backup plan,” *id.* at 472, “in parallel” to its partnership with Harbor, *id.* at 463. That month, a Firstbase employee also boasted to a colleague about convincing Harbor to share a document summarizing annual filing deadlines for each state, to which Firstbase’s lead responded, “The more we can get from them the better, especially if we truly are going to go down the route of being our own [Registered Agent].” Supp. App. 256.

In October, Firstbase and Harbor discussed amending the partnership agreement and rates. But those conversations also deteriorated. Internally, Harbor’s CEO instructed employees not to offer any concessions.

In November, Harbor sent Firstbase updated API documentation with new features. But soon after, Firstbase took control of Firstbase Agent’s infrastructure and started offering services without Harbor’s support. In an internal message, a Firstbase employee said that the company’s “product team built the logic and we no longer need [Harbor’s] info to send reminders to our customers. We compared to the data [Harbor] was sending to us and it seems correct.” *Id.* at 257. On November 11, Firstbase notified Harbor that it intended to terminate the partnership and offered to settle any claims. Harbor responded through counsel and refused to terminate the agreement. It also accused Firstbase of “stealing the system that Harbor Compliance constructed.” App. 489.

B.

In March 2023, Harbor sued Firstbase in the District Court asserting state-law claims of unfair competition; breach of contract; and trade secret misappropriation under Pennsylvania’s Uniform Trade Secrets Act, 12 Pa. Cons. Stat. §§ 5301 *et seq.* It also asserted a federal claim of trade secret misappropriation under the Defend Trade Secrets Act of 2016 (DTSA), 18 U.S.C. § 1836 *et seq.* The complaint alleged three

categories of trade secrets misappropriated: (1) “Workflow Documents,” App. 596, which were “the specific means through which the Parties anticipated servicing Firstbase’s . . . existing users and . . . projected new users,” *id.* at 595; (2) a jurisdictional database, which consisted of “compilations of detailed [state]-specific jurisdictional requirements,” *id.*; and (3) “API Documentation,” *id.* at 603.

The suit proceeded to discovery. Harbor hired Dr. Ricardo Valerdi, an academic in software development, to provide expert testimony. In his expert report and deposition, Dr. Valerdi identified eight trade secrets at issue: (1) the jurisdictional database and (2) the API documentation, both identified in the complaint, plus specific workflow documents, (3) the process map sketch Harbor prepared to summarize a meeting with Firstbase, and (4)–(7) four specific process workflows. Dr. Valerdi also pointed to (8) Harbor’s “Entity Manager Dashboard,” Supp. App. 798, a trade secret not specifically identified in the complaint.

Additionally, Dr. Valerdi opined that Firstbase had used, or was using, all eight trade secrets without authorization. He described Firstbase as “a new entrant into the market” that “lacked the specialized knowledge possessed by Harbor.” *Id.* at 778. Yet during his deposition, Dr. Valerdi confirmed on cross-examination that he was “taking it as an assumption that the [alleged trade secrets were], in fact, invented by Harbor.” App. 750.

A ten-day trial ensued in April 2024. Documents, presentation slides, and videos of the trade secrets were shown to the jury. Six of the trade secrets are at issue on appeal.

(1)–(3) Three of the four *workflows* guiding the Firstbase Agent product development are at issue. On appeal, the parties aggregate them into one category. These documents conceptually outline, in written-bulleted form, the transfer of

information between Firstbase's customers, Firstbase's website, and Harbor.

(4) The *Entity Manager Dashboard* is a website dashboard for Harbor's customers to view their registered entities, registration dates, and annual reports in one place. In the center of the dashboard is an interactive map of the United States.

(5) The *jurisdictional database* is a spreadsheet of corporate filing and registration instructions for all fifty states and territories. The information in some columns is publicly available on state agency websites. *Id.* at 1304 ("filing method" required by each state). There is a "notes" column in one tab with tips for filing. For example, there is a note to file online in one state because it cuts processing time by half.

(6) The *API documentation* is a word document, intended for application developers, with instructions for integrating with Harbor's API.

Dr. Valerdi provided expert testimony on why each of the alleged trade secrets was protectable and how Firstbase had misappropriated them. Firstbase presented computer engineer Steve Waldbusser as an expert to counter Dr. Valerdi's testimony.

When Firstbase learned that Dr. Valerdi would testify about who owned the trade secrets, it objected, arguing such testimony was "out of bounds" because Dr. Valerdi had assumed, based on the complaint, "that all of the trade secret information belonged to Harbor." *Id.* at 201. The District Court overruled the objection, relying on Federal Rules of Evidence 703 and 705 and explaining that Firstbase could challenge the basis of Dr. Valerdi's opinion through cross-examination.

Harbor also called on expert Gregory Urbanchuk to estimate the damages. He testified that Harbor suffered

\$14,757,399 in damages arising from trade secret misappropriation and \$14,757,399 in damages arising from unfair competition.

Before the verdict, Firstbase moved for judgment as a matter of law under Federal Rule of Civil Procedure 50(a) based on insufficient evidence “as to all claims alleged”—but Firstbase’s counsel noted that it was arguing only “two items . . . in detail.” *Id.* at 266. The first argument concerned the out-of-scope invoices for the breach-of-contract claim. *Id.* at 266–67. The second argument concerned the lack of “direct evidence of trade-secret misappropriation” or circumstantial evidence of misappropriation of the trade secrets. *Id.* at 267. The District Court denied the motion.

After deliberating, the jury found Firstbase liable to Harbor, awarding compensatory damages of \$1,090,271 for Firstbase’s breach of the partnership agreement; \$11,068,044 for Firstbase’s trade secret misappropriation; and \$14,757,399 for Firstbase’s unfair competition. It also awarded \$1,000,000 in punitive damages for unfair competition. In special interrogatories, the jury found that six of the eight alleged trade secrets were misappropriated. It said that Firstbase had misappropriated neither the “process map” created by Harbor’s partnership lead to summarize Firstbase’s ideal workflow nor a workflow for changing registered agents in Delaware or Wyoming for entities that had incorporated with Firstbase.

Firstbase filed several post-trial motions. It moved for judgment as a matter of law under Federal Rule of Civil Procedure 50(b), or in the alternative, a new trial under Rule 59(a), and remittitur of damages under Rule 59(e). It argued there was insufficient evidence of trade secret misappropriation, which likewise undermined the unfair competition verdict. It also argued that Dr. Valerdi’s expert testimony exceeded the scope of his report and deposition. On

damages, it argued that the jury impermissibly double counted Firstbase’s disgorged profits.

In February 2025, the District Court denied these motions. Firstbase timely appealed.

II.¹

We “exercise plenary review of an order granting or denying a motion for judgment as a matter of law and apply the same standard as the district court.” *Kars 4 Kids Inc. v. Am. Can!*, 8 F.4th 209, 218 n.8 (3d Cir. 2021) (quoting *Lightning Lube, Inc. v. Witco Corp.*, 4 F.3d 1153, 1166 (3d Cir. 1993)). “The standard of review on a motion for a new trial is abuse of discretion unless the court’s denial of the motion is based on application of a legal precept, in which case our review is plenary.” *Curley v. Klem*, 499 F.3d 199, 206 (3d Cir. 2007) (citation modified). We also review a district court’s denial of a motion for remittitur for abuse of discretion. *Spence v. Bd. of Educ. of Christina Sch. Dist.*, 806 F.2d 1198, 1201 (3d Cir. 1986). Lastly, we review for abuse of discretion a district court’s determination that a party forfeited an argument by failing to raise it earlier in the proceedings. *Kars 4 Kids Inc.*, 8 F.4th at 219 n.9.

III.

A.

Firstbase asks us to reverse the District Court’s denial of its renewed motion for judgment as a matter of law on the

¹ The District Court had jurisdiction under 28 U.S.C. §§ 1331 (federal question) and 1367 (supplemental jurisdiction) because Harbor asserted a federal statutory claim, alongside other claims forming part of the same case or controversy. We exercise appellate jurisdiction under 28 U.S.C. § 1291 (final decisions of district courts).

trade secret misappropriation and unfair competition claims.

To prevail on a trade secret misappropriation claim, a plaintiff must prove both (1) the existence of a protectable trade secret; and (2) the misappropriation of that trade secret. *See Oakwood Lab 'ys LLC v. Thanoo*, 999 F.3d 892, 905 (3d Cir. 2021). Under the DTSA, a plaintiff must also establish that the trade secret “is related to a product or service used in, or intended for use in, interstate or foreign commerce.” *Id.* (quoting 18 U.S.C. § 1836(b)(1)). Except for this jurisdictional hook and some “different wording,” the DTSA and the Pennsylvania Uniform Trade Secrets Act “essentially protect the same type of information.” *Teva Pharms. USA, Inc. v. Sandhu*, 291 F. Supp. 3d 659, 675 (E.D. Pa. 2018); *compare* 18 U.S.C. § 1836(b)(1), *with* 12 Pa. Cons. Stat. § 5302. Likewise, any minor differences between the definitions of “misappropriation” under the PUTSA and the DTSA are not relevant to this appeal. *See* 12 Pa. Cons. Stat. § 5302. So references in this opinion to the DTSA’s requirements also include the PUTSA.

A protectable “trade secret” is information, in any form, that the owner “has taken reasonable measures to keep . . . secret,” which “derives independent economic value . . . from not being generally known to, and not being readily ascertainable through proper means by, another person who can obtain economic value from [it].” 18 U.S.C. § 1839(3). Misappropriation is “improper acquisition, disclosure, or use of a trade secret without consent.” *Oakwood*, 999 F.3d at 908 n.16 (citing 18 U.S.C. § 1839(5)). Misappropriation “does not include reverse engineering.” 18 U.S.C. § 1839(6).

The Pennsylvania Supreme Court has not defined the elements of a common law unfair competition claim. *See Granite State Ins. v. Aamco Transmissions, Inc.*, 57 F.3d 316, 319 (3d Cir. 1995). But the essential element is “passing off

the goods of one for that of another.” *Goebel Brewing Co. v. Esslingers, Inc.*, 95 A.2d 523, 526 (Pa. 1953) (citation modified).

Firstbase argues that Harbor failed to prove that any of the alleged trade secrets were protectable or misappropriated by Firstbase. And Firstbase argues that since the unfair competition claim was based solely on trade secret misappropriation, it must likewise fail. Harbor responds that we can reach the merits only of Firstbase’s sufficiency-of-the-evidence argument for the misappropriation element because, in its Rule 50(a) motion, it “waived” the sufficiency-of-the-evidence arguments for the unfair competition claim and protectability. Appellee’s Br. 10. It also says that there was sufficient evidence to support the jury’s verdict on each claim.

Judgment as a matter of law should be granted “only if, viewing the evidence in the light most favorable to the nonmovant[,] there is insufficient evidence from which a jury reasonably could find liability.” *Kars 4 Kids*, 8 F.4th at 218 n.8 (quoting *Lightning Lube*, 4 F.3d at 1166). The reviewing court cannot “weigh the evidence, determine the credibility of witnesses, or substitute its version of the facts for the jury’s version. The question is not whether there is literally no evidence supporting the [verdict] but whether there is evidence upon which the jury could properly” reach the verdict. *Id.* (citation modified).

We first conclude that, in its Rule 50(a) motion, Firstbase forfeited (not waived) its sufficiency-of-the-evidence argument for the protectability element. We then conclude that there was sufficient evidence of the misappropriation element. And by extension, there was sufficient evidence of unfair competition.

1.

Harbor argues, as it did in response to Firstbase’s post-trial motions, that Firstbase “waived” an insufficiency-of-evidence argument related to the protectability element and unfair competition claim because Firstbase’s Rule 50(a) motion discussed only the misappropriation element. Appellee’s Br. 10. In its denial of Firstbase’s Rule 50(b) motion, the District Court agreed in part and held that Firstbase’s claim of insufficient evidence of unfair competition was not preserved. It went on—without deciding whether protectability was preserved—to discuss the sufficiency of evidence for both protectability and misappropriation.

A renewed motion for judgment as a matter of law under Rule 50(b) “must be preceded by a Rule 50(a) motion [at trial] *sufficiently specific* to afford the party against whom the motion is directed with an opportunity to cure possible defects in proof which otherwise might make its case legally insufficient.” *Lightning Lube*, 4 F.3d at 1173. A motion is sufficiently specific if the nonmoving party is “on notice of the legal rubric” and “adequately apprised . . . of the reasons” behind the motion. *Fineman v. Armstrong World Indus., Inc.*, 980 F.2d 171, 184 (3d Cir. 1992). “[W]e do not measure its sufficiency by the text alone, but against the background, as reflected in the record, of what the party now claiming [forfeiture] understood as to the tenor of the Rule 50 movant’s position and theory.” *Brokerage Concepts, Inc. v. U.S. Healthcare, Inc.*, 140 F.3d 494, 519 n.18 (3d Cir. 1998).

After reviewing the record, we agree that Firstbase’s Rule 50(a) motion lacked the specificity required to preserve its sufficiency-of-the-evidence argument related to the protectability element and unfair competition. At the close of trial, Firstbase’s counsel moved for judgment as a matter of law “as to all claims” based on “insufficient evidence.” App. 266.

But counsel developed that argument on only “two items”: the breach-of-contract claim and “direct evidence of trade-secret misappropriation” and circumstantial evidence of misappropriation. *Id.* at 266–67.

Firstbase argues on appeal that “[e]veryone could grasp that Firstbase’s Rule 50(a) motion challenged protectability,” because it challenged the “evidence of . . . trade-secret misappropriation” which “naturally encompass[es]” the first element of existence of a protectable trade secret. Reply Br. 3 (citation modified). But the general tenor of the motion concerned direct and circumstantial evidence of the misappropriation element, not protectability or the unfair competition claim. In support of its motion, Firstbase’s counsel pointed out that “our agreed-upon jury instruction[s] require[] . . . both access” to the trade secrets and “substantial similarity” between Harbor’s trade secrets and Firstbase’s products. App. 267; *see also* Supp. App. 212–13 (jury instruction for “methods of proving ‘misappropriation’”). Firstbase then argued that Harbor “failed to show substantial similarity as a matter of law.” Supp. App. 152. Thus, it was clear that Firstbase was developing an argument only to misappropriation. Equally telling is Harbor’s response to the motion: it concerned expert-witness testimony that Firstbase misappropriated the trade secrets by using them. App. 268–69 (“Ricardo Valerdi actually did a source-code review and actually found evidence of misappropriation in [Firstbase’s] source code.”). Firstbase thus did not preserve its argument that there was insufficient evidence of protectability and unfair competition.

Our review of an unpreserved argument turns on whether it was waived or forfeited. “The terms waiver and forfeiture—though often used interchangeably by jurists and litigants—are not synonymous.” *United States v. Dowdell*, 70 F.4th 134, 140 (3d Cir. 2023) (quoting *Hamer v. Neighborhood*

Hous. Servs. of Chi., 583 U.S. 17, 20 n.1 (2017)). “Waiver is the ‘intentional relinquishment or abandonment of a known right.’” *Id.* (quoting *Johnson v. Zerbst*, 304 U.S. 458, 464 (1938)). “[F]orfeiture is the failure to make the timely assertion of a right,’ an example of which is an inadvertent failure to raise an argument.” *Barna v. Bd. of Sch. Dirs. of Panther Valley Sch. Dist.*, 877 F.3d 136, 147 (3d Cir. 2017) (quoting *United States v. Olano*, 507 U.S. 725, 733 (1993)). Waived arguments are not reviewable. *Dowdell*, 70 F.4th at 140. In contrast, forfeited arguments in civil cases are reviewable—but only in “truly ‘exceptional circumstances.’” *Barna*, 877 F.3d at 147 (quoting *Brown v. Philip Morris Inc.*, 250 F.3d 789, 799 (3d Cir. 2001)). We are “slightly less reluctant to bar consideration of a forfeited pure question of law,” *id.*, if our “refusal to reach the [question] would result in a miscarriage of justice or where the [question’s] resolution is of public importance,” *id.* (quoting *Bagot v. Ashcroft*, 398 F.3d 252, 256 (3d Cir. 2005)).

Arguments inadvertently left out of a Rule 50(a) motion are forfeited. Although Harbor says Firstbase “waived” the issue, Firstbase never affirmatively relinquished its right to argue the sufficiency of evidence of protectability. So Firstbase forfeited—not waived—its right to raise the argument in a renewed motion for judgment as a matter of law under Rule 50(b) or an eventual appeal.

In any event, Firstbase’s forfeited argument falls outside our limited exception for appellate review because it does not rest on a tight, well-defined legal question or an issue important to the public. Indeed, Firstbase’s sufficiency-of-the-evidence argument is about disputed facts. *Cf. Frank C. Pollara Grp., LLC v. Ocean View Inv. Holding, LLC*, 784 F.3d 177, 188 (3d Cir. 2015) (failure to preserve Rule 50 sufficiency-of-the-evidence arguments is “particularly vexing”

because such arguments are typically factually based and “simply do not fit” within the exception that allows us to address forfeited issues). As just one example, Firstbase claims that the jurisdictional database had no independent economic value—and thus was not protectable—because it contained public information generally known or readily ascertainable through proper means, such as “(i) state-mandated filing requirements and fees, (ii) processing times for filings, and (iii) street addresses for the registered-agent firm Registered Agents Inc. (all of which are available upon a Google search).” Appellant’s Br. 33. But a “confidential compilation . . . of public information can amount to a trade secret,” *Mallet & Co. v. Lacayo*, 16 F.4th 364, 386 (3d Cir. 2021), if the “unique combination” of the information “affords a competitive advantage,” *id.* (quoting *AirFacts, Inc. v. de Amezaga*, 909 F.3d 84, 96 (4th Cir. 2018)). Harbor argues the database was protectable for this reason, highlighting testimony that it took years to build and included a “notes” column with tips based on Harbor’s experience providing registered agent services in each of the states. In other words, who is right here is a deeply factual question. Firstbase’s arguments relating to the remaining alleged trade secrets—the workflows, Entity Manager Dashboard, and API documentation—similarly hinge on disputed facts.

Because Firstbase forfeited its sufficiency-of-the-evidence argument for the protectability element of trade secret misappropriation and because this argument does not qualify for one of our narrow exceptions for reaching a forfeited argument, we assume without deciding—for the purposes of our review of the District Court’s Rule 50(b) denial—that each alleged trade secret was protectable.

2.

The second element that the plaintiff must prove in a

trade secret misappropriation claim is the misappropriation itself. As mentioned above, this can be established through “improper acquisition, disclosure, or use of a trade secret without consent.” *Oakwood*, 999 F.3d at 908 n.16 (citing 18 U.S.C. § 1839(5)). Relevant to this appeal is misappropriation by use. To demonstrate improper use, a plaintiff must prove “exploitation of the trade secret that is likely to result in injury to the trade secret owner or enrichment to the defendant.” *Id.* at 909 (quoting *Gen. Universal Sys., Inc. v. HAL, Inc.*, 500 F.3d 444, 450–51 (5th Cir. 2007)). “Use” has an “expansive interpretation” that encompasses assisting and accelerating product development. *Id.* at 910. A plaintiff may rely on circumstantial evidence showing access to the trade secrets and similarities between those secrets and the accused product. *Id.* at 912 n.19. But a defendant is permitted to reverse engineer a product; this does not constitute misappropriation of a trade secret it has access to. 18 U.S.C. § 1839(6)(B). So “it is necessary to disprove independent development—when raised—in order to meet the burden of proving the element of use.” *Moore v. Kulicke & Soffa Indus.*, 318 F.3d 561, 572 (3d Cir. 2003).

Firstbase concedes there were similarities between the trade secrets and its product. But it argues the similarities between the trade secrets and Firstbase Agent did not disprove reverse engineering. The primary evidence supporting misappropriation came from Harbor’s expert, Dr. Valerdi, whose testimony Firstbase characterized as describing “generalized concepts he claimed Firstbase learned from Harbor.” Appellant’s Br. 41 (citation modified). For example, Dr. Valerdi found similarities in strings of Firstbase’s “source code” and words in the jurisdictional database. App. 1376–77 But the similarities, Firstbase argues, were insufficient because they were public or general knowledge in the industry. For

instance, Firstbase points out that the street address of a national third-party registered agent service is public, and that it is generally known that California and New York are U.S. jurisdictions. Dr. Valerdi also opined that certain strings of source code resembled the data fields in the workflows. But Firstbase says those similarities were also insufficient—they consisted of general knowledge or public information easily susceptible to reverse engineering, such as classifications of business entities, the determination of “whether [a user] is an existing customer or a new customer,” and the idea that certain checks “have to occur to see whether a filing will be accepted or rejected.” *Id.* at 871–72.

Viewing the evidence in the light most favorable to Harbor, there was sufficient evidence of trade secret misappropriation by use. Even assuming the similarities between Firstbase Agent and the alleged trade secrets were insufficient on their own to disprove independent development, there were “plus factor[s]” that suggest Firstbase did not independently develop this technology. *Oakwood*, 999 F.3d at 912 n.19.

First, there were Firstbase’s internal communications. As the District Court noted, around the time the partnership was fraying, a Firstbase employee bragged that he “convinced [Harbor] to share all the annual filings due date per state[,] lol[,] with that info, we can build the reminders logic ourselves without using their data.” Supp. App. 255. Firstbase’s partnership lead responded, “The more we can get from them the better, especially if we truly are going to go down the route of being our own [Registered Agent].” *Id.* at 256. This is evidence of Firstbase intending to use Harbor’s proprietary compilations of information to enrich itself and take business away from Harbor. A subsequent email sent around the time Firstbase terminated the partnership suggested that Firstbase

may have used the annual filing deadline information—or possibly other unidentified documents obtained from Harbor—as a reference point to assist or accelerate development of its product. *Id.* at 257 (“Sharing some news: annual report, franchise tax, and federal tax are now available on agent dashboard. Our product team built the logic and we no longer need [Harbor’s] info to send reminders to our customers. We compared to the data [Harbor] was sending to us and it seems correct.”).

Second, there was the accelerated nationwide launch of Firstbase Agent. Firstbase offered incorporation services in Delaware and Wyoming before its partnership with Harbor, but it rapidly expanded incorporation and registered agent services to all fifty states shortly after the early termination of the partnership. *See Mallet*, 16 F.4th at 388 (explaining that the defendant’s “actions[,] plus . . . access to what may be trade secret information” and “the accelerated launch of” a new product “may easily be sufficient circumstantial evidence” of misappropriation).

Firstbase argues the summary of annual filings deadlines was not among the alleged trade secrets and that Harbor published this information on its website—meaning Harbor did not try to keep it a secret. True, Harbor must prove that Firstbase’s misappropriation “involv[ed] a trade secret” and that “there is some evidence tying [Firstbase’s] conduct to the taking of those trade secrets.” *Id.* at 387–88. But coupled with the similarities between the protected trade secrets and Firstbase Agent, the internal communications and rapid expansion offer sufficient circumstantial evidence that Firstbase used the Harbor documents it had access to—which included protectable trade secrets—to assist and accelerate the development of Firstbase Agent.

Firstbase also argues that all the trade secrets could be

reverse engineered because the identified similarities consisted of general industry knowledge or publicly available or marketed information. But this argument falls short. “[W]hile ‘reverse engineering is a defense to misappropriation of [a] trade secrets claim, the possibility that a trade secret *might* be reverse engineered is not a defense.’” *Id.* at 387 n.31 (second alteration in original) (quoting *Bal Seal Eng’g, Inc. v. Nelson Prods., Inc.*, No. 8:13-cv-1880, 2018 WL 4697255, at *4 (C.D. Cal. Aug. 3, 2018)). “Drawing ‘all reasonable and logical inferences’ in [Harbor’s] favor, the jury had enough evidence to find that” Firstbase did not reverse engineer Firstbase Agent. *Washington v. Gilmore*, 124 F.4th 178, 185 (3d Cir. 2024) (quoting *Lightning Lube*, 4 F.3d at 1166). We agree that “[t]here may be situations in which reverse engineering is so straightforward that the distribution of a product is itself akin to a disclosure.” *Mallet*, 16 F.4th at 387 n.31. But that factual inquiry is inappropriate for judgment as a matter of law, as it ultimately re-litigates the sufficiency-of-the-evidence argument related to the protectability element—which was forfeited.

3.

Firstbase also challenges the sufficiency of evidence of the unfair competition claim. It argues that if we reverse the District Court’s denial of judgment as a matter of law on the trade secret misappropriation claim, we must also reverse the denial as to the unfair competition claim, because trade secret misappropriation was the sole predicate tort on which the District Court instructed the jury. But since we will affirm the District Court’s denial of judgment as a matter of law on trade secret misappropriation, we will also affirm the denial of judgment as a matter of law on unfair competition.

* * *

In sum, we conclude Firstbase forfeited its sufficiency-

of-the-evidence argument as to protectability and therefore assume that the alleged trade secrets were protectable. Because the evidence of misappropriation by use was sufficient to support the verdict, we will affirm the District Court's denial of Firstbase's Rule 50(b) motion.

B.

Firstbase's appeal of the District Court's denial of its motion for new trial raises two arguments. First, it contends that even if we affirm the denial of judgment as a matter of law on the sufficiency of evidence, the verdict was nonetheless against the great weight of the evidence. Second, it contends that it was improperly prejudiced by portions of Dr. Valerdi's testimony about "who did what and when." App. 200. We discuss each of these in turn.

1.

A party's failure to move for judgment as a matter of law at the close of all evidence does not bar a motion for a new trial on the ground that the verdict was against the weight of the evidence. *Greenleaf v. Garlock, Inc.*, 174 F.3d 352, 365 (3d Cir.1999). So, unlike its sufficiency-of-the-evidence argument related to protectability, Firstbase preserved the weight of evidence argument on appeal by timely raising it in its motion for new trial.

A court may grant a motion for a new trial based on the evidence, but "it should do so only when 'the great weight of the evidence cuts against the verdict and a miscarriage of justice would result if the verdict were to stand.'" *Leonard v. Stemtech Int'l Inc.*, 834 F.3d 376, 386 (3d Cir. 2016) (citation modified) (quoting *Springer v. Henry*, 435 F.3d 268, 274 (3d Cir. 2006)). To win reversal of the District Court's denial of a new trial based on the weight of the evidence, Firstbase must show that "(1) the jury reached an unreasonable result, and (2)

the District Court abused its broad discretion in not setting the verdict aside.” *Id.* at 386. A district court’s discretion in weighing the evidence is still limited; it should not “substitute its judgment of the facts and the credibility of the witnesses for that of the jury.” *Id.* (quoting *Delli Santi v. CNA Ins. Cos.*, 88 F.3d 192, 201 (3d Cir. 1996)). “Only in very clear cases can the evidence be weighed with enough accuracy by an appellate court to justify it in saying that the trial [court] abused [its] discretion in either granting or refusing the new trial.” *Mihalchak v. Am. Dredging Co.*, 266 F.2d 875, 878 (3d Cir. 1959) (footnotes omitted). This case is not so clear.

The jury reasonably found that at least the jurisdictional database was a protectable trade secret. As we explained in the sufficiency-of-evidence analysis above, the database contained tips that were not general knowledge in the trade or readily ascertainable through proper means but were the result of Harbor’s experience in the industry. It is reasonable, and not a manifest injustice, for the jury to conclude the database had independent economic value.

The District Court properly exercised its broad discretion in upholding the verdict on that basis. The Court identified evidence it said was probative of protectability—the independent economic value of the jurisdictional database. App. 15 (noting testimony that said “information in [the jurisdictional database] was collected over more than ten years of research and work in a constantly changing technology business”). It also said that “the jury heard the testimony of more than ten witnesses and saw hundreds of exhibits. The specific evidence mentioned herein supporting the Court’s conclusions is meant to be illustrative, not inclusive.” *Id.* at 14.

We need not determine whether it was reasonable for the jury to conclude that the workflows, Entity Manager Dashboard, and API documentation were also protectable trade

secrets. The jury designated the jurisdictional database in the special interrogatory as a trade secret. Thus, we are not left with a situation “where a general verdict [leaves] open the possibility that one of [Harbor’s] theories of liability for which there was insufficient evidence might have been the one on which the jury grounded its determination of liability.” *S.E.C. v. Teo*, 746 F.3d 90, 100 (3d Cir. 2014). In this case, the existence of one protectable trade secret is enough to support the general verdict of trade secret misappropriation.

Turning to the misappropriation element, we have already concluded there was sufficient evidence that the trade secrets were misappropriated by use. After considering the evidence of Firstbase’s internal messages and product acceleration, we conclude that the jury’s finding of misappropriation was not only sufficient, but reasonable and not a manifest injustice. Thus, the District Court did not abuse its discretion in declining to set aside the trade secret misappropriation verdict. Similarly, because the unfair competition claim reasonably could be based on the tort of trade secret misappropriation, the District Court did not abuse its discretion in declining to set aside the unfair competition verdict.

2.

Improperly admitted evidence is also a valid ground for granting a new trial. *Montgomery Ward & Co. v. Duncan*, 311 U.S. 243, 251 (1940). Firstbase also argues that it was prejudiced by purported shifts in Dr. Valerdi’s expert opinion during trial compared to his expert report and deposition. Specifically, it says that during discovery, Dr. Valerdi expressly assumed that Harbor created the trade secrets he identified and the technical competency of Firstbase—but then, despite Firstbase’s objection during trial, “testified liberally . . . that Firstbase learned [of] the purported trade

secrets from Harbor, that Harbor created them, and that Firstbase could not have devised its products on its own.” Appellant’s Br. 19.

Firstbase says this violated Federal Rules of Civil Procedure 26 and 37 because Dr. Valerdi exceeded the scope of his expert report and deposition. An expert must provide “a complete statement of all opinions the witness will express and the basis and reasons for them,” Fed. R. Civ. P. 26(a)(2)(B)(i), and is precluded from offering additional opinions that were not previously disclosed unless their nondisclosure is “substantially justified or is harmless,” Fed. R. Civ. P. 37(c)(1). Firstbase’s argument hinges on a debatable characterization of Dr. Valerdi’s change in testimony as a new opinion. As we explain below, the District Court held that this argument was not properly preserved when it was raised in Firstbase’s post-trial motion, and so it did not consider it. Assuming that the District Court abused its discretion in holding that Firstbase forfeited the argument, the Court properly denied the motion for a new trial. Even if Dr. Valerdi’s testimony technically was a new opinion, the nondisclosure was harmless.

We start by recounting the relevant procedural history. On the sixth day of trial before Dr. Valerdi took the stand, Firstbase objected both to the introduction of a video exhibit created by Dr. Valerdi summarizing the trade secret misappropriation and “to any testimony as to who did what and when.” App. 200. Based on Dr. Valerdi’s prior “assumption that all of the trade secret information belonged to Harbor,” Firstbase argued that it was “out of bounds . . . for him to opine on what the parties did . . . and talk about who invented what.” *Id.* at 201. In response to the objection, the District Court reviewed the deposition testimony and acknowledged that Dr. Valerdi was “not attesting that certain facts are true,” but was merely “asked to assume [they] are true.” *Id.* at 213. But the

District Court ultimately overruled the objection, believing “there [was] a sufficient factual foundation for his assumptions” consistent with Federal Rules of Evidence 703 and 705. *Id.* Rule 703 permits an expert to “base an opinion on facts or data in the case.” Fed. R. Evid. 703. Rule 705 permits “an expert [to] state an opinion—and give the reasons for it—without first testifying to the underlying facts or data.” Fed. R. Evid. 705. The District Court agreed to give a jury instruction that the video was not proof of any facts.

Dr. Valerdi testified that Harbor created the trade secrets and Firstbase misappropriated them. *See, e.g.*, App. 937 (“Firstbase . . . could not do it by themselves . . . [and] needed to piggyback on . . . Harbor Compliance’s trade secrets. . . . The entire corpus of this case points to that.”); *id.* at 868 (“[T]he trade [secrets] were in the possession of Firstbase because Harbor Compliance gave it to them under the understanding that they would follow the terms of the partnership agreement.”); *id.* at 890 (“Firstbase . . . learned how to do this process thanks to Harbor Compliance’s trade secrets.”). On cross-examination, Firstbase’s counsel asked him if he had “subsequently modified [his] analysis” since his deposition. *Id.* at 900. Dr. Valerdi responded that although he had been “informed further by the trial transcripts,” his expert opinions and conclusions about the trade secrets remained unchanged. *Id.* at 901.

In its motion for a new trial, Firstbase argued that Dr. Valerdi’s testimony violated Rules of Civil Procedure 26 and 37 because he “performed a full analysis of the facts of the case” which exceeded the scope of his expert report and deposition, as Valerdi was not engaged “to opine on the facts as to who did what.” Supp. App. 343, 345 (citation modified). It highlighted later portions of his testimony on cross-examination where it said Dr. Valerdi admitted to

“perform[ing] a full analysis of the facts of the case” after submitting his expert report, “including an analysis of the shortcomings of Firstbase’s knowledge of the industry prior to its relationship with Harbor Compliance,” and admitted “that he had reviewed all of the evidence he used to make a factual determination well before his deposition, but had only chosen to provide this analysis now that he was on the stand.” *Id.* at 344.

The District Court rejected the request for a new trial, again citing Federal Rules of Evidence 703 and 705. App. 38. It added that challenges to the scope of Dr. Valerdi’s testimony “not only lack merit, [but] were waived” because “the portions of [his] trial testimony that Firstbase cites as problematic . . . were unobjected to at trial and were in response to Firstbase’s questions on cross examination.” *Id.* at 39. Lastly, it found that “even if the testimony exceeded the scope of his deposition,” Valerdi’s “testimony [was] consistent with his expert report, such that Firstbase was not prejudiced by its admission.” *Id.*

We assume without deciding that Firstbase preserved its objection and the purported change in testimony constituted a new opinion that lacked substantial justification. Still, we find the District Court did not abuse its discretion in holding that the admission of the testimony was harmless. The Court properly exercised its broad discretion in concluding that any unfair surprise at trial was cured. It noted that it gave a jury instruction on the video. It also considered that Firstbase challenged the factual bases of Dr. Valerdi’s testimony during cross-examination. Federal Rule of Evidence 705, along with 703, “places the burden of exploring the facts and assumptions underlying the testimony of an expert witness on opposing counsel during cross-examination.” *Stecyk v. Bell Helicopter Textron, Inc.*, 295 F.3d 408, 414 (3d Cir. 2002); *see also Hill v. Reederei F. Laeisz G.M.B.H., Rostock*, 435 F.3d 404, 423

(3d Cir. 2006) (stating that surprises by new testimony can be adequately cured by “extensive cross-examination of” the expert, “a sidebar on the issue of surprise, and even a recess to investigate the new evidence”). Furthermore, the jury was free to credit the testimony of Firstbase’s expert, Steve Waldbusser.

In sum, even if the District Court abused its discretion in concluding Firstbase did not adequately preserve its argument, it did not abuse its discretion in denying a new trial because it was reasonable to hold that Firstbase was not harmed by Dr. Valerdi’s testimony.

C.

Finally, Firstbase argues the District Court abused its discretion by denying its motion for remittitur because the jury “award[ed] separate damages for the trade-secret misappropriation and unfair-competition claims,” so “the jury mistakenly disgorged the same profits from Firstbase twice.” Appellant’s Br 56. We agree.

“[R]emittitur is well established as a device employed when . . . a decision of the jury is clearly unsupported and/or excessive.” *Spence*, 806 F.2d at 1201. “On review, . . . remittitur should be set at the ‘maximum recovery’ that does not shock the judicial conscience,” *Evans v. Port Auth. of N.Y. & N.J.*, 273 F.3d 346, 355 (3d Cir. 2001) (citation modified), which is, in other words, “the maximum amount which the jury could reasonably find,” *Gumbs v. Pueblo Int’l*, 823 F.2d 768, 772 (3d Cir. 1987) (citation modified).

The jury awarded Harbor \$14,757,399 in compensatory damages for the unfair competition claim, the exact amount of Firstbase’s profits as calculated by Harbor’s damages expert, Urbanchuk. The jury also awarded \$11,068,044 for the trade secrets misappropriation claim, which was seventy-five percent of Firstbase’s profits.

Firstbase says there is a clear explanation for the \$11,068,044 award: the jury found that Firstbase misappropriated only six of the eight alleged trade secrets (or seventy-five percent) and disgorged that proportion of Firstbase's profits twice. Therefore, it says, the jury impermissibly recovered the same profits twice under two theories of recovery. "Simply because [a plaintiff] was able to wrap [its] loss into several different legal theories of recovery does not entitle it to recoup twice." *Fineman*, 980 F.2d at 218.

In its denial of Firstbase's motion to remit damages by \$11,068,044,² the District Court said Firstbase "failed to object to the award before the jury was released, thereby preventing the Court from inquiring of the jury." App. 33. Second, it said Firstbase did not challenge the jury instructions or verdict form, which did not explicitly confine damages to disgorgement of Firstbase's profits. Lastly, it held the jury could have reasonably concluded that Harbor suffered different injuries from the trade secret misappropriation claim and merely used Urbanchuk's "calculations as a foundation" for the unfair competition award. *Id.* at 35.

To begin with, the District Court erred if it concluded that a jury award is unclear just because no follow-up inquiry was made with the jury. A district court can review the record to determine whether the jury's award was clearly excessive or

² Firstbase requests us to remit damages by \$14,757,399, the amount awarded on the unfair competition claim. Harbor says this argument is forfeited because Firstbase asked the District Court to remit damages only by \$11,068,044—the amount of the trade secret misappropriation award. Harbor is correct that a request for remittitur of \$14,757,399 is forfeited, but the substantive argument related to double damages is preserved.

unsupported. *See Starceski v. Westinghouse Elec. Corp.*, 54 F.3d 1089, 1101 (3d Cir. 1995).

And the record clearly shows the jury’s methodology involved disgorging Firstbase’s profits twice. Contrary to the District Court’s characterization, Firstbase’s argument is more than mere “speculation.” App. 34. Urbanchuk testified he “us[ed] the same calculation” to estimate Firstbase’s profits for both the trade secrets misappropriation and the unfair competition claim. App. 998. He “conducted the same type of disgorgement analysis looking at the same revenues and profits to arrive at th[e] [\$14,757,399] number.” *Id.* at 1000. His slides—which the jury specifically requested during deliberations—listed \$14,757,399 next to both the trade secret and unfair competition claims. Because the only theory Harbor pursued at trial was disgorgement of \$14 million in profits, it is exceedingly unlikely that this unique number was a mere “foundation.” *Id.* at 35.³ This was double recovery of the same remedy and not a coincidence.

Harbor contends that Firstbase’s duplicative damages argument is “waived” (more properly, forfeited) “to the extent Firstbase purports to argue that the jury erred by awarding damages other than disgorgement damages (such as lost profit damages),” because Firstbase never objected to the jury instructions on damages. Appellee’s Br. 53. But this

³ The only damages Harbor mentioned in its opening statement were the “\$1.1 million invoiced under the party’s contract” and the “\$14 million” that “Firstbase will profit . . . from using the secrets and knowhow that Harbor Compliance shared with them in confidence.” App. 108–09. And, at closing, Harbor repeated the same “\$14 million figure,” representing Firstbase’s “gross revenue,” in connection with both claims. *Id.* at 314.

mischaracterizes Firstbase's argument. Firstbase is not denying that the jury could have compensated Harbor for remedies in addition to awarding disgorgement of Firstbase's profits. Rather, it argues the maximum amount that could be disgorged is \$14,757,399 because that was the maximum amount Firstbase realized by inflicting the harm—whether characterized as trade secret misappropriation or unfair competition. Therefore, Firstbase argues, the jury compensated Harbor twice on the same profits by awarding \$14,757,399 for unfair competition and an additional \$11,068,044 for trade secret misappropriation. This argument is neither forfeited nor waived.

Harbor's other response—that the jury heard evidence of “*separate harm* arising from *separate conduct*,” *id.* at 55—repeats the same mischaracterization. Harbor says the jury heard evidence that its unrealized revenue was up to \$38,700,000. So it says anything less than that maximum amount is reasonable. Harbor's unrealized revenue represents expected revenue lost due to Firstbase's conduct, whereas disgorgement requires Firstbase to surrender the profits it gained from those actions. These are different types of remedies. The jury plainly did not base its damages on unrealized revenue—rather, the unique math shows it awarded both the lost profits and, improperly, another seventy-five percent of those same lost profits. The District Court incorrectly applied the same logic and thus abused its discretion.

Accordingly, we will reverse the District Court's denial of Firstbase's motion for remittitur of damages. Because “the maximum amount which the jury could reasonably find,” *Gumbs*, 823 F.2d at 772 (citation modified), is \$14,757,399, we will conditionally remit the damages by \$11,068,044—the amount the jury awarded for the trade secret claims. Harbor

may accept the reduced award or elect a new trial on damages on the trade secret misappropriation claims. *See Cortez v. Trans Union, LLC*, 617 F.3d 688, 717 (3d Cir. 2010) (explaining that “a court cannot reduce an award without affording the plaintiff the option of a new trial”).

IV.

For the foregoing reasons, we will affirm in part and vacate and remand in part the District Court’s judgment and its order denying Firstbase’s motions for judgment as a matter of law, a new trial, and remittitur. The District Court is instructed to conditionally remit the damages by \$11,068,044.