

**UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF COLUMBIA**

UNITED STATES OF AMERICA,

v.

SHAN SHI,

Defendant.

Case No. 17-cr-110 (CRC)

MEMORANDUM OPINION

On July 29, 2019, a jury found Defendant Shan Shi guilty of Conspiracy to Commit Theft of Trade Secrets. Dr. Shi now moves for a judgment of acquittal, arguing that the evidence presented at trial was insufficient to convince a reasonable juror that he committed the crime. Finding ample evidence to support the conviction, the Court will deny the motion.

I. Background

The Superseding Indictment in this case charged Dr. Shan Shi and others with conspiracy to commit theft of trade secrets in violation of 18 U.S.C. § 1832 (Count 1); conspiracy to commit economic espionage in violation of 18 U.S.C. § 1831 (Count 2); and conspiracy to launder monetary instruments in violation of 18 U.S.C. § 1956(h) (Count 3). All three counts involved an alleged agreement to misappropriate trade secrets related to “syntactic foam”—a manufactured material consisting of small hollow spheres suspended in epoxy resin. Among other applications, syntactic foam is used in drill riser buoyancy modules (“DRBMs”). DRBMs are buoyant casings attached along conduits (or “risers”) that run from an off-shore oil or gas rig to the drilling equipment on the sea floor. They are necessary to prevent the weight of the risers from destabilizing the rig afloat on the surface.

In 2014, Dr. Shi established a company in Houston—Construct Better Materials International (“CBMI”)—to develop syntactic foam for use in DRBMs and related products.

Gov. Ex. 2 at 32252, 34574 (corporate overview presentation). CBMI was funded by a Chinese company—Taizhou CBM-Future New Materials Science and Technology Co., Ltd. (“CBMF”)—that had been tasked by the Chinese government to help develop the country’s ability to manufacture marine engineering equipment. Id. at 32252-54, 34613; see also Gov. Ex. 40 (CBMI Articles of Incorporation listing CBMF as the sole shareholder). To advance this goal, the indictment charges that Shi and the two companies obtained trade secrets from Trelleborg Offshore US, Inc. (“Trelleborg”), a DRBM manufacturer also located in Houston.¹ They did so, the Indictment alleges, by hiring former Trelleborg employees, who in turn used and transferred Trelleborg’s confidential manufacturing specifications and testing procedures to help CBMF develop syntactic foam in China.

In addition to Shi and the two companies, the charged conspirators included Sam Ogoe and Gang Liu, both former Trelleborg employees who subsequently joined forces with CBMI; Uka Uche and Johnny Wayne Randall, two then-current Trelleborg employees who allegedly sent Trelleborg confidential information to Ogoe after he joined CBMI; Kui Bo, a CBMI employee involved in developing syntactic foam; and Hui Huang, a China-based employee of CBMF who allegedly directed some of CBMI’s activities. Ogoe and Bo both pled guilty to one count of conspiracy to commit theft of trade secrets in violation of 18 U.S.C. § 1832, admitting that they obtained and/or used Trelleborg confidential information to help CBMF develop syntactic foam. Uche and Randall also pled guilty to the trade secret theft conspiracy, acknowledging that they provided confidential Trelleborg information to Ogoe. Liu managed to

¹ Trelleborg Offshore US is a subsidiary of the Swedish conglomerate Trelleborg AB. Tr. 1239 (July 16, 2019 a.m.).

abscond prior to trial, Huang remained in China, and CBMF and CBMI never appeared, leaving Dr. Shi as the lone defendant at trial.

The Indictment identifies seven alleged trade secrets that CBMI obtained from Trelleborg. To better understand the technology involved, a bit must be said about how the spheres contained in syntactic foam are made and tested. Dr. Kipp Carlisle, a materials engineer with Trelleborg, summarized the manufacturing process for the jury. He explained that the process begins by placing polystyrene pellets in a customized tumbler, akin to a cement mixer. Tr. 1266 (July 16, 2019 a.m.). As the tumbler spins, a syrupy liquid comprised of an epoxy and a hardening agent is added. Id. at 1261. A fibrous material is then introduced, with the mixture coating the pellets. Id. at 1263. The liquid eventually forms a hardened shell around the pellets, creating spheres or “beads.”²

Trelleborg made spheres of different strengths. Various factors affect the strength of a sphere, including the number of coats applied to the surface, the type of fiber used in the coating mixture, and the ratio between the liquid and fiber in the mixture. Id. at 1263-65. Trelleborg used three different types of fiber: glass, wollastonite, and carbon, each with different structural properties and costs. Id. at 1247. Stronger, higher-density spheres are used in deeper water to withstand the higher pressures to which they are subjected. Id. at 1242. Trelleborg also made different sized spheres depending on the application for which they were intended. Id. at 1247-48.

² For simplicity’s sake, the Court uses the general term “spheres” to refer to “macrospheres” of the type that Trelleborg produced at its Houston facility, as many of the witnesses did in this case. Macrospheres are not to be confused with the smaller “microspheres” used in other syntactic-foam applications. Tr. 368-374 (July 9, 2019 p.m.) (testimony of Mark Angus, describing the various components of syntactic foam).

Carlisle testified that Trelleborg developed manufacturing specifications for its spheres over time based on research and empirical analysis. Tr. 1163-67 (July 15, 2019 p.m.). These specifications included calculations for density and pressure resistance at various sea depths for spheres of different diameters and fiber compositions. While Trelleborg disclosed some of these specifications in its marketing and bid materials, the complete specifications remained proprietary. Tr. 1250-51 (July 16, 2019 a.m.). Allen Burgess, Trelleborg's President, added that pressure and density specifications, when combined with corresponding depth ratings, were not publicly available and that it would be "foolhardy" to provide that information to a competitor. Tr. 1956-58 (July 18, 2019 p.m.). Production engineers on Trelleborg's shop floor were given laminated print outs of the specifications for use in the manufacturing process. Tr. 1240 (July 16, 2019 a.m.).

To ensure that the manufactured spheres performed as designed, Trelleborg subjected them to testing. The lab technicians who performed the tests were given the same specifications that the production engineers used to make the spheres. Id. One of the tests—called a hydrostatic burst pressure test—involved subjecting a sample of spheres to pressure to determine if they met pre-determined acceptance criteria. If more than a certain percentage of the spheres remained intact under the pressure, the batch passed the test. Carlisle testified that Trelleborg's design team developed the acceptance criteria and testing protocol over time based on trial and error and did not share them with its competitors. Id. at 1256-58.

With that primer, the seven alleged trade secrets can be summarized as follows: Trade Secret 1 is a series of Excel charts reflecting production specifications for various types of Trelleborg spheres at specified depths. Gov. Exs. 21, 21A, 21B, 21C. Trade Secret 2 is another set of charts showing the target densities for particular types of spheres at specified depths. Gov.

Ex. 23A. Trade Secret 3 is Trelleborg's standard operating procedure for conducting the hydrostatic burst pressure test described above. Gov. Exs. 25, 26. Trade Secret 4 is another set of Excel spreadsheets showing sphere specifications, as well as information about the manufacturing process like the type of hardener used and the ratio of fiber to coating material. Gov. Ex. 28A. One of the worksheets within Trade Secret 4 is labeled "Reference – Trelleborg." Id. Trade Secret 5 is the formulation that Trelleborg used to make its syntactic foam, with some of the ingredients specified by brand name. Gov. Ex. 31. Trade Secret 6 is another spreadsheet showing the number of coats that Trelleborg applied to various types of spheres at specified depths. It too is labeled "Reference – Trelleborg." Gov. Ex. 32A. Finally, Trade Secret 7 is a chart showing bulk prices for the raw materials that Trelleborg used in its syntactic foam. Gov. Ex. 33A. It is labeled "Reference – Trelleborg" as well. Id.

All told, the jury heard ten days of argument and evidence. Twenty-one witnesses testified and some 250 exhibits were admitted. After three days of deliberation, the jury returned a guilty verdict on Count 1 alleging conspiracy to commit theft of trade secrets, and not guilty verdicts on Counts 2 and 3 alleging conspiracies to commit economic espionage (essentially, stealing trade secrets to benefit a foreign government) and money laundering. Verdict Form, ECF No. 260.

II. Legal Standards

On a motion for acquittal under Federal Rule of Criminal Procedure 29, the Court must consider the evidence in the light most favorable to the government and determine whether the evidence "is sufficient to permit a rational trier of fact to find all of the essential elements of the crime beyond a reasonable doubt." United States v. Harrington, 108 F.3d 1460, 1464 (D.C. Cir. 1997) (citing Jackson v. Virginia, 443 U.S. 307, 319 (1979)). Because the Court owes

“tremendous deference to a jury verdict,” United States v. Long, 905 F.2d 1572, 1576 (D.C. Cir. 1990), it “must presume that the jury has properly carried out its functions of evaluating the credibility of witnesses, finding the facts, and drawing justifiable inferences,” United States v. Campbell, 702 F.2d 262, 264 (D.C. Cir. 1983). Further, the Court must “accord[] the government the benefit of all legitimate inferences.” United States v. Weisz, 718 F.2d 413, 437 (D.C. Cir. 1983). The standard for “clear[ing] the bar for [a] sufficiency of evidence challenge” is “very high,” and the evidence to support a conviction does “not need to be overwhelming.” United States v. Pasha, 797 F.3d 1122, 1135 n.9 (D.C. Cir. 2015). Granting a motion for judgment of acquittal after a jury verdict is appropriate only where “a reasonable juror must necessarily have had a reasonable doubt as to the defendant[’s] guilt.” Weisz, 718 F.2d at 437.

III. Analysis

Dr. Shi moves for a judgment of acquittal on Count 1. He attacks the sufficiency of the evidence supporting his conviction in three main respects. First, he maintains there was no evidence from which a reasonable juror could have found that he conspired to steal Trelleborg trade secrets. Second, he argues there was no evidence to support a finding that he “knew or reasonably believed” that any of the seven alleged trade secrets were trade secrets, as required for a conviction. Third, he insists there was no evidence that he knew or believed that Trelleborg had taken reasonable measures to protect any of the seven alleged trade secrets, which the jury was also required to find.

A. Trial Evidence

The Court begins by cataloging some, but not all, of the trial evidence bearing on Dr. Shi’s evidentiary challenges before turning to his arguments for why the evidence cannot support his conviction.

In December 2013, Dr. Shi visited Trelleborg's Houston facility with two senior employees of CBMF. Tr. 1661-63 (July 17, 2019 p.m.) (testimony of Kui Bo). Trelleborg's Director of Human Resources, Jerolyn Jones, testified that at the time of Shi's tour, Trelleborg had in place a number of visible physical security measures to protect its confidential business information. For example, the Houston production facility was fenced and monitored by security guards and video cameras around the clock, at a cost of \$500,000 to the company. Tr. 1503-04 (July 17, 2019 a.m.). Visitors, such as Dr. Shi, were logged in and out and given badges while present at the facility. Id. at 1505-06, 1511. They were also escorted and told not to take photographs of the facility. Id. at 1511-12. Particularly sensitive areas such as the testing facility and R&D lab were locked with coded keypads and only certain employees had access to them. Id. at 1507-08.

Ms. Jones also described a number of measures that Trelleborg took to protect its electronically stored data. For example, it followed its parent company's worldwide IT policy. Id. at 1513-14. Employees had to enter a log-in ID and a password to access the company's computers and network. Id. And employee access to the company's computer files was restricted on a need-to-know basis. Id. at 1522.

Dr. Shi incorporated CBMI in 2014 for the purpose of assisting CBMF enhance its syntactic foam manufacturing capabilities. Gov. Ex. 12A (April 12, 2014 cooperation agreement between Shi and CBMF to work together to develop marine buoyancy materials). CBMF viewed the production of syntactic foam and related products as important to China's efforts to catch up with the western nation's deep-sea drilling technology. E.g., Gov. Ex. 4 at 35006 (CBMF marketing proposal explaining that "[a]lthough our country has conducted the related research in this field for many years, it's still left behind the advanced level overseas in terms of

the performance of the solid buoyancy materials for deep submersible applications.”); Gov. Ex. 40 (CBMI Articles of Incorporation dated March 21, 2014 listing Shi as a Director and CBMF as the sole shareholder). As part of their collaboration, CBMI and CBMF agreed that the two companies would protect their technology as trade secrets and that CBMI would not disclose their technical information without CBMF’s consent. Gov. Ex. 12A at 35020. Additionally, Dr. Shi indicated to CBMF that he intended to recruit employees from competitors to assist in developing the foam. See Gov. Ex. 12A (As part of the Cooperation Agreement, Dr. Shi agreed to “bring in cutting-edge knowledge and high-level talented people”); Gov. Ex. 180 (Shi handwritten notes indicating that he will “recruit talents (from other companies)” and that “competitors are more willing to provide detailed information”).

After establishing CBMI, Dr. Shi personally solicited, interviewed, and hired former two Trelleborg employees who told him that they had access to Trelleborg technical data, either directly or through colleagues still working at Trelleborg. First, in late 2014, Shi hired former Trelleborg employee Sam Ogoe. Ogoe testified that he was hired to help CBMI produce prototype spheres for the May 2015 Offshore Technology Conference (OTC)—the leading trade show in the offshore energy industry. Tr. 393 (July 9, 2019 p.m.) (discussing the importance of OTC); Tr. 1801-05 (July 18, 2019 a.m.) (Ogoe testimony). This was a tall order, given that Ogoe was hired just six months before the conference; that at the time Ogoe was hired, CBMI had not yet built a working laboratory; and that Ogoe had not worked for Trelleborg for almost three years. Tr. 1797, 1801-05 (July 18, 2019 a.m.). Despite these limitations, Ogoe further indicated that he told Dr. Shi that he could “replicate” Trelleborg’s spheres because his friends at Trelleborg could supply the necessary data. Tr. 1835-36 (July 18, 2019 a.m.); Tr. 1888. (July

18, 2019 p.m.) (Ogoe testifying that the reason he was hired was “to get information from [Trelleborg]—because there’s nowhere else [he] could get the information”).

Soon after Ogoe began working at CBMI, he contacted two former colleagues at Trelleborg to obtain the company’s manufacturing specifications and test procedures. Tr. 1797, 1802-05 (July 18, 2019). In response, Trelleborg employee Johnny Wayne Randall emailed Ogoe Trade Secret 1, Gov. Ex. 21, and Trelleborg employee Uke Uche emailed Ogoe Trade Secrets 2 and 3, Gov. Exs. 23, 25; Tr. 1001-02 (July 15, 2019 a.m.); Tr. 1878-84 (July 18, 2019 p.m.). Ogoe testified that he viewed the data he received as being confidential within Trelleborg. Tr. 1835 (July 18, 2019 a.m.) (“I did wrong by going there. This is confidential information [Trelleborg] would not put it outside.”). The versions of Trade Secrets 1 and 3 that Ogoe received both contained a Trelleborg logo. Gov. Exs. 21A & 25. After receiving Trade Secrets 1 and 3, Ogoe removed the Trelleborg logo and emailed the data, along with Trade Secret 2, to Dr. Shi. Tr. 1840-45 (July 18, 2019 a.m.); Tr. 1889 (July 18, 2019 p.m.); Gov. Ex. 26. Dr. Shi, in turn, forwarded at least some of this information to CBMF in China. Gov. Ex. 27.

In March 2015, Bo sent Dr. Shi the resume of another former Trelleborg employee, Gang Liu, for consideration as a new employee. Tr. 1684-85 (July 17, 2019 p.m.). At first, Dr. Shi was reluctant to hire Liu, noting to Bo that Liu did not have a PhD and had worked at Trelleborg for only a year. Id. Dr. Shi nonetheless decided to interview Liu. Id. Bo testified that “right after the interview [Dr. Shi] called me. He sound[ed] very excited. And he sa[id]: Yeah, Gang Liu is the guy that we have been looking for. And also he mention[ed that] Gang Liu kept some technical data from Trelleborg.” Id. at 1686. Dr. Shi hired Liu and, three days after Liu began work, he began sending Trelleborg Trade Secrets 4–7 to Shi and CBMI. Gov. Ex. 28. Two of these trade secrets, 4 and 6, were Excel worksheets sent to Dr. Shi with the “Reference –

Trelleborg” tabs visible. Gov. Exs. 28A & 32. Finally, Gang Liu emailed alleged Trade Secret 7, listing Trelleborg’s syntactic foam raw materials with bulk prices, to CBMF in China, indicating that “[t]he attachment provides technical data . . . received from Trelleborg for your reference.” Gov. Ex. 33. Dr. Shi is copied on the email. Id.

In the course of recruiting Ogoe and Liu to CBMI, Dr. Shi became aware of some of the measures Trelleborg took to protect its trade secrets. When Dr. Shi hired Ogoe, he received a “General Release and Settlement Agreement” that Ogoe had executed upon his departure from Trelleborg. Gov. Ex. 51. In that agreement, Ogoe promised not to reveal any “trade secrets or confidential information of the Company” to which he had been exposed while at Trelleborg. Id. A few months later, Dr. Shi received a nondisclosure agreement that Trelleborg had entered into with Liu. Tr. 1689-90 (July 17, 2019 p.m.). Shortly thereafter, Dr. Shi tasked Kui Bo with drafting a standardized nondisclosure agreement for CBMI employees to execute. Id. at 1678. Bo did so by creating a form agreement almost identical to one that Liu had executed as a Trelleborg employee. Compare Gov. Ex. 178 with Gov. Ex. 277.

In August 2015, Dr. Shi began discussions with Trelleborg about the possibility of CBMF selling spheres to Trelleborg. Gov. Ex. 192; Tr. 395-403 (July 9, 2019 p.m.). As part of those discussions, the parties executed a mutual non-disclosure agreement that prohibited CBMF from disclosing any of Trelleborg’s confidential information. Gov. Ex. 192. Bo testified that Liu expressed concern about these negotiations, noting the possibility that Trelleborg could analyze CBMF’s spheres and deduce that they were prepared with Trelleborg’s “recipe.” Tr. at 1697 (July 17, 2019 a.m.); 1788-89 (July 17, 2019 p.m.).

About two years after the events described above, in May 2017, Dr. Shi and Kui Bo made a sales presentation to representatives of a company they believed to be a potential buyer of

syntactic foam. Gov. Ex. 131A (secret video recording of the meeting); Tr. 481-83 (July 10, 2019 a.m.). Comparing CBMI's spheres to Trelleborg's, Shi can be heard to say that the quality of CBMI's spheres is "much better . . . because we have a lot of lessons learn[ed] from . . . Trelleborg." Gov. Ex. 131A. The would-be buyers turned out to be F.B.I. agents, who arrested Dr. Shi at the conclusion of the meeting.

As noted previously, Sam Ogoe and Kui Bo pled guilty and testified as prosecution witnesses. The Government introduced both of their plea agreements. Gov. Exs. 220, 222; Tr. 1654 (July 17, 2019 p.m.); Tr. 1794 (July 18, 2019 a.m.).

B. Dr. Shi's Arguments

1. The sufficiency of the evidence supporting the existence of trade secret theft conspiracy

Dr. Shi contends first that the facts and supporting evidence recounted above (and other proof offered by the government) cannot support a finding beyond a reasonable doubt that he was part of a conspiracy to steal trade secrets from Trelleborg.

Shi relies primarily on the testimony of government cooperating witness and former CBMI employee Kui Bo. Bo testified on direct examination that CBMI's recruiting efforts were not limited to Trelleborg employees. Tr. 1737 (July 17, 2019 p.m.). On cross, Bo indicated that he never directed Ogoe to contact anyone at Trelleborg. Tr. 1771 (July 18, 2019 a.m.). He went on to testify about an F.B.I.-monitored telephone conversation between him and Dr. Shi on January 12, 2015. Bo acknowledged that during the call, Shi directed him to ask Ogoe to find "publications" (rather than trade secrets) regarding what defense counsel characterized as

“sphere pressure equations.”³ *Id.* at 1777. Finally, Bo engaged in the following exchange with defense counsel about whether he had an agreement to steal from Trelleborg:

Q: [Y]ou didn't have an agreement with Dr. Shi to steal anything from Trelleborg, did you?"

A: No, we don't.

Q: And you didn't have an agreement with Mr. Ogoe to steal anything from Trelleborg, did you?"

A: No, we don't.

Q: And you didn't have an agreement with Gang Liu to steal anything from Trelleborg, did you?"

A: No, we don't.

Id. at 1786-87. This combined testimony, Dr. Shi argues, renders any finding of a conspiracy “factually unsupportable.” Mot. for J. of Acquittal, ECF No. 288, at 6 (“Mot.”).

Bo’s testimony does not bear the weight the defense places on it. That Dr. Shi may not have targeted former Trelleborg employees exclusively does not foreclose a finding that he hired Ogoe and Liu with the understanding and expectation that they would continue to have access to Trelleborg technical data, just as Ogoe testified. Tr. 1835 (July 18, 2019 p.m.). And the absence of any directives from Bo to Ogoe is not inconsistent with Ogoe’s testimony that he was hired to “replicate” Trelleborg’s spheres and that Shi understood he would need access to confidential Trelleborg data in order to do so. *Id.* at 1835-36. As for the recorded conversation, Shi’s request for “publications” on an unknown topic, on a single occasion, does not prevent a rational juror

³ While a part of the recorded conversation was played (in Mandarin) to refresh the witness’s recollection and Bo acknowledged that Shi was requesting “publications,” there was no evidence presented to the jury as to the subject matter of the requested publications or that they related to Trelleborg technology. Tr. at 1778 (July 18, 2019 a.m.) (playing Def. Ex. 1027).

from concluding that other conduct undertaken by Shi, as described above and considering all the surrounding circumstances, demonstrated his participation in the charged conspiracy.

Finally, Bo's disavowal of any agreement on his part to steal Trelleborg trade secrets—while helpful to the defense—is easily reconciled with the jury's conspiracy finding. As the Government points out, Bo could very well have understood defense counsel's question to be limited to an explicit agreement or a written agreement, which the jury knew were not necessary to find that a conspiracy existed. Jury Inst. No. 1 (explaining that the jury was not required to find “a formal agreement or plan, in which everyone involved sat down together and worked out the details”). Alternatively, the exchange quoted above could be read to suggest that Bo understood defense counsel's question to be whether he personally had agreed to steal something from Trelleborg. Because Bo himself never took anything from Trelleborg, it may well be true that he did not agree (with Shi or anyone else) to personally “steal” Trelleborg secrets. That does not mean, however, that he did not agree to “convey” or “receive” or “possess” Trelleborg's trade secrets, each of which could support a conviction on Count 1 and each of which a rational juror could have found that he did. Finally, the Government introduced Bo's plea agreement, in which he admitted to conspiring to steal trade secrets. Gov. Ex. 220. While the defense accurately points out that the jury was instructed not to infer *Dr. Shi's* guilt from Bo's decision to plead guilty, Jury Inst. No. 15, nothing prevented the jury from considering the plea in assessing *Bo's* trial testimony. Having done so, a rational juror could have concluded from the plea that Bo was part of the charged conspiracy, as he confirmed on direct examination, notwithstanding his testimony on cross and without drawing any impermissible inferences about Dr. Shi.

Dr. Shi argues further that Ogoe's removal of Trelleborg's logo from Trade Secrets 1 and 3 before sending them to him proves that they were not conspiring with one another to steal from

Trelleborg. The defense contends that Ogoe removed the logos to conceal from Dr. Shi that he did not derive the data himself, which would be inconsistent with Shi's involvement in a conspiracy. The most obvious problem with that contention is that Ogoe denied it. Tr. 1889 (July 18, 2019 p.m.). Rather, Ogoe testified that he modified the spreadsheets before giving them to Shi because he knew that they would be "presented" further. Id. at 1890. While the defense challenged that explanation on cross, a rational juror could credit Ogoe's testimony and find that he removed the logos to conceal the fact that the data in the charts were misappropriated from Trelleborg, in furtherance of the charged conspiracy.⁴

Finally, Dr. Shi disputes the Government's contention that he sought to obtain Trelleborg's technology because CBMI lacked the necessary equipment and know how to produce syntactic-foam products on its own. Reply, ECF No. 295, at 7-9. This argument is largely beside the point. The evidence at trial did not conclusively establish the extent of CBMI's independent foam-manufacturing capabilities. But it did show that western companies controlled the market for deep-water buoyancy products and that Dr. Shi viewed Chinese capabilities as inferior to those of the market leaders. See, e.g., Gov. Ex. 4 at 35006 (July 2015 CBMF marketing proposal distributed by Dr. Shi opining that "[a]lthough our country has conducted the related research in this field for many years, it's still left behind the advanced level

⁴ The Government suggests that Ogoe removed the logos because he knew the data would be sent to CBMF in China. Opp'n at 18, ECF No. 291. Dr. Shi responds that the Government's theory does not evince a conspiracy because it would make no sense for Ogoe to conceal the theft from an alleged co-conspirator. Yet one can readily imagine why an individual conspirator would want to cover the tracks of the crime within a corporate organization, even if the organization is complicit as well. The less evidence of the crime there is within a criminal organization, the less likely the entire criminal enterprise will be revealed. In any case, what Ogoe actually told the jury is that he stripped out the logos because he believed the information would be "presented." Tr. 1890 (July 18, 2019 p.m.). He did not limit this further presentation to CBMF.

overseas in terms of the performance of the solid buoyancy materials for deep submersible applications.”). The evidence also showed that Dr. Shi did in fact transfer Trelleborg design and testing data to CBMF in China. Gov. Ex. 27. Based on that evidence, the jury had ample reason to conclude that Dr. Shi sought and transmitted Trelleborg’s technology in order to bridge the quality gap that he himself identified.

2. *The sufficiency of the evidence in establishing that Dr. Shi “knew or reasonably believed” that Trade Secrets 1–7 were trade secrets*

In order to find Dr. Shi guilty of Count 1, the jury was instructed that it must find beyond a reasonable doubt that he conspired to misappropriate one or more of Trade Secrets 1–7 “knowing or reasonably believing” that they were trade secrets. Jury Inst. No. 28. To make that determination, the jury was given the following definition of a trade secret:

The term “trade secret” means all forms and types of financial, business, scientific, technical, economic, or engineering information, including [as relevant here] . . . formulas, designs, . . . methods, techniques, processes, [or] procedures[,] . . . if each of the following elements are met:

1. The information is actually secret because it is not generally known to, and is not readily ascertainable through proper means by, another person who can obtain economic value from the disclosure or use of the information;
2. The owner of the information has taken reasonable measures to keep such information secret; [and]
3. The information derives independent economic value, actual or potential, from being secret.

Jury Inst. No. 29. The jury was also instructed that the Government is not required to prove that the misappropriated information was in fact a trade secret; only that Shi regarded it as such. Id.

Dr. Shi contends that the trial evidence was insufficient to establish the “knowing and reasonably believing” element of Count 1. First, he claims there is no evidence showing that he knew or believed that any of the information he received from former Trelleborg employees Ogoe or Liu was a Trelleborg trade secret. Mot. at 9-10. And second, he insists that the

evidence did not establish that he believed Trelleborg took reasonable measures to protect the information contained in any of Trade Secrets 1–7. Mot. at 11-14.

a. Trelleborg’s Proprietary Information

On the first point, Shi begins by noting that none of the versions of Trade Secret 1–3 that he received from Ogoe bore markings indicating they originated with Trelleborg or were Trelleborg trade secrets. Indeed, as discussed above, when Shi received these documents they bore no markings of any kind because Ogoe had removed all Trelleborg insignia. As explained, however, there was sufficient evidence for the jury to conclude that Dr. Shi hired Ogoe with the expectation that he would have access to Trelleborg technical data and that he would use that data to “replicate” Trelleborg’s spheres. So, when Ogoe sent him Trade Secrets 1–3, the jury could reasonably find that Dr. Shi knew where the data came from. Moreover, the jury could well have found that the “Reference – Trelleborg” tabs on the worksheets containing Trade Secrets 4–7 put Shi on notice that the accompanying data originated Trelleborg as well. And if that were not enough, Gang Liu informed Dr. Shi and a CBMF official in an email that the syntactic foam raw material list and bulk prices he was attaching them “provides technical data . . . received from Trelleborg for your reference.” Gov. Ex. 33.

Labels aside, Dr. Shi contends that no one in his position would have recognized any of the materials he received as being proprietary to Trelleborg. Mot. at 10. Not so. As a PhD scientist with extensive engineering experience, Dr. Shi was no novice in technical matters. Gov. Ex. 338 at 35125-26. The jury could have reasonably concluded that he well understood the technical value of the data he received. More specifically, the evidence established that Shi knew from his dealings with others in the syntactic foam industry that companies considered their manufacturing data to be proprietary. E.g., Tr. 867 (July 11, 2019 p.m.) (testimony of Marc

Schlegel, former CEO of Cuming Company, another syntactic foam manufacturer, indicating that he informed Dr. Shi during a 2014 meeting that Cuming considered certain aspects of its sphere processing technology to be proprietary). As noted above, moreover, the evidence showed that Shi sought to acquire “talent,” Gov. Ex. 180, in order to “digest/absorb the relevant, critical U.S. technology,” Gov. Ex. 338 at 35134. A reasonable inference from those stated intentions would be that Shi recognized that the technology he needed was not publicly available and, therefore, that the materials he received from Ogoe and Liu (or some aspects of them, at least) were proprietary.

The government also introduced evidence showing that CBMF marketed sample spheres that it created after receiving the Trelleborg data and, in doing so, insisted on entering non-disclosure agreements with potential customers. Gov. Ex. 192. If Shi believed nondisclosure agreements were necessary to protect his own design and manufacturing specifications, certainly the jury was entitled to conclude that he believed Trelleborg considered similar data to be propriety.

Finally, the very nature of the information contained in Trade Secrets 1–7 belies Dr. Shi’s contention that he could not have recognized at least some aspects of that information as trade secrets. Trelleborg witnesses testified that the data involved design, manufacturing, and testing specifications—essentially the “secret recipe” that Trelleborg used to produce its spheres. Tr. 1250-51 (July 16, 2019 a.m.) (Carlisle’s testimony that Trelleborg kept the complete manufacturing specifications for its spheres confidential); Tr. 1835 (July 18, 2019 a.m.) (Ogoe’s testimony that “I did wrong by going there. This is confidential information. . . . [Trelleborg] would not put it outside.”). It is difficult to imagine data more proprietary in this particular industry. To be sure, the defense elicited testimony that certain information within the alleged

trade secrets was publicly available or at least widely-known within the industry. But it did not introduce any evidence—though expert testimony or otherwise—to support its oft repeated argument that the entirety of the data Shi received was readily available through public sources.

Because there was enough evidence for a rational juror to conclude that Dr. Shi knew or reasonably believed that at least some of the information in Trade Secrets 1–7 comprised Trelleborg trade secrets, he is not entitled to a judgement of acquittal on that score.

b. Reasonable Measures

As noted above, the jury was instructed that in order to convict Dr. Shi on Count 1, it must find that he and at least one co-conspirator “reasonably believed that Trelleborg took reasonable measures under the circumstances to keep Alleged Trade Secrets 1 through 7 secret.” Jury Inst. 30. Dr. Shi insists there was no evidence to support the jury’s finding that he had the requisite state of knowledge regarding Trelleborg’s protective measures. Notably, the Government strongly objected to the above formulation of the “reasonable measures” jury instruction. It argued, not without force, that a relaxed standard should apply in cases where the defendant is an outsider to the company whose trade secrets have been misappropriated because such a defendant is typically not in a position to know what protective measures the victim company took, reasonable or otherwise. While sympathetic to that argument, the Court ultimately overruled the government’s objection and gave the instruction proposed by the defense, which was consistent with the Ninth Circuit pattern instruction.

The Government still satisfied this stricter requirement. As noted above, the evidence established that Dr. Shi visited Trelleborg’s Houston facility in December 2013 and observed a number of physical security precautions. Tr. 1503-06, 1511 (July 17, 2019 a.m.) (testimony of Trelleborg’s HR Director Jerolyn Jones describing protective measures including guards, gates,

cameras, and key pad access to sensitive areas). Those precautions, while perhaps designed to protect the facility generally, would also have protected against the theft of technical information like Trade Secrets 1–7 by non-employees.

Ms. Jones also testified that Trelleborg took a number of customary steps to protect its electronically-stored technical data, such as the spreadsheets containing Trade Secrets 1–7. Id. at 1513-14 (describing how Trelleborg granted employees access to company files on a need-to-know basis). Indeed, she testified that, based on her extensive experience working in human resources departments for large companies, Trelleborg’s efforts to keep information confidential were as good or better than the measures taken by those companies. Id. at 1517-18.

As former employees, Ogoe and Liu were certainly aware of these protections, and the jury could have reasonably inferred that Shi was also aware of them given that Ogoe told him he could get technical data from friends (and therefore did not have access himself). Tr. 1835 (July 18, 2019 a.m.). Shi also knew that Trelleborg required Ogoe to enter a General Settlement agreement when he left Trelleborg, which required Ogoe to deliver all Trelleborg proprietary data prior to his departure. Gov. Ex. 51. Requiring departing employees to enter such agreements is surely a reasonable measure to take to prevent them from disclosing trade secret data after they depart. Dr. Shi knew as well that Gang Liu was subject to a nondisclosure agreement at Trelleborg and directed Bo to draft an almost identical nondisclosure agreement for use by CBMI. Tr. 1678, 1689-90 (July 17, 2019 p.m.). Shi’s adoption of the same measure to protect CBMI’s technical data, including “trade secrets,” supports a finding that he viewed Trelleborg’s use of the nondisclosure agreement as reasonable. Lastly, Dr. Shi was also made aware of Trelleborg’s efforts to protect its proprietary information through CBMI’s discussions

with Trelleborg about the possible sale of macrospheres, which included a nondisclosure agreement. Gov. Ex. 192; Tr. 1298-1304 (July 16, 2019 a.m.).

The defense devoted considerable effort at trial to establishing that Trelleborg did not take all possible measures to protect its trade secrets from disclosure. See, e.g., Tr. 2040-46 (Expert testimony of Eric Cole). But that is not what the jury was required to find. It only had to find that Dr. Shi viewed the measures that Trelleborg took as reasonable. Based on the evidence described above, not only could a rational juror conclude that Trelleborg's protective efforts were reasonable, they could also conclude that Dr. Shi regarded them as such.

Accordingly, the jury's verdict must stand in this aspect of the conspiracy charge as well.

IV. Conclusion

For the foregoing reasons, the Court will deny [Dkt. No. 288] Defendant's Motion for Judgment of Acquittal. A separate Order shall accompany this memorandum opinion.

CHRISTOPHER R. COOPER
United States District Judge

Date: December 17, 2019