

IN THE UNITED STATES DISTRICT COURT  
FOR THE DISTRICT OF COLUMBIA

Holding a Criminal Term

Grand Jury Sworn in on November 3, 2016

UNITED STATES OF AMERICA	:	CRIMINAL NO. 17-110 (CRC)
	:	
v.	:	
	:	VIOLATIONS:
SHAN SHI,	:	
	:	18 U.S.C. § 1832
KUI BO,	:	(Theft of Trade Secrets)
	:	
GANG LIU,	:	18 U.S.C. § 1831 (Economic Espionage)
	:	
SAMUEL OGOE,	:	18 U.S.C. § 1956(h) (Conspiracy to
	:	Launder Monetary instruments)
UKA UCHE,	:	
	:	FORFEITURE:
HUI HUANG,	:	
	:	18 U.S.C. §§ 981(a)(1); 982; & 2323; &
TAIZHOU CBM FUTURE NEW	:	
MATERIAL SCIENCE AND	:	
TECHNOLOGY CO. LTD, AND	:	21 U.S.C. § 853(p); 28 U.S.C. § 2461(c)
	:	
CBM INTERNATIONAL, INC.	:	
	:	
Defendants.	:	

**INDICTMENT**

The Grand Jury charges that:

**INTRODUCTORY ALLEGATIONS**

At all times material to this Indictment:

## **DEFENDANTS AND OTHER ENTITIES**

1. The Ministry of Industry and Information Technology (“MIIT”) is an agency of the People’s Republic of China (“PRC”), tasked in part to help develop the PRC as a marine power. The PRC State Council created MIIT in March 2008 to assume the functions of several previous ministries and offices. MIIT has a significant role in regulating major industries and approving new industrial investments and projects in key areas such as information technology, telecommunications, and national defense.

2. The Commission of Science, Technology, and Industry for National Defense (“COSTIND”) is administered by the PRC through MIIT. COSTIND initiated the Key Laboratory of Science and Technology for National Defense program (“KLSTND”). COSTIND administers Harbin Engineering University (“HEU”), and the China Shipbuilding Industry Corporation (“CSIC”).

3. HEU is a China-based entity that has extensive ties to the Chinese People’s Liberation Army (“PLA”) and Navy.

4. CSIC develops, produces, and repairs military and commercial vessels, and related products.

5. China National Offshore Oil Company (“CNOOC”) is responsible for offshore oil and gas exploration and exploitation in China.

6. Linhai City is a City within Taizhou City, which is within Zhejiang Province, China.

7. Defendant Taizhou CBM-Future New Material Science and Technology Co. Ltd. (“CBMF”) is a China-based company.

8. Defendant SHI is a naturalized U.S. citizen who resides in Houston, Texas, and had ties to Houston-based oil firms, as described below. SHI is a graduate of HEU. SHI has previously worked at the forerunner of CSIC where he was involved with the design of at least one PLA Navy ship. In a resume current as of March 2016, SHI indicated that he was then-employed as an overseas professor at HEU, and as a senior technical advisor at CSIC.

9. CBM International, Inc. (“CBMI”) was established in March 2014, in Houston, with CBMF as its only shareholder. The shareholders of CBMI were PRC-Person 1, a person known to the grand jury, who was the president of CBMF and provided funding for CBMI’s operations; PRC-Person 2, a person known to the grand jury; and SHI, who, based in Houston, became President of CBMI.

10. Kui BO is a Canadian citizen with a U.S. visa who has recently applied for U.S. Legal Permanent Resident status. BO resides in the Dallas, Texas area. BO was an employee of CBMI. At CBMI, Bo was involved in day-to-day operations.

11. Samuel OGOE was born in Ghana and is a naturalized U.S. citizen. OGOE was employed at CBMI until late 2015, when he became a contract employee. Previously, OGOE was employed by a company (“Company A”) as a Materials Development Manager where he had access to Company A proprietary and trade secret data beginning in or about 2008.

12. U.S. Person 1, who was a defendant in a previous indictment, is a U.S. citizen who was employed as a Production Supervisor by Company A in Houston where he had access to Company A proprietary and trade secret data beginning in or about 2007.

13. Uka UCHE was born in Nigeria and is a naturalized U.S. citizen. UCHE was employed by Company A in Houston where he worked as an Operations Systems Specialist and had access to Company A proprietary and trade secret data beginning in or about 2008.

14. Gang LIU is a Chinese citizen who had been present in the United States on a student visa since 2008. As of February 2017, LIU was a U.S. permanent resident alien. LIU previously worked for Company A as a Material Development Engineer and had access to proprietary and trade secret data beginning in or about 2013. LIU was highly involved in the research and development (“R&D”) at CBMF and CBMI.

15. Hui HUANG is a Chinese national who lives in China. HUANG is an employee of CBMF and is involved in many of the interactions and taskings to CBMI employees. HUANG has traveled to the United States on numerous occasions during his employment with CBMF.

#### **THE PRC’S GOAL OF BECOMING A MARINE POWER**

16. The PRC sets out a series of military, social and economic development initiatives known as “Five-Year Plans” (“Plans”) to map out goals and guidelines for Chinese economic development in various economic sectors for the following five-year period. Recent Plans have included mandates for the development of the PRC’s marine industry. For example, the Twelfth Five-Year Plan, governing 2011 to 2015, directed the PRC to expand marine engineering equipment manufacturing, strengthen the R&D of critical marine technologies, and carry out trials

of marine development in provinces including Zhejiang Province, which is just west of the East China Sea. As part of the PRC's Thirteenth Five-Year Plan, governing 2016-2020, the PRC publicly declared its desire to become a strong maritime country as a national priority. MIIT sought to promote the research and development of China's marine equipment industry and realize the country's goal of becoming a "marine power" in the world. The PRC government tasked its government ministries like MIIT, its state-owned enterprises ("SOE"s) and its territories to further these goals and guidelines.

17. As part of the Twelfth Five-Year Plan, the PRC's MIIT coordinated many of the efforts to make the PRC a marine power, including prioritizing the development of engineered components of deepwater buoyancy materials for water depth ranging from 1,500-3,000 meters below sea level. MIIT provided funds to Zhejiang Province in order that Zhejiang Province, which includes Taizhou City, where CBMF is located, which includes the smaller division of Linhai City, could further develop this goal.

18. As demonstrated below, CBMF was tasked pursuant to the PRC's Twelfth Five-Year Plan to develop the PRC's marine engineering equipment manufacturing capability, including the underwater equipment referenced above, for the benefit of the PRC. In furtherance of this PRC goal, CBMF stole the trade secrets of Company A, whose true name is substituted in this indictment for purposes of confidentiality, in order to create a manufacturing facility in China for the marine industry product known as syntactic foam.

19. Syntactic foam consists of tiny hollow spheres suspended in an epoxy resin. The combination of hollow spheres encased in epoxy creates a strong, light material ideal for a variety of applications. Strength and other performance characteristics can be improved by chemical

surface treatment of the spheres. Syntactic foam may be tailored for both commercial (including drill riser buoyancy modules (“DRBM”) in oil exploration) and military use (including aerospace, underwater, and stealth technology). Syntactic foam could include only microspheres, commonly measured in microns, or be a composite of microspheres and slightly larger macrospheres (typically having diameters from 4 millimeters to 40 millimeters).

### **CBMF’S RELATIONSHIP TO THE PRC AND PRC SOES**

20. CBMF was part of a “National Team of Marine Engineering” and a collaborative innovation center with PRC-government entities, including SOEs HEU, CSIC, and CNOOC.

21. The purpose of the National Team of Marine Engineering was to carry out joint ventures in developing deep-sea buoyancy material, military insulation material, and new lightweight composite design to advance PRC military and civilian interests.

22. CBMF was closely tied to HEU in personnel, projects, and money: CBMF further described itself as “taking advantage of HEU’s technical resources through science and technology cooperation with military industry.” In 2015, CBMF reported it received more than half of its research funds from state funding, and that its R&D team consisted almost entirely of individuals from HEU, which also included Shan SHI.

23. In 2013 and 2014, CBMF entered into numerous contracts with HEU and CSIC to provide the above-referenced buoyancy materials.

### **THE ESTABLISHMENT OF CBMI TO DEVELOP SYNTACTIC FOAM**

24. CBMF’s efforts on developing a PRC-based manufacturing plant for syntactic foam led to the development of its subsidiary, CBMI. SHI, the President of CBMI, recognized the value of Houston as a potential source for the development of syntactic foam.

25. Company A was a multinational engineering firm whose business included the development of syntactic foam. Company A's corporate headquarters are in Sweden and it operates a subsidiary in Houston. Company A developed, sold and shipped, and intended to develop, sell and ship, syntactic foam in interstate and foreign commerce.

26. The technology for creating syntactic foam was closely held by the dominant producers and sellers of syntactic foam, including Company A, which developed advancements in the technology through intensive and costly R&D over many years. Company A is one of the four leading companies in the global syntactic foam market.

27. The PRC, seeking to further develop the technology for the reasons described above, provided funding to CBMF. Aware of the PRC's national priority, and in order to bypass the technical, expensive, and time-consuming R&D required to develop syntactic foam themselves, the individuals named in this Indictment acquired Company A's trade secrets relating to syntactic foam, without the authorization of Company A. SHI, LIU, and other entities known to the grand jury stole these trade secrets to benefit the PRC's SOEs HEU, CNOOC, CSIC, and Linhai City.

28. By 2016, in line with the PRC's goals, CBMF had a syntactic foam factory in Taizhou, and was bidding for significant contracts with a product built from the labors of Company A.

## **RELEVANT STATUTES**

### **The Economic Espionage Act**

29. The Economic Espionage Act of 1996, which provides for the prosecution of economic espionage and trade secret theft, is codified at 18 U.S.C. §§ 1831-1839.

## **Money Laundering**

30. The Money Laundering Control Act of 1986, which provides for the prosecution of money laundering, is codified at 18 U.S.C. § 1956.

### **COMPANY A TOOK STEPS TO PROTECT ITS TRADE SECRETS**

31. Company A has refined its syntactic foam design and development process over time. The production of the spheres for syntactic foam is a complex manufacturing process and Company A has continually improved its process over the past fifty years since its invention. Through its technical expertise, experience, and continued R&D investment, Company A has developed a process that afforded it a competitive advantage in the marketplace.

32. Company A's syntactic foam technology included, but was not limited to, the following trade secrets, each of which, if stolen by a competitor could give that competitor an unfair advantage:

A. Trade Secret 1: Sphere Diameter Pressure and Density. Company A's technical innovation team worked on different formulations of resin for different spheres, including the performance of each formula at different depths and densities and the results of an experimental formula developed by Company A. Company A began experimenting with the new formula in 2013 or 2014. The new formula was used by Company A to increase strength while lowering the cost of producing the spheres.

B. Trade Secret 2: Density Calculations. The density of different 10mm macrospheres, including the performance of specific spheres pulled from a specific batch, was a Company A trade secret. Company A tested

spheres for diameter and weight, with the results averaged to represent the entire batch. Company A density calculations would provide a competitor key information about the performance of a certain batch of Company A's macrospheres, and benchmarks to meet in the production of the competitor's macrospheres. Access to such density calculations at Company A was password protected and restricted to a small number of Company A employees.

C. Trade Secret 3: Standard Operating Procedures ("SOP") for Hydrostatic Pressure Testing. Company A's SOP for hydrostatic testing, which is a necessary quality control measure prior to selling the syntactic foam product to customers was a trade secret.

D. Trade Secret 4: Manufacturing Process Data Models. Information developed by Company A regarding the number of coats on spheres and the performance of these spheres at certain densities was a Company A trade secret. Access to the models at Company A was password protected and restricted to a small number of Company A employees.

E. Trade Secret 5: Theoretically Calculated Syntactic Foam Formulation. A list of raw materials and various weights associated with those materials, which could be used to make syntactic foam, was a Company A trade secret. Access to this formulation at Company A was

password protected and restricted to a small number of Company A employees.

F. Trade Secret 6: Macrosphere Rating & Cost. The costs for a newly developed formula related to syntactic foam was a Company A trade secret. Access to the macrosphere rating and cost information at Company A was password protected and restricted to a small number of Company A employees.

G. Trade Secret 7: Raw Material Prices. The prices Company A paid for various raw materials at certain volumes in 2014 was a Company A trade secret. These prices were negotiated by Company A with its suppliers. Access to raw materials pricing at Company A was password protected and restricted to a small number of Company A employees.

33. The trade secrets listed above were considered such by Company A and were protected by Company A as confidential and proprietary information. Company A used a number of reasonable measures to protect its trade secrets and its confidential proprietary information, including, but not limited to:

- A. Limiting visitor access to its facilities;
- B. Requiring visitors to facilities to sign a confidentiality agreement;
- C. Limiting its computer network to designated employees;
- D. Limiting access to the network depending on work assignments;
- E. Requiring that approval for “limited access” folders may only be granted by an information technology administrator;

- F. Mandating that new hires receive and sign non-competition agreements and training regarding the protection of Company A trade secrets; and
- G. Requiring employees to execute non-competition agreements upon termination that included language not to divulge certain protected information, including Company A trade secrets.

**COUNT ONE**

**(Conspiracy to Steal and Convert a Trade Secret)**

34. The allegations in Paragraphs 1 through 33 of this Indictment are incorporated and re-alleged by reference herein.

35. Beginning on a date unknown to the Grand Jury but at least by, in or about March 2012, and continuing until on or about May 23, 2017, in the District of Columbia, and elsewhere, the defendants, SHI, HUANG, BO, LIU, OGOE, UCHE, CBMF, and CBMI and others known to the grand jury did knowingly and willfully combine, conspire, confederate, and agree with each other, and others known and unknown to the Grand Jury, to commit the following offenses:

- A. With intent to convert a trade secret, that is related to or included in a product that is produced for or placed in interstate and foreign commerce, to the economic benefit of anyone other than the owner of the trade secret, and intending and knowing that the offense will, injure any owner of that trade secret, knowingly steal, and without authorization appropriate, take, carry away, and conceal, and by fraud, artifice, and deception obtain such

information, in violation of Title 18, United States Code, Section 1832(a)(1);

B. With intent to convert a trade secret, that is related to or included in a product that is produced for or placed in interstate and foreign commerce, to the economic benefit of anyone other than the owner of the trade secret, and intending and knowing that the offense will, injure any owner of that trade secret, knowingly, and without authorization copy, duplicate, sketch, draw, photograph, download, upload, alter, destroy, photocopy, replicate, transmit, deliver, send, mail, communicate, and convey such information, in violation of Title 18, United States Code, Section 1832(a)(2); and

C. With intent to convert a trade secret, that is related to or included in a product that is produced for or placed in interstate and foreign commerce, to the economic benefit of anyone other than the owner thereof, and intending and knowing that the offense will, injure any owner of that trade secret, knowingly receive, buy, and possess such information, knowing the same to have been stolen and appropriated, obtained, and converted without authorization, in violation of Title 18, United States Code, Section 1832(a)(3).

### **OBJECTS OF THE CONSPIRACY**

36. The objects of the conspiracy were:
- A. To appropriate trade secrets belonging to Company A for the benefit of another other than Company A, knowing such appropriation would injure Company A;
  - B. To replicate trade secrets belonging to Company A for the benefit of another other than Company A, knowing such replication would injure Company A;
  - C. To receive and possess trade secrets belonging to Company A for the benefit of another other than Company A, knowing such receipt and possession would injure Company A.

### **WAYS, MANNER AND MEANS OF THE CONSPIRACY**

37. Defendants SHI, BO, LIU, OGOE, UCHE, HUANG, CBMF, and CBMI, and others both known and unknown to the grand jury, would and did carry out the conspiracy and effect its unlawful objects, that is, the stealing, appropriation, taking, carrying away, and concealing, and by fraud, artiface and deception; the copying, duplication, photographing, downloading, uploading, altering, photocopying, replicating, transmitting, delivering, sending, mailing, communicating, and conveying; and receiving, buying, and possessing the trade secrets owned by Company A, through the following manner and means, among others:

- A. It was part of the conspiracy that members of the conspiracy, both known

and unknown to the grand jury, created CBMI in the United States in order to develop CBMF's syntactic foam manufacturing ability in China.

B. It was part of the conspiracy that members of the conspiracy, both known and unknown to the grand jury, targeted current and former Company A employees for hiring for the purpose of advancing CBMF's capability to manufacture syntactic foam.

C. It was part of the conspiracy that members of the conspiracy, both known and unknown to the grand jury, planned to steal the confidential and proprietary information of Company A, including its trade secrets, by accessing information taken by current and former Company A employees.

D. It was further part of the conspiracy that members of the conspiracy, both known and unknown to the grand jury, would acquire Company A trade secrets and use them to promote CBMF and CBMI's own syntactic foam and sphere capabilities.

E. It was further part of the conspiracy that members of the conspiracy, both known and unknown to the grand jury, arranged for the transfer of approximately \$3.1 million from CBMF to CBMI to maintain CBMI's operations and pay CBMI's employee salaries.

F. It was further part of the conspiracy that Defendants SHI, BO, LIU, OGOE, HUANG, CBMF, CBMI, and others both known and unknown to the grand jury, understood that OGOE and LIU had executed severance agreements with Company A in which OGOE and LIU had acknowledged the importance of proprietary

information to Company A and agreed not to share any trade secrets of Company A.

G. It was further part of the conspiracy that SHI and others both known and unknown to the grand jury coordinated the development and manufacture of syntactic foam in order to benefit PRC's SOEs, including HEU, CNOOC, and CSIC, and Linhai City, by providing the technology and materials necessary to fulfill the PRC's goals.

### **OVERT ACTS**

38. In furtherance of the conspiracy, and to achieve the objects and purposes thereof, the Defendants SHI, BO, LIU, OGOE, UCHE, HUANG, CBMF, CBMI, and others both known and unknown to the grand jury, committed and caused to be committed the following overt acts, among others, in the District of Columbia and elsewhere:

A. Beginning on June 27, 2014, and continuing through at least May 15, 2017, employees of CBMF sent Houston-based CBMI approximately 34 wire transfers totaling approximately \$3.1 million dollars. CBMF sent these wire transfers from its account at the Bank of China to CBMI's U.S.-based account at Bank of America, ending in 6528, as follows:

<b>Transaction Date</b>	<b>Wired From</b>	<b>Wired To</b>	<b>Wire Amount</b>
6/27/2014	CBMF, China	CBMI, U.S.	\$20,000.00
8/12/2014	CBMF, China	CBMI, U.S.	\$120,000.00
9/23/2014	CBMF, China	CBMI, U.S.	\$20,000.00
1/29/2015	CBMF, China	CBMI, U.S.	\$100,000.00
4/1/2015	CBMF, China	CBMI, U.S.	\$200,000.00
4/30/2015	CBMF, China	CBMI, U.S.	\$150,000.00

6/26/2015	CBMF, China	CBMI, U.S.	\$60,000.00
7/20/2015	CBMF, China	CBMI, U.S.	\$30,000.00
7/23/2015	CBMF, China	CBMI, U.S.	\$170,000.00
9/14/2015	CBMF, China	CBMI, U.S.	\$130,000.00
9/30/2015	CBMF, China	CBMI, U.S.	\$70,000.00
11/4/2015	CBMF, China	CBMI, U.S.	\$50,000.00
11/18/2015	CBMF, China	CBMI, U.S.	\$150,000.00
12/4/2015	CBMF, China	CBMI, U.S.	\$350,000.00
1/20/2016	CBMF, China	CBMI, U.S.	\$80,000.00
2/3/2016	CBMF, China	CBMI, U.S.	\$70,000.00
2/5/2016	CBMF, China	CBMI, U.S.	\$70,000.00
3/14/2016	CBMF, China	CBMI, U.S.	\$70,000.00
4/5/2016	CBMF, China	CBMI, U.S.	\$20,000.00
4/11/2016	CBMF, China	CBMI, U.S.	\$50,000.00
5/5/2016	CBMF, China	CBMI, U.S.	\$70,000.00
6/1/2016	CBMF, China	CBMI, U.S.	\$70,000.00
7/1/2016	CBMF, China	CBMI, U.S.	\$100,000.00
8/2/2016	CBMF, China	CBMI, U.S.	\$100,000.00
9/8/2016	CBMF, China	CBMI, U.S.	\$70,000.00
10/14/2016	CBMF, China	CBMI, U.S.	\$80,000.00
11/7/2016	CBMF, China	CBMI, U.S.	\$69,985.00
12/7/2016	CBMF, China	CBMI, U.S.	\$100,000.00
1/9/2017	CBMF, China	CBMI, U.S.	\$100,000.00
2/6/2017	CBMF, China	CBMI, U.S.	\$100,000.00
3/3/2017	CBMF, China	CBMI, U.S.	\$100,000.00
4/7/2017	CBMF, China	CBMI, U.S.	\$59,752.67
4/12/2017	CBMF, China	CBMI, U.S.	\$40,000.00
5/15/2017	CBMF, China	CBMI, U.S.	\$70,000.00
<b><u>Total Transfers</u></b>			<b><u>\$3,109,738.67</u></b>

**Transfer of Specific Trade Secrets**

B. On January 13, 2015, U.S. Person 1, an unindicted-coconspirator previously

indicted, from his personal email account, emailed OGOE at OGOE's CBMI account the following information: "Sam Please see attach for helpful info." Attached to the email were seven files. One of the attachments was Trade Secret 1, and one of the tabs included Company A's logo and name.

C. In or about January 2015, UCHE, from his Company A email account, sent Trade Secret 2 to his personal email account.

D. On or about January 14, 2015, UCHE, from his personal email account, emailed OGOE at OGOE's CBMI email account Trade Secret 2.

E. In or about January 2015, OGOE removed Company A's logo and name from Trade Secret 1.

F. On or about January 28, 2015, OGOE sent the revised Trade Secret 1 to SHI.

G. On or about January 30, 2015, UCHE sent an email from his personal email account to OGOE at OGOE's CBMI email account with the subject "Test procedure." Attached to the email was Trade Secret 3.

H. On or about March 20, 2015, OGOE emailed SHI, BO, and another CBMI employee, stating the 10mm carbon coated sphere densities for the hydrostatic burst pressure test in China were attached. OGOE also noted the pressure test procedure was attached for their review prior to sending them to China. The email had two attachments, including a Word document titled "Hydrostatic Burst Pressure Test Procedure," and a spreadsheet titled "Sam-10 mm Carbon Density 3-20-15." The word document contained a summarized version of the contents of Trade Secret 3.

I. On or about March 21, 2015, BO forwarded OGOE's March 20, 2015 email, which contained a summarized version of the contents of Trade Secret 3, to HUANG at CBMF in China.

J. On or about March 23, 2015, SHI sent an email titled "Hydrostatic Burst Pressure Test Procedure" to HUANG at CBMF in China and copied BO and U.S. Person 2, an unindicted co-conspirator. The email attached two documents titled "Hydrostatic Burst Pressure Test Procedure 10mm OD" and "Hydrostatic Burst Pressure Test Procedure 4mm OD." The attachments were substantially similar to the Word document transmitted by OGOE on March 20, 2015, which contained a summarized version of Trade Secret 3.

K. On or about March 26, 2015, HUANG responded to the March 21, 2015 email, which contained the summarized version of Trade Secret 3, by emailing BO and stating, "Attached is the pressure testing report for 10mm carbon coated spheres."

L. On or about March 26, 2015, BO forwarded HUANG's March 26, 2015 email, sent in the same email chain containing the summarized version of Trade Secret 3, to OGOE.

M. On or about April 21, 2015, HUANG sent an email to SHI and BO with the results of testing 100 microspheres, stating only 20 of the microspheres passed the test and asked to know the pressure requirements that should be applied in the test.

N. On or about April 10, 2015, SHI, who owned another company, Company B, and who was associated with another company, Company C, sent an email to his

Company B email account. The subject of the email was “Confirm: Interview with Shan SHI at [Company C] 04/09 (Thur) 10:30 am.” The email contained a forward of a message from LIU, who had recently been laid off by Company A, to SHI’s email account at Company C. In the original message, LIU introduced himself and explained a friend referred him to U.S. Company C and SHI. LIU asked to confirm the date/time of his interview at U.S. Company C. The email contained LIU’s resume, which outlined LIU’s employment at Company A.

O. On or about April 12, 2015, SHI, from his Company B email account, emailed LIU to offer a full time job at Company B, in part to mask LIU’s involvement with CBMI from the knowledge of Company A.

P. On or about April 12, 2015, LIU accepted the offer to work at Company B.

Q. On or about April 14, 2015, HUANG tasked SHI and BO via email regarding the manufacture of syntactic foam. The email, in part, stated, “I need information regarding formula, preparation process and performance of the syntactic materials.”

R. On or about April 15, 2015, LIU, from his ODI email account, emailed Trade Secret 4 to SHI at SHI’s CBMI account.

S. On or about April 16, 2015, SHI, in response to LIU’s April 15, 2015 email, emailed LIU at LIU’s Company B email account, asking that LIU “verify the attached material.”

T. On or about April 17, 2015, LIU, from his Company B email account, in response to SHI’s April 16, 2015 email, emailed SHI Trade Secret 5.

U. On or about May 8, 2015, LIU, from his Company B email account, emailed SHI, BO, and HUANG Trade Secret 6.

V. On or about June 4, 2015, LIU emailed HUANG Trade Secret 7, stating, “The attachment provides technical data of the raw materials and prices of part of the raw material received by [Company A] for your reference.”

W. On or about June 20, 2016, U.S. Person 2, an unindicted co-conspirator, emailed CBMI’s accountant and instructed the accountant to “stop Gang LIU’s [Company B] payroll from June 1 [2016]” because LIU was transferred to CBMI’s system.

#### **Marketing and Developing Military and PRC Uses of CBMF Products**

X. On or about May 19, 2016, LIU emailed SHI and BO a PowerPoint presentation, which outlined the military and civilian applications of buoyancy material and asked for their edits.

Y. On or about May 24, 2016, SHI emailed HUANG and U.S. Person 2, an unindicted co-conspirator, a Word document which outlined CBMF’s “Outlook on Composite Buoyancy Material Product in Military Application.”

Z. On June 6, 2016, HUANG emailed LIU a CBMF PowerPoint presentation stating that CBMF provided light composite materials usable for, among other items, armor, and that CBMF products were suitable for naval vessels core materials and island reef building, as well as for armored vehicles.

AA. On or about July 5, 2015, U.S. Person 2, an unindicted co-conspirator, sent an email to SHI and copied HUANG and LIU. The email was titled “Re: Deep

water drilling riser buoyancy module product research and development program.” The email attached a document laying out CBMF’s strategy regarding DRBM R&D and noted CBMF’s goal to support the development of marine equipment for the PRC’s next “Five-Year Plan.” The document announced in part that CBMF has planned to design a set of a large deepwater hydrostatic pressure test systems that matched the international advanced technology level within one year.

### **Use of Patents**

BB. On or about August 21, 2015, HUANG emailed SHI and U.S. Person 2, an unindicted co-conspirator, questions regarding a sphere patent application. HUANG suggested three options regarding the inventor. HUANG stated that although the technical portion of the sphere originated from LIU, the patent office thought LIU was not an appropriate choice because he was still within the period of his non-compete clause period with Company A; therefore, it was against the law. HUANG stated someone needed to explain this to LIU. The second choice would be SHI or U.S. Person 2, and since they had no official contract with Company A, the risk was manageable. The third choice would be HUANG as a representative of Chinese staff.

CC. On or about September 22, 2015, CBMF, with named inventors HUANG and U.S. Person 2, an unindicted co-conspirator, applied for a patent with the State Intellectual Property Office of the PRC.

### **Development of CBMF’s Factory**

DD. On or about September 16, 2015, OGOE traveled to China.

EE. On or about October 1, 2015, OGOE sent an email to BO titled “Greetings from [CBMF] Factory.” OGOE asked how his colleagues in the United States were doing and stated, “We are at the factory gladly working to get the task accomplished.”

FF. On or about October 17, 2016, SHI called U.S. Person 3 about CBMF. SHI explained he had a factory in China that produces buoyancy material. SHI stated the business was doing very well, and the competitors had died off. SHI stated they were becoming a bigger company and said, “We stand out and everybody come to see us now to try to get cheap product.” SHI also stated he hired a whole bunch of people in the United States that “really know how [to develop buoyancy material].”

#### **Relationship with Company A**

GG. In or about the Fall of 2015, SHI sought to sell macrospheres to Company A and entered into negotiations with employees of Company A.

HH. In or about the Fall of 2015, SHI touted CBMF to Company A as a high profile collaboration with the PRC Government.

II. In or about the Fall of 2015, SHI also touted CBMF to Company A as connected to HEU.

JJ. In December of 2015, when Company A employees visited the CBMF facility to further investigate whether to purchase macrospheres from CBMF, SHI stated that CBMF was a high profile project for the PRC Government, that the PRC Government had invested a lot in CBMF, and that China would not allow CBMF to fail.

KK. On or about October 24, 2016, PRC-Person 1, an unindicted co-conspirator, emailed SHI asking him to strengthen ties with Company A. PRC-Person 1 told SHI to find out whether CBMF could sell the Company A foam balls and the micro spheres, and they they need to know Company A's moves in order to adjust CBMF's business strategy.

### **Rig Contract**

LL. In or about September or October of 2016, SHI traveled to China to present CBMF's technical capabilities to a CNOOC subsidiary, in response to a request for proposal for repair of drill riser buoyancy modules on an oil rig ("Rig Contract").

MM. On or about December 29, 2016, HUANG forwarded an email to SHI to LIU, which was an email from the CNOOC subsidiary with technical blueprints for the request for proposal, which included information that some of the foam needed to be functional at depths of more than 1,000 meters with a density lighter than 561 kg/m<sup>3</sup>,

NN. On or about January 18, 2017, after agents from the Department of Commerce notified SHI about export law rules pertaining to syntactic foam, SHI confirmed with BO that if the formula was outside of a certain range, they had to apply for a permit to export the formula to the PRC.

OO. On or about January 19, 2017, SHI informed the Department of Commerce that he would study the email with BO, and would advise if there were any questions, referencing an email SHI received from the Department of Commerce providing attached export control information and stating that technology related

to the development, production, or use of syntactic foam at specified levels would require a license for export,

PP. On or about between January 2017 and February 15, 2017, CBMF, CBMI, SHI, LIU, and other members of the conspiracy, both known and unknown to the grand jury, continued to work on the Rig Contract.

#### **CBMI Bid**

QQ. On or about May 15, 2017, LIU provided to BO a list of projects that CBMI had previously completed, including Autonomous Underwater Vehicle (“AUV”) research for HEU, and other syntactic foam projects for CSIC and CNOOC. Line 1 of the list of projects was “AUV Research” for HEU.

RR. On or about May 15, 2017, BO, SHI, and LIU submitted a CBMI bid on a contract for the next generation of commercial Remote Operated Vehicles (“ROV”) for U.S. Company D, a corporation. CBMI’s bid included the previously referenced list of projects that CBMF had completed. The contract required that the ROVs had to attain depths of 4,000-6,000 meters and that the foam had to have a density less than 550 kg/m<sup>3</sup>.

SS. On or about May 22, 2017, Shi sent an email to HUANG, stating that CBMI would be meeting to bid for the Company D project, and that CBMI had been asked to provide testimonials or references from previous syntactic foam customers referred to in the May 15, 2017 list of projects.

TT. On or about May 23, 2017, SHI, LIU, and U.S. Person 4 traveled to Washington, D.C. in order to present CBMI’s bid.

UU. On or about May 23, 2017, in the District of Columbia, SHI, LIU and U.S. Person 4 provided a briefing of CBMF and CBMI's capabilities to U.S. Company E, an entity purporting to represent U.S. Company D, as part of CBMF and CBMI's bid for the U.S. Company D project.

VV. On or about May 23, 2017, in the District of Columbia, during the briefing, LIU and SHI discussed CBMF and CBMI's previous projects. LIU stated the project closest to the specifications requested by Company D was a deepwater project for CNOOC that involved providing syntactic foam.

WW. On or about May 23, 2017, in the District of Columbia, during the powerpoint presentation of previous projects, LIU noted a photo of steel buoys containing syntactic foam produced by CBMF. LIU stated "I don't know if we can put it there [in the powerpoint], it's military use." When asked to clarify if LIU meant the Chinese military, LIU laughed and said "skip it." SHI stated "We try not to work for the military."

XX. On or about May 23, 2017, HUANG sent to SHI photographs of the AUV built for HEU and listed in line 1 of the list of projects, which appear to be related to the project described in paragraph 38 QQ. A logo on the AUV is for KLSTND, which is further described in paragraph 2.

**(Conspiracy to Commit Theft of Trade Secrets, pursuant to Title 18, United States Code, Section 1832(a)(5))**

**COUNT TWO**

**(Conspiracy to Commit Economic Espionage)**

39. The allegations in Paragraphs 1 through 33, and 36 through 38 (including the Overt Acts, and the Ways, Manners and Means) of this Indictment are incorporated and re-alleged by reference herein.

40. Beginning on a date unknown to the Grand Jury but at least by, in or about March 2012, and continuing until on or about May 23, 2017, in the District of Columbia, and elsewhere, the defendants, SHI, LIU, CBMF, CBMI, and others both known and unknown to the grand jury did knowingly and willfully combine, conspire, confederate, and agree with each other, and others known and unknown to the Grand Jury, to commit the following offenses:

A. Intending and knowing that the offense will benefit any foreign government, foreign instrumentality, and foreign agent, knowingly steal, and without authorization appropriate, take, carry away, and conceal, and by fraud, artifice, and deception obtain a trade secret, in violation of Title 18, United States Code, Section 1831(a)(1);

B. Intending and knowing that the offense will benefit any foreign government, foreign instrumentality, and foreign agent, knowingly, and without authorization copy, duplicate, sketch, draw, photograph, download, upload, alter, destroy, photocopy, replicate, transmit, deliver, send, mail, communicate, or convey a trade secret in violation of Title 18, United States Code, Section 1831(a)(2); and

C. Intending and knowing that the offense will benefit any foreign

government, foreign instrumentality, and foreign agent, knowingly receive, buy, or possess a trade secret, knowing the same to have been stolen or appropriated, obtained, or converted without authorization, in violation of Title 18, United States Code, Section 1831(a)(3).

**(Conspiracy to Commit Economic Espionage, pursuant to Title 18, United States Code, Section 1831(a)(5))**

**OBJECTS OF THE CONSPIRACY**

41. The objects of the conspiracy were:
- A. To appropriate trade secrets belonging to Company A for the benefit of the PRC;
  - B. To replicate trade secrets belonging to Company A for the benefit of the PRC; and
  - C. To receive and possess trade secrets belonging to Company A for the benefit of the PRC.

**COUNT THREE**

**(Conspiracy to Launder Monetary Instruments)**

**THE CONSPIRACY**

42. The allegations in Paragraphs 1 through 33, and 36 through 38 of Count One of this Indictment, including the Overt Acts, and the Ways, Manner and Means, are incorporated and re-alleged by reference herein.

43. Beginning as early as in or around 2014, the exact date being unknown to the Grand Jury, and continuing through in or around May 2017, within the extraterritorial jurisdiction of the

United States, the District of Columbia, and elsewhere, defendants SHAN SHI, CBMF, CBMI, and others known to the grand jury did knowingly, combine, conspire, confederate and agree with others, known and unknown to the Grand Jury, to violate Title 18, United States Code, Section 1956(a)(2)(A), that is, to transport, transmit, and transfer and attempt to transport, transmit, and transfer, monetary instruments and funds to or through a place in the United States from or through a place outside the United States, that is, China, with the intent to promote the carrying on of specified unlawful activities, that is, violations of 18 U.S.C. §§ 1831-1832 (relating to economic espionage and theft of trade secrets).

#### **THE OBJECTS OF THE CONSPIRACY**

44. The objects of the conspiracy were:
- A. to promote the co-conspirators' illegal scheme; and
  - B. to illegally enrich the co-conspirators.

#### **MANNER AND MEANS OF THE CONSPIRACY**

45. The manner and means by which SHI, CBMF, CBMI, and other co-conspirators sought to accomplish the objects of the conspiracy included, among others, the following:
- A. SHI, CBMF, CBMI, and others known and unknown to the grand jury planned and acted outside of the United States to acquire U.S.-origin technology from U.S. companies.
  - B. SHI, CBMF, CBMI, and others known and unknown to the grand jury did this by stealing trade secrets. Such technology was ultimately destined to the PRC.
  - C. CBMF wired money from accounts outside the United States to accounts of CBMI inside the United States, to promote this scheme.

46. It was part of the conspiracy that SHI, CBMF, CBMI, and other co-conspirators known and known to the grand jury engaged in illegal financial transactions totaling at least \$3,109,738.67 involving the above-identified criminally-derived property, by wiring funds into the United States to promote the theft of trade secrets. The list of transactions at paragraph 38 a) are incorporated herein.

**(Conspiracy to Launder Monetary Instruments, in violation of Title 18, United States Code, Section 1956(h).)**

### **FORFEITURE ALLEGATION**

1. Upon conviction of either offense alleged in Count One or Count Two, the defendants shall forfeit to the United States: (a) any article, the making or trafficking of which is prohibited by 18 U.S.C. §§ 1831, 1832, (b) any property used, or intended to be used, in any manner or part to commit or facilitate the commission of the offense alleged in Count One or Count Two; and (c) any property constituting or derived from any proceeds obtained directly or indirectly as a result of the commission of the offense alleged in Count One or Count Two, pursuant to 18 U.S.C. § 2323; and (d) any property, real or personal, which constitutes or is derived from proceeds traceable to these offenses, pursuant to 18 U.S.C. § 981(a)(1)(C) and 28 U.S.C. § 2461(c). The United States will also seek a forfeiture money judgment against the defendants of at least \$3,109,738.67.

2. Upon conviction of the offense alleged in Count Three, the defendants shall forfeit to the United States any property, real or personal, involved in such offense, or any property traceable to such property, pursuant to 18 U.S.C. § 982(a)(1). The United States will also seek a forfeiture money judgment against the defendant of at least \$3,109,738.67.4. The Grand Jury finds

by probable cause that the following specific properties are subject to forfeiture upon conviction of the offense alleged in Counts One through Three:

A. real property located at 7 Buckingham Court, Houston, Texas, with all appurtenances, improvements, and attachments thereon, and is more fully described as: Lot 7, of Buckingham Court, a subdivision in Harris County, Texas, according to the map and plat thereof, recorded in Film Code No. 347064 of the map records of Harris County, Texas;

B. real property located at 13601 Farm To Market 529, Houston, Texas, with all appurtenances, improvements, and attachments thereon, and is more fully described as – a tract of land containing 2.5727 acres of land (112,067 sq.ft.) out of the Charles Scarbrough survey, Abstract No. 718, being a portion of a 4.000 acre tract of land as recorded under Harris County Clerk’s file No. (CCFN) 20100135228 of the official public records of Harris County, Texas;

C. any and all funds in Bank of America account 586035464818;

D. any and all funds in Bank of America account 586033253050; and

E. any and all funds in Bank of America account 586033316528.

3. If any of the property described above as being subject to forfeiture, as a result of any act or omission of the defendant:

A. cannot be located upon the exercise of due diligence;

B. has been transferred or sold to, or deposited with, a third party;

C. has been placed beyond the jurisdiction of the Court;

D. has been substantially diminished in value; or

E. has been commingled with other property that cannot be divided without difficulty;

the defendant shall forfeit to the United States any other property of the defendant, up to the value of the property described above, pursuant to 21 U.S.C. § 853(p).

**(Criminal Forfeiture**, pursuant to Title 18, United States Code, Sections 981(a)(1)(C), 982, and 2323; Title 21, United States Code, Section 853(p); and Title 28, United States Code, Section 2461(c).)

A TRUE BILL

FOREPERSON

  
Attorney of the United States in  
and for the District of Columbia