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**UNITED STATES**  
**SECURITIES AND EXCHANGE COMMISSION**  
Washington, D.C. 20549

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**FORM SD**

**SPECIALIZED DISCLOSURE REPORT**  
**CONFLICT MINERALS**

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**TTM TECHNOLOGIES, INC.**

(Exact name of the registrant as specified in its charter)

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**Delaware**  
(State or other jurisdiction  
of incorporation or organization)

**0-31285**  
(Commission  
File Number)

**91-1033443**  
(IRS Employer  
Identification No.)

**1665 Scenic Avenue, Suite 250**  
**Costa Mesa, California**  
(Address of principal executive offices)

**92626**  
(Zip code)

**Daniel J. Weber**  
**(314) 746-2087**  
(Name and telephone number, including area code, of  
the person to contact in connection with this report.)

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Check the appropriate box to indicate the rule pursuant to which this form is being filed, and provide the period to which the information in this form applies:

☒ Rule 13p-1 under the Securities Exchange Act (17 CFR 240.13p-1) for the reporting period from January 1, 2016 to December 31, 2016.

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**Section 1. Conflict Minerals Disclosure****Item 1.01 Conflict Minerals Disclosure and Report****(c) Conflict Minerals Report**

In accordance with Rule 13p-1 under the Securities Exchange Act of 1934, as amended, and the instructions to Form SD, and the Public Statement on the Effect of the Recent Court of Appeals Decision on the Conflict Minerals Rule issued by the Director of the Division of Corporation Finance of the Securities and Exchange Commission on April 29, 2014, TTM Technologies, Inc. (the “Company”) is filing with this Form SD a Conflict Minerals Report, which is attached hereto as Exhibit 1.01 and incorporated herein by reference.

The Company’s Statement on its Conflict Minerals Policy and this Form SD, including the Company’s Conflict Minerals Report, are available on the Company’s website at [www.ttm.com/about/about\\_ethics\\_governance.aspx](http://www.ttm.com/about/about_ethics_governance.aspx). The content of our website as referred to in this Form and Report is included for general information only and is not incorporated by reference herein.

**Item 1.02 Exhibit**

The Conflict Minerals Report required by Item 1.01 is filed as Exhibit 1.01 to this Form SD.

**Section 2. Exhibits****Item 2.01 Exhibits**

Exhibit 1.01 – Conflict Minerals Report as required by Items 1.01 and 1.02 of this Form.

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## SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the duly authorized undersigned.

TTM TECHNOLOGIES, INC.

By: /s/ Daniel J. Weber

Name: Daniel J. Weber

Title: Senior Vice President, General Counsel and  
Secretary

May 30, 2017

## **Exhibit 1.01 Conflict Minerals Report**

This is the Conflict Minerals Report of TTM Technologies, Inc. (the “Company” or “TTM”) for the calendar year 2016 (ended December 31, 2016) in accordance with Rule 13p-1 (“Rule 13p-1”) under the Securities Exchange Act of 1934 (the “1934 Act”), the instructions to Form SD. Please refer to Rule 13p-1, Form SD and the 1934 Act Release No. 34-67716 for definitions to the terms used in this Report, unless otherwise defined herein.

Rule 13p-1 and Form SD require the disclosure of certain information if a company manufactures or contracts to manufacture products for which certain “Conflict Minerals” (as defined below) are present in the products and necessary to the functionality of such products. Form SD defines “Conflict Minerals” as: i)(a) columbite-tantalite (or coltan, the metal ore from which tantalum is extracted), (b) cassiterite (the metal ore from which tin is extracted), (c) gold and (d) wolframite (the metal ore from which tungsten is extracted), or their derivatives, which are currently limited to tantalum, tin and tungsten; or ii) any other mineral or its derivatives determined by the U.S. Secretary of State to be financing conflict in the Democratic Republic of the Congo (“DRC”) or an adjoining country (collectively, the “Covered Countries”).

### **(1) Product Description**

TTM is leading global printed circuit board (“PCB”) manufacturer, focusing on quick-turn and volume production of technologically complex PCBs and electro-mechanical solutions (“E-M Solutions”). The Company provides time-to-market and volume production of advanced technology products and offer a one-stop manufacturing solution to our customers from engineering support to prototype development through final mass production. The Company serves a diversified customer base in various markets throughout the world, including manufacturers of networking/communications infrastructure products, smartphones and touchscreen tablets, as well as aerospace and defense, automotive, high-end computing, and medical, industrial and instrumentation related products. The Company’s customers include both original equipment manufacturers (“OEMs”) and electronic manufacturing services (“EMS”) providers.

As a company whose business is the manufacturing and assembly of PCBs and E-M Solutions, TTM is several levels removed from the actual mining and refining of Conflict Minerals. TTM does not purchase raw ore or unrefined Conflict Minerals and makes no direct purchases in the Covered Countries.

Our customers, who may also have a responsibility to conduct due diligence as to the source of Conflict Minerals used in their products, frequently specify the exact materials and components we use, and in many cases specify the suppliers from which we source these minerals and components. As a result, we are limited in our ability to exercise discretion in sourcing certain materials and components. Similarly, our ability to influence the supply chain practices of suppliers selected by our customers is limited. Thus, our ability to change the sourcing of our Conflict Minerals depends on our customers’ selections of suppliers and designs.

### **(2) Due Diligence in Accordance with the Organization for Economic Cooperation and Development (the “OECD”) 5-Step Framework**

TTM has processes in place for the purpose of exercising due diligence over its supply chain as it relates to minerals from conflict-affected and high risk areas. The design of the due diligence processes conforms substantially to the OECD Due Diligence Guidance for Responsible Supply Chains of Minerals from Conflict-Affected and High-Risk Areas and the related Supplements for gold and for tin, tantalum and tungsten (the “OECD Guidance”) as it relates to “downstream” purchasers of products and components. The due diligence processes have been described below under sub-headings corresponding to the five-step framework of the OECD Guidance.

#### **Step 1 – *Establish Strong Company Management Systems***

- 1.1 TTM has adopted a Conflict Minerals Policy and Statement (the “Policy”). A copy of the Policy, together with a copy of this Form SD and Conflict Minerals Report, can be found on the Company’s website at [www.ttm.com/about/about\\_ethics\\_governance.aspx](http://www.ttm.com/about/about_ethics_governance.aspx). The content of our website as referred to in this Form and Report is included for general information only and is not incorporated by reference herein. In accordance with the Policy, TTM is continuing to review its suppliers’ declarations and has sought their cooperation and assistance in ensuring that the Conflict Minerals used in TTM products are sourced reliably and responsibly. However, as noted in the Policy and above, TTM’s purchasing decisions are limited by the level of cooperation it receives from suppliers in sourcing responsibly from non-conflict areas.

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- 1.2 TTM has a Conflict Minerals Steering Committee (Steering Committee) to review and enhance the cross-functional working group (the “Working Group”) tasked with developing policies and procedures consistent with the OECD Guidance.
  - 1.3 In accordance with the requirements of Rule 13p-1 and the instructions to Form SD, the Working Group annually reviews the Company’s PCB and E-M Solution products, all of which are manufactured to customer specifications, to determine if they contain Conflict Minerals necessary to the products’ generally expected functions, use, purpose or production.
  - 1.4 The Working Group concluded that the bare PCBs may contain either gold or tin in surface finishes, and the E-M Solutions products manufactured in 2016 may contain any of the four Conflict Minerals in components.

*Step 2 – Identify and Assess Risks in the Supply Chain*

- 2.1 The Working Group has identified the suppliers of the materials and components that contain Conflict Minerals in TTM’s products and conducted a supply-chain survey to obtain source smelter identification from its suppliers of Conflict Minerals using the standard conflict minerals reporting template (“CMRT”) published by the Conflict Free Sourcing Initiative (“CFSI”) (formerly the Electronic Industry Citizenship Coalition and Global e-Sustainability Initiative (“EICC-GeSI”).
- 2.2 The CMRT was distributed to all identified suppliers of components or materials containing Conflict Minerals to determine the country of origin of the Conflict Minerals contained therein; whether such Conflict Minerals were sourced from recycled or scrap materials; or whether such Conflict Minerals were otherwise outside of the supply chain as of December 31, 2016. The CMRT requested information on Conflict Minerals in components or materials supplied to TTM during calendar year 2016 and contained representations as to the source and origin of the necessary Conflict Minerals contained in the relevant products.
- 2.3 In addition to identifying suppliers of Conflict Minerals to the Company and collecting supply-chain smelter information, TTM’s diligence measures included requesting suppliers to declare if any Conflict Minerals contained in their products originated in the Covered Countries.
- 2.4 The Company believes that complete information was received from all identified suppliers to its PCB products (which represents 92.2% of the 2016 revenues of the Company). However, many suppliers to TTM’s much smaller EM Solutions business (which represents 7.8% of the 2016 revenues of the Company) reported that their supply chain information was incomplete. TTM continues to seek complete and accurate information from its E-M Solutions business Conflict Minerals supply chain sources from its suppliers for its E-M Solutions business.
- 2.5 The Company became a member of CFSI during 2016 to improve its timely access to global Conflict Minerals smelter information.
- 2.6 Smelters and refiners identified in the supply-chain survey were checked against CFSI provided smelter information to determine the status of their Conflict Minerals related sourcing activities.

*Step 3 – Design and Implement a Strategy to Respond to Identified Risks*

- 3.1 Changes to the status of the identified TTM PCB supply chain smelters were monitored regularly. All identified PCB sourcing concerns were addressed through outreach to the relevant members of TTM’s supply chain. There were cases during the reporting year where supply chain changes were related to conflict minerals sourcing. In such cases, TTM reached out to our direct supply chain and they reported modifying their sourcing in response.
- 3.2 Changes to the status of the identified TTM E-M Solutions supply chain smelters were only monitored for solder sourcing and there were no recorded cases where intervention occurred during the reporting year. All other raw materials used to manufacture customer parts are subject to strict controls from TTM’ customers, were not subject to TTM discretionary change, and were therefore not included in any ongoing monitoring or outreach program.

3.3 After reviewing supply chain and other identified publicly available information, the Company believes that some portion of the tantalum, tin, tungsten and gold in our supply chain may have been mined in covered countries. Grouped by metal, the following is our best estimate of the smelter, and smelter location that may have contributed conflict minerals from covered countries to our supply chain during the 2016 calendar year:

Gold	Argor-Heraeus S.A.	– Switzerland
Gold	Zhongyuan Gold Smelter of Zhongjin Gold Corporation	– China
Gold	Metalor Technologies (Hong Kong) Ltd.	– China
Gold	Mitsui Mining and Smelting Co., Ltd.	– Japan
Gold	PAMP S.A.	– Switzerland
Gold	Rand Refinery (Pty) Ltd.	– South Africa
Gold	Shandong Zhaojin Gold & Silver Refinery Co., Ltd.	– China
Gold	The Refinery of Shandong Gold Mining Co., Ltd.	– China
Gold	Western Australian Mint (T/a The Perth Mint)	– Australia
Tantalum	Changsha South Tantalum Niobium Co., Ltd.	– China
Tantalum	Conghua Tantalum and Niobium Smeltry	– China
Tantalum	Duoluoshan	– China
Tantalum	Exotech Inc.	– United States of America
Tantalum	F&X Electro-Materials Ltd.	– China
Tantalum	FIR Metals & Resource Ltd.	– China
Tantalum	Global Advanced Metals Aizu	– Japan
Tantalum	Global Advanced Metals Boyertown	– United States of America
Tantalum	Guangdong Zhiyuan New Material Co., Ltd.	– China
Tantalum	H.C. Starck Co., Ltd.	– Thailand
Tantalum	H.C. Starck Tantalum and Niobium GmbH	– Germany
Tantalum	H.C. Starck Surface Technology and Ceramic Powders GmbH	– Germany
Tantalum	H.C. Starck Hermsdorf GmbH	– Germany
Tantalum	H.C. Starck Inc.	– United States of America
Tantalum	H.C. Starck Ltd.	– Japan
Tantalum	H.C. Starck Smelting GmbH & Co. KG	– Germany
Tantalum	Hengyang King Xing Lifeng New Materials Co., Ltd.	– China
Tantalum	Hi-Temp Specialty Metals, Inc.	– United States of America
Tantalum	JiuJiang JinXin Nonferrous Metals Co., Ltd.	– China
Tantalum	Jiujiang Nonferrous Metals Smelting Company Limited	– China
Tantalum	KEMET Blue Metals	– Mexico
Tantalum	KEMET Blue Powder	– United States of America
Tantalum	Mitsui Mining and Smelting Co., Ltd.	– Japan
Tantalum	Ningxia Orient Tantalum Industry Co., Ltd.	– China
Tantalum	Plansee SE Liezen <sup>1</sup>	– Austria
Tantalum	Power Resources Ltd.	– Macedonia, The Former Yugoslav Republic of
Tantalum	Taki Chemical Co., Ltd.	– Japan

Tantalum	Telex Metals	– United States of America
Tantalum	Ulba Metallurgical Plant JSC	– Kazakhstan
Tantalum	Yichun Jin Yang Rare Metal Co., Ltd.	– China
Tantalum	Zhuzhou Cemented Carbide Group Co., Ltd.	– China
Tin	Alpha	– United States of America
Tin	EM Vinto	– Bolivia, Plurinational State of
Tin	Gejiu Non-Ferrous Metal Processing Co., Ltd.	– China
Tin	Malaysia Smelting Corporation (MSC)	– Malaysia
Tin	Metallo Belgium N.V.	– Belgium
Tin	O.M. Manufacturing (Thailand) Co., Ltd.	– Thailand
Tin	Thaisarco	– Thailand
Tin	Yunnan Tin Company Limited	– China
Tungsten	A.L.M.T. TUNGSTEN Corp.	– Japan
Tungsten	Asia Tungsten Products Vietnam Ltd.	– Viet Nam
Tungsten	Vietnam Youngsun Tungsten Industry Co., Ltd.	– Viet Nam
Tungsten	Wolfram Bergbau und Hutten AG	– Austria
Tungsten	Xiamen Tungsten (H.C.) Co., Ltd.	– China

<sup>1</sup> Ceased recognized smelter operations during 2016.

No information obtained by TTM indicated that any of the conflict minerals from the smelters listed above were financed by or benefited armed groups that operate in the covered countries of the DRC region.

- 3.4 As noted above, the Company's supply chain survey did not yield complete source-smelter information from a number of customer-specified suppliers of Conflict Minerals for TTM's E-M Solutions products. The Company is continuing its efforts to work with such suppliers to ensure complete information is provided to the Company, including the country of origin of the relevant Conflict Minerals and the identity of the source smelters used to process the minerals. As additional information is obtained, the Company will undertake to determine whether such smelters have been certified by CFSI as "conflict-free" or otherwise. In connection with such continuing diligence, the Company intends to increase education of and outreach to its suppliers.

#### Step 4 – Carry Out Independent Third-Party Audit (IPSA) of Smelter/Refiner's Due Diligence Practices

- 4.1 TTM supports the CFSI conflict free smelter program as well as the development and implementation of due diligence practices and tools such as the CMRT. TTM analyzed the data received on smelters and refiners and compared such information against the list of facilities that have received a "conflict free" designation from the CFSI. However, due to the structure of the Company's supply chain as noted in the Policy and above, there are generally multiple tiers of suppliers between TTM and the smelters and refiners in the supply chain, and TTM does not purchase raw ore or unrefined Conflict Minerals or make any direct purchases in the Covered Countries. Therefore, as contemplated by the OECD Guidance for "downstream" companies, TTM has not performed its own audits of smelters or refiners. TTM will obtain an IPSA as and when required by Form SD.

#### Step 5 – Report Annually on Supply Chain Due Diligence

- 5.1 TTM submitted its Form SD with Exhibit 1.01 for the reporting period ended December 31, 2015 to the SEC and posted same on TTM's external web site on May 26, 2016.

#### (3) Products

The Company has identified the following products that may contain Conflict Minerals necessary to the functionality or production of products manufactured, or contracted to manufacture:

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As noted in section (1) above, TTM products are the following:

1. Bare PCBs fabricated to customer specifications, including procurement of heat sinks and their attachments, where applicable, and
2. E-M Solutions including printed circuit assemblies assembled to customer specified bills of materials using customer controlled components from customer approved vendor lists and any other products assembled to customer design and using customer specified suppliers.

Appendix I contains a listing of smelters provided by TTM's PCB supply chain for the reporting period. With the exception of the two indicated smelters that were subsequently removed from TTM's PCB supply chain, all are currently recognized as CFSI compliant or DRC Conflict Free.

Likewise, Appendix II is a listing of smelters reported by the Company's E-M Solutions supply chain. The supply chain data quality associated with the customer specified parts and components contained in these parts appears to be significantly less robust. Some smelters names provided may not be actual smelters and some names provided are recognized as not currently participating in any internationally recognized Conflict Free Smelter Program. TTM will continue to encourage customers to choose known Conflict Free sources as opportunities allow.

#### (4) Summary

TTM's reasonable country of origin inquiry is based on third party audit information and, to the extent that audited information is not available, it draws on additional information that TTM and others have collected. To the extent reasonably possible, TTM has documented the country of origin of identified smelters and refiners based on information from the CFSI, surveys of smelters and refiners, and/or third party reviews of publicly available information. However, some country of origin information has not been audited by a third party because, among other reasons, applicable smelters and refiners have gone out of operation before completing a third party audit, smelters and refiners have not gone through a third party audit, or the third party audit does not yet include reporting of country of origin information. TTM believes that the applicable conflict minerals smelters for 100% of its PCB product supplies have been identified, but available supplier information indicates that this is not yet true for its E-M Solutions products. Nevertheless, based on the information provided by TTM's suppliers, smelters, and refiners, as well as from the CFSI and other sources, TTM believes that the Conflict Minerals contained in its products were processed in the countries listed in the Annexes below and has indicated where the smelters have previously been audited by CFSI and found to be sourcing conflict free, or are working with CFSI to be audited in the future.

TTM's customers, who may also have a responsibility to conduct due diligence as to the source of Conflict Minerals used in their products, frequently specify the exact materials, components and suppliers we use, which limits our ability to exercise discretion in sourcing certain materials and components, and our ability to influence the supply chain practices of suppliers. Accordingly, the Company's success in making determinations about the potential presence of Conflict Minerals in its products depends upon various factors including, but not limited to, (i) the respective due diligence efforts of its suppliers and their supply chain; (ii) such suppliers' respective willingness, whether public or private entities, to disclose such information to the Company; and (iii) the ability of the involved entities to make their determinations in accordance with nationally or internationally recognized standards, including the Guidance provided by the OECD. The failure to obtain reliable information from any level of TTM's supply chain could have a material impact on the Company's future ability to report on the presence of Conflict Minerals with any degree of certainty. There can be no assurance that the Company's suppliers will continue to cooperate with diligence inquiries and requests for certifications or provide documentation or other evidence that TTM considers reliable or in a time frame sufficient to allow the Company to make its own assessment following appropriate further diligence measures, if any.

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#### Appendix I

Conflict minerals smelters for PCB global operations reported by supply chain for 2016

#### Appendix II

Conflict minerals smelters for E-M Solutions global operations reported by supply chain for 2016



**Conflict Minerals Sources to TTM PCB Global Operations  
2016**

<b>Metal</b>	<b>Metal Total</b>	<b>Smelter Name</b>	<b>Smelter Country</b>	<b>Validated CFS?</b>
Gold		Advanced Chemical Company	United States of America	Y
Gold		AngloGold Ashanti Córrego do Sítio Mineração	Brazil	Y
Gold		Argor-Heraeus S.A.	Switzerland	Y
Gold		Asahi Refining Canada Ltd.	Canada	Y
Gold		CCR Refinery—Glencore Canada Corporation	Canada	Y
Gold		China's Shandong Gold Mining Co., Ltd	China	Y
Gold		Elemetal Refining	United States of America	2
Gold		Henan Zhongyuan Gold Smelter of Zhongjin Gold Co. Ltd.	China	Y
Gold		Heraeus Ltd. Hong Kong	China	Y
Gold		Heraeus Precious Metals GmbH & Co. KG	Germany	Y
Gold		Johnson Matthey Inc. (USA)	United States of America	Y
Gold		Kennecott Utah Copper LLC	United States of America	Y
Gold		Metalor Technologies (Hong Kong) Ltd.	China	Y
Gold		Metalor Technologies (Singapore) Pte., Ltd.	Singapore	Y
Gold		Metalor Technologies S.A.	Switzerland	Y
Gold		Metalor USA Refining Corporation	United States of America	Y
Gold		Metalúrgica Met-Mex Peñoles S.A. De C.V.	Mexico	Y
Gold		PAMP S.A.	Switzerland	Y
Gold		Rand Refinery (Pty) Ltd.	South Africa	Y
Gold		Republic Metals Corporation	United States of America	Y
Gold		Royal Canadian Mint	Canada	Y
Gold		Shandong Zhaojin Gold & Silver Refinery Co., Ltd.	China	Y
Gold		Umicore Brasil Ltda.	Brazil	Y
Gold		Umicore S.A. Business Unit Precious Metals Refining	Belgium	Y
Gold		United Precious Metal Refining, Inc.	United States of America	Y
Gold		Valcambi S.A.	Switzerland	Y
Gold		Western Australian Mint trading as The Perth Mint	Australia	Y
<b>Gold</b>	<b>27</b>	<b>PCB Gold Source Smelters</b>		
Tin		Alpha	United States of America	Y
Tin		China Tin Group Co., Ltd.	China	Y
Tin		Cooper Santa	Brazil	Y
Tin		CV Ayi Jaya	Indonesia	Y
Tin		CV Tiga Sekawan	Indonesia	Y
Tin		CV United Smelting	Indonesia	Y
Tin		CV Venus Inti Perkasa	Indonesia	Y
Tin		ENAF	Bolivia, Plurinational State of	Y

Tin	Fenix Metals	Poland	Y
Tin	Gejiu Jinye Mineral Company	China	Y
Tin	Gejiu Non-Ferrous Metal Processing Co., Ltd.	China	Y
Tin	Malaysia Smelting Corporation (MSC)	Malaysia	Y
Tin	Metallic Resources, Inc.	United States of America	Y
Tin	Metallo-Chimique N.V.	Belgium	Y
Tin	Mineração Taboca S.A.	Brazil	Y
Tin	Minsur	Peru	Y
Tin	Mitsubishi Materials Corporation	Japan	Y
Tin	Operaciones Metalurgical S.A.	Bolivia, Plurinational State of	Y
Tin	PT Aries Kencana Sejahtera	Indonesia	Y
Tin	PT Artha Cipta Langgeng	Indonesia	Y
Tin	PT ATD Makmur Mandiri Jaya	Indonesia	Y
Tin	PT Babel Inti Perkasa	Indonesia	Y
Tin	PT Bangka Prima Tin	Indonesia	Y
Tin	PT Bangka Tin Industry	Indonesia	Y
Tin	PT Belitung Industri Sejahtera	Indonesia	Y
Tin	PT Bukit Timah	Indonesia	Y
Tin	PT DS Jaya Abadi	Indonesia	Y
Tin	PT Eunindo Usaha Mandiri	Indonesia	Y
Tin	PT Inti Stania Prima	Indonesia	Y
Tin	PT Lautan Harmonis Sejahtera	Indonesia	Y
Tin	PT Menara Cipta Mulia	Indonesia	Y
Tin	PT Mitra Stania Prima	Indonesia	Y
Tin	PT Prima Timah Utama	Indonesia	Y
Tin	PT Refined Bangka Tin	Indonesia	Y
Tin	PT Sariwiguna Binasentosa	Indonesia	Y
Tin	PT Stanindo Inti Perkasa	Indonesia	Y
Tin	PT Tambang Timah	Indonesia	Y
Tin	PT Timah (Persero) Tbk Mentok	Indonesia	Y
Tin	PT Tinindo Inter Nusa	Indonesia	Y
Tin	Rui Da Hung	Taiwan, Province of China	Y
Tin	Thaisarco	Thailand	Y
Tin	VQB Mineral and Trading Group JSC	Viet Nam	Y
Tin	White Solder Metalurgia e Mineração Ltda.	Brazil	Y
Tin	Yunnan Chengfeng Non-ferrous Metals Co., Ltd.	China	3
Tin	Yunnan Tin Company, Ltd.	China	Y
<b>Tin</b>	<b>45</b>	<b>PCB Tin Source Smelters</b>	
	<b>72</b>	<b>Total PCB Source Smelters</b>	

<sup>2</sup> Elemetal Refining was CFSI Compliant during 2016, but withdrew from the audit program effective 4/13/2017. Elemetal Refining is no longer considered CFSI compliant and was consequently removed from TTM's supply chain.

<sup>3</sup> Yunnan Chengfeng Non-ferrous Metals Co., Ltd was "Active" in the CFSI audit program in early 2016, and part of TTM's PCB supply chain until mid-year. The smelter was eliminated from TTM's supply chain for failure to complete their scheduled audit in a timely manner.

**Conflict Minerals Sources to E-M Solutions Global Operations  
2016**

<b>Metal</b>	<b>Metal Total</b>	<b>Smelter Name</b>	<b>Smelter Country</b>	<b>Validated CFS?</b>
Gold		Abington Reldan Metals, LLC	United States of America	
Gold		Advanced Chemical Company	United States of America	Y
Gold		Aida Chemical Industries Co., Ltd.	Japan	Y
Gold		Aktyubinsk Copper Company TOO	Kazakhstan	
Gold		Al Etihad Gold LLC	United Arab Emirates	Y
Gold		Allgemeine Gold-und Silberscheideanstalt A.G.	Germany	Y
Gold		Almalyk Mining and Metallurgical Complex (AMMC)	Uzbekistan	Y
Gold		AngloGold Ashanti Corrego do Sitio Mineracao	Brazil	Y
Gold		Argor-Heraeus S.A.	Switzerland	Y
Gold		Asahi Pretec Corp.	Japan	Y
Gold		Asahi Refining Canada Ltd.	Canada	Y
Gold		Asahi Refining USA Inc.	United States of America	Y
Gold		Asaka Riken Co., Ltd.	Japan	Y
Gold		Atasay Kuyumculuk Sanayi Ve Ticaret A.S.	Turkey	
Gold		AU Traders and Refiners	South Africa	Y
Gold		Audiua, Escardida	Chile	
Gold		AURA-II	United States of America	
Gold		Aurubis AG	Germany	Y
Gold		Austin Powder	Unknown	
Gold		Baiyin Nonferrous Metals Corporation (BNMC)	China	
Gold		Bangalore Refinery	India	Active
Gold		Bangko Sentral ng Pilipinas (Central Bank of the Philippines)	Philippines	Y
Gold		Bauer Walser AG	Germany	
Gold		Boliden AB	Sweden	Y
Gold		C. Hafner GmbH + Co. KG	Germany	Y
Gold		Caridad	Mexico	
Gold		CCR Refinery—Glencore Canada Corporation	Canada	Y
Gold		Cendres + Metaux S.A.	Switzerland	
Gold		CHANGCHENG GOLD AND SILVER REFINERY CO., LTD.	China	
Gold		Changsanjiao elc. Ltd	China	
Gold		Chimet S.p.A.	Italy	Y
Gold		China National Gold Group Corporation	China	
Gold		Chugai Mining	Japan	
Gold		Codelco	Chile	
Gold		Colt Refining	United States of America	
Gold		CORE PMG	Germany	
Gold		Daejin Indus Co., Ltd.	Korea, Republic of	Y
Gold		DaeryongENC	Korea, Republic of	
Gold		Daye Non-Ferrous Metals Mining Ltd.	China	
Gold		Deep Rich Material Technology Co., Ltd.	China	
Gold		Degussa	Germany	
Gold		Degussa Sonne / Mond Goldhandel GmbH	Germany	
Gold		DODUCO GmbH	Germany	Y
Gold		Dongguan CameroonChemical Materials Co., Ltd	China	
Gold		Dongguan Standard Electronic Material Co., Ltd	China	
Gold		Dongguanshi Sutande Dianzi Cailiao Youxiangongsi	China	
Gold		Dong-Wo Co., Ltd.	China	
Gold		Dowa	Japan	Y
Gold		DSC (Do Sung Corporation)	Korea, Republic of	Y
Gold		Dujinshui zhihuan fanying	China	
Gold		Eco-System Recycling Co., Ltd.	Japan	Y
Gold		Elemetal Refining, LLC	United States of America	4

Gold	Emirates Gold DMCC	United Arab Emirates	Y
Gold	Engelhard London	Unknown	
Gold	Faggi Enrico S.p.A.	Italy	
Gold	Feinhutte Halsbrucke GmbH	Germany	
Gold	Fidelity Printers and Refiners Ltd.	Zimbabwe	
Gold	Fujian Jinxin Tungsten Co., Ltd.	China	
Gold	Gansu Seemine Material Hi-Tech Co., Ltd.	China	
Gold	Gansu-based Baiyin Nonferrous Metals Corporation (BNMC)	China	
Gold	GCC Gujrat Gold Centre Pvt. Ltd.	India	
Gold	Geib Refining Corporation	United States of America	Y
Gold	Gejiu Kai Meng Industry and Trade LLC	China	
Gold	Gejiu Yunxi Group Corp.	China	
Gold	Gold Refinery of Zijin Mining Group Co., Ltd.	China	Y
Gold	Gong an ju	China	
Gold	Great Wall Precious Metals Co., Ltd. of CBPM	China	
Gold	Guang dong jin xian gao xin cai liao gong si	China	
Gold	Guangdong Hua Jian Trade Co., Ltd.	China	
Gold	Guangdong Jinding Gold Limited	China	
Gold	Guangdong macro jin precious metal smelting	China	
Gold	Guangzhou King's high-tech materials	China	
Gold	Guixi Smelter	China	
Gold	Guoda Safina High-Tech Environmental Refinery Co., Ltd.	China	
Gold	Hang Seng Technology	China	
Gold	Hangzhou Fuchunjiang Smelting Co., Ltd.	China	
Gold	Hanhua jinshu	China	
Gold	HeeSung Metal Ltd.	Korea, Republic of	Active
Gold	Heimerle + Meule GmbH	Germany	Y
Gold	HeNan LingBao Jin Kuan	China	
Gold	henan middle plain gold smelter	China	
Gold	Henan Province Sanmenxia City Gold Smelter	China	
Gold	Henan Yuguang Gold & Lead Co., Ltd.	China	
Gold	Henan Yuguang Gold and Lead Co., Ltd	China	
Gold	Heraeus Metals Hong Kong Ltd.	China	Y
Gold	Heraeus Precious Metals GmbH & Co. KG	Germany	Y
Gold	Hetai Gold Mineral Guangdong Co., Ltd.	China	
Gold	Honorable Hardware Craft Product Limited Company	China	
Gold	Hop Hing electroplating factory Zhejiang	China	
Gold	House of Currency of Brazil (Casa da Moeda do Brazil)	Brazil	
Gold	Hunan Chenzhou Mining Co., Ltd.	China	
Gold	HwaSeong CJ CO., LTD.	Korea, Republic of	
Gold	Inner Mongolia Qiankun Gold and Silver Refinery Share Co., Ltd.	China	Y
Gold	Inovan GmbH & Co.KG	Germany	
Gold	Ishifuku Metal Industry Co., Ltd.	Japan	Y
Gold	Island Gold Refinery	China	
Gold	Istanbul Gold Refinery	Turkey	Y
Gold	Italpreziosi	Italy	
Gold	Japan Mint	Japan	Y
Gold	Jiangxi Copper Co., Ltd.	China	Y
Gold	Jin Jinyin Refining Co., Ltd.	China	
Gold	Jinlong Copper Co., Ltd.	China	
Gold	JSC Ekaterinburg Non-Ferrous Metal Processing Plant	Russian Federation	Y
Gold	JSC Uralelectromed	Russian Federation	Y
Gold	JX Nippon Mining & Metals Co., Ltd.	Japan	Y
Gold	Kaloti Precious Metals	United Arab Emirates	
Gold	Kazakhmys Smelting LLC	Kazakhstan	
Gold	Kazzinc	Kazakhstan	Y
Gold	Kennecott Utah Copper LLC	United States of America	Y
Gold	KGHM Polska Miedz Spolka Akcyjna	Poland	Active
Gold	Kojima Chemicals Co., Ltd.	Japan	Y
Gold	Korea Metal Co., Ltd.	Korea, Republic of	
Gold	Korea Zinc Co., Ltd.	Korea, Republic of	Y
Gold	Kosak Seiren	Japan	
Gold	Kyrgyzaltyn JSC	Kyrgyzstan	Y
Gold	Kyshtym Copper-Electrolytic Plant ZAO	Russian Federation	
Gold	L'azurde Company For Jewelry	Saudi Arabia	
Gold	Lee Iken	Switzerland	

Gold	Lianqi Plating Ltd	Unknown	
Gold	LiBaoJia	China	
Gold	Lingbao Gold Co., Ltd.	China	
Gold	Lingbao Jinyuan Tonghui Refinery Co., Ltd.	China	
Gold	L'Orfebre S.A.	Andorra	
Gold	LS-NIKKO Copper Inc.	Korea, Republic of	Y
Gold	Luoyang Zijin Yinhui Gold Refinery Co., Ltd.	China	
Gold	Marsam Metals	Brazil	Active
Gold	Materion	United States of America	Y
Gold	Matsuda Sangyo Co., Ltd.	Japan	Y
Gold	Metahub Industries Sdn. Bhd.	Malaysia	
Gold	METALLI PREZIOSI S.p.A.	Italy	
Gold	Metallic Resources, Inc.	Unknown	
Gold	Metalor Technologies (Hong Kong) Ltd.	China	Y
Gold	Metalor Technologies (Singapore) Pte., Ltd.	Singapore	Y
Gold	Metalor Technologies (Suzhou) Ltd.	China	Y
Gold	Metalor Technologies S.A.	Switzerland	Y
Gold	Metalor USA Refining Corporation	United States of America	Y
Gold	Metalurgica Met-Mex Penoles S.A. De C.V.	Mexico	Y
Gold	Mitsubishi Materials Corporation	Japan	Y
Gold	Mitsui Mining and Smelting Co., Ltd.	Japan	Y
Gold	MMTC-PAMP India Pvt., Ltd.	India	Y
Gold	Modeltech Sdn Bhd	Malaysia	Active
Gold	Morris and Watson	New Zealand	
Gold	Morris and Watson Gold Coast	Australia	
Gold	Moscow Special Alloys Processing Plant	Russian Federation	Y
Gold	Nadir Metal Rafineri San. Ve Tic. A.S.	Turkey	Y
Gold	NanChuangshenghua NON-Ferrous meatal Alloy Factory	China	
Gold	Navoi Mining and Metallurgical Combinat	Uzbekistan	Active
Gold	Nihon Material Co., Ltd.	Japan	Y
Gold	Nihon Superior Co., Ltd.	Japan	
Gold	NORSUN CIRCUITED ENTERPRISE CO. LTD	China	
Gold	Nyrstar Metals	United States of America	
Gold	Ogussa Osterreichische Gold- und Silber-Scheideanstalt GmbH	Austria	Y
Gold	Ohura Precious Metal Industry Co., Ltd.	Japan	Y
Gold	OJSC "The Gulidov Krasnoyarsk Non-Ferrous Metals Plant" (OJSC Krastsvetmet)	Russian Federation	Y
Gold	OJSC Kolyma Refinery	Russian Federation	
Gold	OJSC Novosibirsk Refinery	Russian Federation	Y
Gold	PAMP S.A.	Switzerland	Y
Gold	Pease & Curren	United States of America	
Gold	Penglai Penggang Gold Industry Co., Ltd.	China	
Gold	Pogo Gold Mining	Unknown	
Gold	Precious Metals Sales Corp.	United States of America	
Gold	Prioksky Plant of Non-Ferrous Metals	Russian Federation	Y
Gold	PT Aneka Tambang (Persero) Tbk	Indonesia	Y
Gold	PT Bukit Timah	Indonesia	
Gold	PX Precinox S.A.	Switzerland	Y
Gold	Rand Refinery (Pty) Ltd.	South Africa	Y
Gold	Realized the Enterprise Co., Ltd.	China	
Gold	Remondis Argentia B.V.	Netherlands	
Gold	Republic Metals Corporation	United States of America	Y
Gold	Royal Canadian Mint	Canada	Y
Gold	Rui sheng	Indonesia	
Gold	SAAMP	France	Y
Gold	Sabin Metal Corp.	United States of America	
Gold	SAFINA A.S.	Czech Republic	Active
Gold	Sai Refinery	India	
Gold	Samduck Precious Metals	Korea, Republic of	Y
Gold	Samhwa non-ferrorus Metal ind.co.ltd	Korea, Republic of	
Gold	Samwon Metals Corp.	Korea, Republic of	
Gold	Sanmenxia Lingbao Jinyuan Mining Co., Ltd.	China	

Gold	SAXONIA Edelmetalle GmbH	Germany	Y
Gold	Schloetter Co Ltd	Germany	
Gold	Schone Edelmetaal B.V.	Netherlands	Y
Gold	SEMPSA Joyeria Plateria S.A.	Spain	Y
Gold	Shan Dong Huangjin	China	
Gold	Shan Tou Shi Yong Yuan Jin Shu Zai Sheng Co., Ltd.	China	
Gold	Shandon Jin Jinyin Refining Limited	China	
Gold	Shandong Guoda Gold Co., Ltd.	China	
Gold	Shandong Hengbang Smelter Co., Ltd.	China	
Gold	Shandong Jun Mai Fu	China	
Gold	Shandong penglai gold smelter	China	
Gold	Shandong Tiancheng Biological Gold Industrial Co., Ltd.	China	
Gold	Shandong Zhaojin Gold & Silver Refinery Co., Ltd.	China	Y
Gold	Shanghai Jinsha Shiye Co.,Ltd.	China	
Gold	Shanghai Yueqiang Metal Products Co., Ltd.	China	
Gold	Shengnan Metal Products Factory	China	
Gold	Shenzhen Fu Chun Company	China	
Gold	Shenzhen fujun material technology co.,ltd	China	
Gold	Shenzhen Heng Zhong Industry Co., Ltd.	China	
Gold	SHENZHEN KURIL METAL COMPANY	China	
Gold	Shenzhen Zhonghenglong Real Industry Co., Ltd.	China	
Gold	Shi Fu Metal Industrial	Japan	
Gold	Sichuan Tianze Precious Metals Co., Ltd.	China	Y
Gold	Singway Technology Co., Ltd.	Taiwan, Province of China	Y
Gold	Sino-Platinum Metals Co., Ltd.	China	
Gold	So Accurate Group, Inc.	United States of America	
Gold	SOE Shyolkovsky Factory of Secondary Precious Metals	Russian Federation	Y
Gold	Solar Applied Materials Technology Corp.	Taiwan, Province of China	Y
Gold	Stender Electronic Materials Co., Ltd.	China	
Gold	Sudan Gold Refinery	Sudan	
Gold	Sumitomo Metal Mining Co., Ltd.	Japan	Y
Gold	SungEel HiTech	Korea, Republic of	Y
Gold	Suntain Co., Ltd.	Unknown	
Gold	Super Dragon Technology Co., Ltd.	China	
Gold	SuZhou ShenChuang recycling Ltd.	China	
Gold	Suzhou University Special Chemical Reagent Co., Ltd	China	
Gold	T.C.A S.p.A	Italy	Y
Gold	Tai zhou chang san Jiao electron Co.,Ltd	China	
Gold	Taichang City Nancang Metal Material Co., Ltd.	China	
Gold	Tai'zhou City Yangtze River Delta Electron Ltd.	China	
Gold	Taizhou Delta Electronics Co., Ltd.	China	
Gold	Taizhou mayor triangle electronic Co., LTD	China	
Gold	Tanaka Kikinzoku Kogyo K.K.	Japan	Y
Gold	The Refinery of Shandong Gold Mining Co., Ltd.	China	Y
Gold	Tokuriki Honten Co., Ltd.	Japan	Y
Gold	Tong Ling Jin Dian Electrical Technology Co., Ltd.	China	
Gold	TONGDING METALLIC MATERIAL CO.LTD	China	
Gold	Tongling Nonferrous Metals Group Co., Ltd.	China	
Gold	Tony Goetz NV	Belgium	Active
Gold	TOO Tau-Ken-Altyn	Kazakhstan	
Gold	Torecom	Korea, Republic of	Y
Gold	Tsai Brother industries	Unknown	
Gold	Umicore Brasil Ltda.	Brazil	Y
Gold	Umicore Precious Metals Thailand	Thailand	Y
Gold	Umicore S.A. Business Unit Precious Metals Refining	Belgium	Y
Gold	UNIFORCE METAL INDUSTRIAL CORP.	Taiwan, Province of China	
Gold	United Precious Metal Refining, Inc.	United States of America	Y
Gold	Universal Precious Metals Refining Zambia	Zambia	
Gold	Valcambi S.A.	Switzerland	Y
Gold	Viagra Di precious metals (Zhaoyuan) Co., Ltd.	China	
Gold	Wam Technologies Taiwan Co., Ltd.	Taiwan, Province of China	
Gold	WANG TING	Hong Kong	
Gold	Western Australian Mint (T/a The Perth Mint)	Australia	Y
Gold	WIELAND Edelmetalle GmbH	Germany	Y

Gold		Worldtop	Unknown	
Gold		Wuxi City Precious Metal Electronic Material Fty	China	
Gold		WUXI YUNXI SANYE SOLDER FACTORY	China	
Gold		Wuzhong Group	China	
Gold		Xiamen Jinbo Metal Co., Ltd.	China	
Gold		Yamamoto Precious Metal Co., Ltd.	Japan	Y
Gold		Yamato Denki Ind. Co., Ltd.	Japan	
Gold		Yantai Zhaojin Lifu	China	
Gold		Yokohama Metal Co., Ltd.	Japan	Y
Gold		Yuh-Cheng Material Corporation	China	
Gold		Yunnan Copper Industry Co., Ltd.	China	
Gold		Zhaojun Maifu	China	
Gold		Zhaoyuan Li Fu Industrial	China	
Gold		ZHAOYUAN LIFUSHIYE Co., Ltd	China	
Gold		Zhe Jiang Guang Yuan Noble Metal Smelting Factory	China	
Gold		Zhongkuang Gold Industry Co., Ltd.	China	
Gold		Zhongshan Poison Material Proprietary Co., Ltd.	China	
Gold		Zhongyuan Gold Smelter of Zhongjin Gold Corporation	China	Y
Gold		Zhuhai toxic materials Monopoly Ltd.	China	
<b>Gold</b>	<b>262</b>	<b>E-M Solutions Gold Source Smelters</b>		
Tantalum		AMG (Advanced Metallurgical Group)	Brazil	
Tantalum		ANHUI HERRMAN IMPEX CO.	China	
Tantalum		Changsha South Tantalum Niobium Co., Ltd.	China	Y
Tantalum		Conghua Tantalum and Niobium Smeltry	China	Y
Tantalum		D Block Metals, LLC	United States of America	Y
Tantalum		Duoluoshan	China	Y
Tantalum		E.S.R. Electronics	United States of America	
Tantalum		Exotech Inc.	United States of America	Y
Tantalum		F&X Electro-Materials Ltd.	China	Y
Tantalum		FIR Metals & Resource Ltd.	China	Y
Tantalum		Global Advanced Metals	United States of America	
Tantalum		Global Advanced Metals Aizu	Japan	Y
Tantalum		Global Advanced Metals Boyertown	United States of America	Y
Tantalum		Guangdong Zhiyuan New Material Co., Ltd.	China	Y
Tantalum		Guizhou Zhenhua Xinyun Technology Ltd., Kaili branch	China	
Tantalum		H.C. Starck Co., Ltd.	Thailand	Y
Tantalum		H.C. Starck GmbH	Germany	
Tantalum		H.C. Starck Hermsdorf GmbH	Germany	Y
Tantalum		H.C. Starck Inc.	United States of America	Y
Tantalum		H.C. Starck Ltd.	Japan	Y
Tantalum		H.C. Starck Smelting GmbH & Co. KG	Germany	Y
Tantalum		H.C. Starck Surface Technology and Ceramic Powders GmbH	Germany	
Tantalum		H.C. Starck Tantalum and Niobium GmbH	Germany	Y
Tantalum		Hengyang King Xing Lifeng New Materials Co., Ltd.	China	Y
Tantalum		Hi-Temp Specialty Metals, Inc.	United States of America	Y
Tantalum		Hunan Chenzhou Mining Co., Ltd.	China	
Tantalum		Jiangxi Dinghai Tantalum & Niobium Co., Ltd.	China	Y
Tantalum		Jiangxi Tuohong New Raw Material	China	Y
Tantalum		JiuJiang JinXin Nonferrous Metals Co., Ltd.	China	Y
Tantalum		Jiujiang Nonferrous Metals Smelting Company Limited	China	Y
Tantalum		Jiujiang Zhongao Tantalum & Niobium Co., Ltd.	China	Y
Tantalum		KEMET Blue Metals	Mexico	Y
Tantalum		KEMET Blue Powder	United States of America	Y
Tantalum		King-Tan Tantalum Industry Ltd.	China	Y
Tantalum		LSM Brasil S.A.	Brazil	Y
Tantalum		Metallurgical Products India Pvt., Ltd.	India	Y
Tantalum		Mineracao Taboca S.A.	Brazil	Y
Tantalum		Mitsui Mining and Smelting Co., Ltd.	Japan	Y
Tantalum		Ningxia Orient Tantalum Industry Co., Ltd.	China	Y
Tantalum		NPM Silmet AS	Estonia	Y
Tantalum		Plansee SE	Austria	

Tantalum	Plansee SE Liezen	Austria	
Tantalum	Plansee SE Reutte	Austria	
Tantalum	Power Resources Ltd.	Macedonia, The Former Yugoslav Republico	Y
Tantalum	QuantumClean	United States of America	Y
Tantalum	Resind Industria e Comercio Ltda.	Brazil	Y
Tantalum	RFH Tantalum Smeltry Co., Ltd.	China	Y
Tantalum	Shanghai Jiangxi Metals Co., Ltd.	China	
Tantalum	Solikamsk Magnesium Works OAO	Russian Federation	Y
Tantalum	Taki Chemical Co., Ltd.	Japan	Y
Tantalum	Tantalite Resources	South Africa	
Tantalum	Telex Metals	United States of America	Y
Tantalum	Tranzact, Inc.	United States of America	
Tantalum	Ulba Metallurgical Plant JSC	Kazakhstan	Y
Tantalum	XinXing HaoRong Electronic Material Co., Ltd.	China	Y
Tantalum	Yichun Jin Yang Rare Metal Co., Ltd.	China	Y
Tantalum	Zhuzhou Cemented Carbide Group Co., Ltd.	China	Y
<b>Tantalum</b>	<b>57 E-M Solutions Tantalum Source Smelters</b>		
Tin	ACuPowder International, LLC	Unknown	
Tin	Alpha	United States of America	Y
Tin	Ami Bridge Enterprise Co., Ltd.	China	
Tin	An chen	China	
Tin	An Thai Minerals Co., Ltd.	Viet Nam	
Tin	An Vinh Joint Stock Mineral Processing Company	Viet Nam	
Tin	Angelcast Enterprise Co., Ltd.	China	
Tin	Arco Alloys	Unknown	
Tin	Assaf Conductors	Unknown	
Tin	Best Metais	Brazil	
Tin	Brinkmann Chemie AG	Germany	
Tin	CFC Cooperativa dos Fundidores de Cassiterita da Amazonia Ltda.	Brazil	
Tin	Chenzhou Yunxiang Mining and Metallurgy Co., Ltd.	China	Y
Tin	China Huaxi Group Nandan	China	
Tin	China Tin Group Co., Ltd.	China	Y
Tin	CNMC (Guangxi) PGMA Co., Ltd.	China	
Tin	Cooperativa Metalurgica de Rondonia Ltda.	Brazil	Y
Tin	CV Ayi Jaya	Indonesia	Y
Tin	CV Dua Sekawan	Indonesia	Y
Tin	CV Duta Putra Bangka	Indonesia	
Tin	CV Gita Pesona	Indonesia	Y
Tin	CV Makmur Jaya	Indonesia	
Tin	CV Serumpun Sebalai	Indonesia	Y
Tin	CV Tiga Sekawan	Indonesia	Y
Tin	CV United Smelting	Indonesia	Y
Tin	CV Venus Inti Perkasa	Indonesia	Y
Tin	Dae Chang Co., Ltd.	Korea, Republic of	
Tin	Dae Kil Metal Co., Ltd	Korea, Republic of	
Tin	Dongguan City up another metal copper processing plant	China	
Tin	Dongguan lason metel materials co.,Ltd	China	
Tin	Dongguan Yuecheng metal materials Co., Ltd.	China	
Tin	Dongrong	China	
Tin	Dowa	Japan	Y
Tin	Dr. soldering tin products Co., Ltd.	China	
Tin	Electro-Mechanical Facility of the Cao Bang Minerals & Metallurgy Joint Stock Company	Viet Nam	Active
Tin	EM Vinto	Bolivia, Plurinational State of	Y
Tin	Estanho de Rondonia S.A.	Brazil	
Tin	E-tech Philippines	Philippines	
Tin	Exim Americana	Mexico	
Tin	Feinhutte Halsbrucke GmbH	Germany	
Tin	Fenix Metals	Poland	Y
Tin	Fuji Metal Mining Corp.	Japan	
Tin	Gannan Tin Smelter	China	
Tin	Gejiu Fengming Metallurgy Chemical Plant	China	Y



Tin	GEJIU GOLD SMELTER MINERALS CO.,LTD	China	
Tin	Gejiu Jin Ye Mineral Co., Ltd.	China	
Tin	Gejiu Jinye Mineral Company	China	Y
Tin	Gejiu Kai Meng Industry and Trade LLC	China	Active
Tin	Gejiu Non-Ferrous Metal Processing Co., Ltd.	China	Y
Tin	Gejiu Shi	China	
Tin	GEJIU YE LIAN CHANG	China	
Tin	Gejiu Yunxi Group Corp.	China	
Tin	Gejiu Yunxin Nonferrous Electrolysis Co., Ltd.	China	Y
Tin	Gejiu Zili Mining And Metallurgy Co., Ltd.	China	
Tin	GEM TERMINAL CO.,LTD	China	
Tin	Gold Bell Group	China	
Tin	Gomat-e-K.	Japan	
Tin	Grik Perak Malaysia	Malaysia	
Tin	Guang Xi Hua Xi Corp	China	
Tin	Guang Zhou Hong Wuxi Products Limited	China	
Tin	GUANGDONG JIATIAN STANNUM PRODUCTS CO., LTD	China	
Tin	Guangxi huaxi group co., LTD	China	
Tin	Guangxi Jin Lian	China	
Tin	Guangxi Nonferrous Metals Group	China	
Tin	Guangxi Zhongshan Jin Yi Smelting Co., Ltd.	China	
Tin	GUANGZHOU PACIFIC TINPLATE CO.,LTD.	China	
Tin	Guanyang Guida Nonferrous Metal Smelting Plant	China	Y
Tin	Guixi Smelter	China	
Tin	Hai Yuxin Xi Zhuhai Co., Ltd.	China	
Tin	Handok	Korea, Republic of	
Tin	HeChi Metallurgical Chemical factory	China	
Tin	High-Power Surface Technology	China	
Tin	Hongqiao Metals (Kunshan) Co., Ltd.	China	
Tin	HuiChang Hill Tin Industry Co., Ltd.	China	Y
Tin	Huichang Jinshunda Tin Co., Ltd.	China	Active
Tin	Hulterworth Smelter	Japan	
Tin	Hunan Xianghualing tin	China	
Tin	IRM	Canada	
Tin		Taiwan, Province of	
Tin	Jau Janq Enterprise Co., Ltd.	China	
Tin	JiangXi JiaWang	China	
Tin	Jiangxi Jinshunda	China	
Tin	Jiangxi Ketai Advanced Material Co., Ltd.	China	Y
Tin	Jiangxi Shunda Huichang Kam Tin Co., Ltd.	China	
Tin	Jiangxi Yaosheng Tungsten Co., Ltd.	China	
Tin	Jin yi group	China	
Tin	JinDa Metal .Co.Ltd	China	
Tin	Ju Tai Industrial Co., Ltd.	China	
Tin	Kewei Tin Co.,Ltd	China	
Tin	KU PING ENTERPRISE CO., LTD.	China	
Tin	Kunshan into the solder manufacturing co., LTD	China	
Tin	Kunshan SLH solder Manufacturing Co., Ltd.	China	
Tin	Kunshan Xin Ding metal material Limited company	China	
Tin	Kunshan xiubo	China	
Tin	LANGFANG BONDTRON ELECTRONIC MATERIALS CO., LTD.	China	
Tin	LI CHUN METALS CO. LTD.	Unknown	
Tin	Linetech	Unknown	
Tin	Lingbao Jinyuan Tonghui Refinery Co., Ltd.	China	
Tin	Linqu Xianggui Smelter Co., Ltd.	China	
Tin	LIQIAO PLATING	China	
Tin	LMD	China	
Tin	Lübeck GmbH	Germany	
Tin	Ma On Shuguang Smelting Plant	China	
Tin	Maanshan Dongshen electronic material factory	China	
Tin	Magnu's Minerais Metais e Ligas Ltda.	Brazil	Y
Tin	Malaysia Smelting Corporation (MSC)	Malaysia	Y
Tin	MARCO METALES DE MEXICO,S. DE R.L. DE C.V.	Mexico	
Tin	Materials Eco-Refining Co., Ltd.	Japan	
Tin	Melt Metais e Ligas S.A.	Brazil	Y
Tin	MENG NENG	China	
Tin	Metahub Industries Sdn. Bhd.	Malaysia	
Tin	Metallic Resources, Inc.	United States of America	Y

Tin	Metallo Belgium N.V.	Belgium	Y
Tin	Metallo Spain S.L.U.	Spain	Y
Tin	Metallum Group Holding NV	Belgium	
Tin	Miller Company	Unknown	
Tin	Minchali Metal Industry Co., Ltd.	Taiwan, Province of	
Tin	Mineracao Taboca S.A.	China	
Tin	Ming Li Jia smelt Metal Factory	Brazil	Y
Tin	Minmetals Ganzhou Tin Co. Ltd.	China	
Tin	Minsur	China	
Tin	Misue Tin Smelter and Refinery	Peru	Y
Tin	Mits-Tec (Shanghai) Co. Ltd.	Peru	
Tin	Mitsubishi Materials Corporation	China	
Tin	Modeltech Sdn Bhd	Japan	Y
Tin	Nancang Metal Material Co.,Ltd	Malaysia	Active
Tin	Nankang Nanshan Tin Manufactory Co., Ltd.	China	
Tin	Nankang Nanshan Tin Manufactory Co., Ltd.	China	
Tin	NANTONG CHUN-YUAN ELECTRONICS CO.	China	Active
Tin	Ney Metals and Alloys	Indonesia	
Tin	Nghe Tinh Non-Ferrous Metals Joint Stock Company	Viet Nam	
Tin	Nihonhanda Co., Ltd.	Japan	
Tin	NINGBO CITY CHANGZHEN COPPER CO.,LTD	China	
Tin	NITAH	Indonesia	
Tin	Novosibirsk Processing Plant Ltd.	Russian Federation	
Tin	O.M. Manufacturing (Thailand) Co., Ltd.	Thailand	Y
Tin	O.M. Manufacturing Philippines, Inc.	Philippines	Y
Tin	Old City Metals Processing Co., Ltd.	China	
Tin	Operaciones Metalurgical S.A.	Bolivia, Plurinational	
Tin	Pan Light Corporation	State of	Y
Tin	Phoenix Metal Ltd.	Indonesia	
Tin	POONGSAN CORPORATION	Rwanda	
Tin	PRIME YOUNG METAL (ZHUHAI) IND.CO.,LTD	Korea, Republic of	
Tin	PT Alam Lestari Kencana	China	
Tin	PT Aries Kencana Sejahtera	Indonesia	
Tin	PT Artha Cipta Langgeng	Indonesia	Y
Tin	PT ATD Makmur Mandiri Jaya	Indonesia	Y
Tin	PT Babel Inti Perkasa	Indonesia	Y
Tin	PT Babel Surya Alam Lestari	Indonesia	
Tin	PT Bangka Kudai Tin	Indonesia	
Tin	PT Bangka Prima Tin	Indonesia	Y
Tin	PT Bangka Putra Karya	Indonesia	
Tin	PT Bangka Timah Utama Sejahtera	Indonesia	
Tin	PT Bangka Tin Industry	Indonesia	Y
Tin	PT Belitung Industri Sejahtera	Indonesia	Y
Tin	PT BilliTin Makmur Lestari	Indonesia	
Tin	PT Bukit Timah	Indonesia	Y
Tin	PT Cipta Persada Mulia	Indonesia	
Tin	PT DS Jaya Abadi	Indonesia	Y
Tin	PT Eunindo Usaha Mandiri	Indonesia	Y
Tin	PT Fang Di MulTindo	Indonesia	
Tin	PT HANJAYA PERKASA METALS	Indonesia	
Tin	PT HP Metals Indonesia	Indonesia	
Tin	PT Inti Stania Prima	Indonesia	Y
Tin	PT Justindo	Indonesia	
Tin	PT Karimun Mining	Indonesia	Y
Tin	PT Kijang Jaya Mandiri	Indonesia	Y
Tin	PT Koba Tin	Indonesia	
Tin	PT Lautan Harmonis Sejahtera	Indonesia	Y
Tin	PT Menara Cipta Mulia	Indonesia	Y
Tin	PT Mitra Stania Prima	Indonesia	Y
Tin	PT O.M. Indonesia	Indonesia	Y
Tin	PT Panca Mega Persada	Indonesia	Y
Tin	PT Pelat Timah Nusantara Tbk	Indonesia	
Tin	PT Prima Timah Utama	Indonesia	Y
Tin	PT Refined Bangka Tin	Indonesia	Y
Tin	PT Sariwiguna Binasentosa	Indonesia	Y
Tin	PT Seirama Tin Investment	Indonesia	
Tin	PT Singkep Times Utama	Indonesia	

Tin	PT Stanindo Inti Perkasa	Indonesia	Y
Tin	PT Sukses Inti Makmur	Indonesia	Y
Tin	PT Sumber Jaya Indah	Indonesia	Y
Tin	PT Supra Sukses Trinusa	Indonesia	
Tin	PT Timah (Persero) Tbk Kundur	Indonesia	Y
Tin	PT Timah (Persero) Tbk Mentok	Indonesia	Y
Tin	PT Tinindo Inter Nusa	Indonesia	Y
Tin	PT Tirus Putra Mandiri	Indonesia	
Tin	PT Tommy Utama	Indonesia	Y
Tin	PT Wahana Perkit Jaya	Indonesia	
Tin	PT Yinchendo Mining Industry	Indonesia	
Tin	Resind Industria e Comercio Ltda.	Brazil	Y
Tin	Rui Da Hung	Taiwan, Province of China	Y
Tin	S. Izaguirre	Spain	
Tin	Seju Industry	Japan	
Tin	Semco	Unknown	
Tin	Shan Tou Shi Yong Yuan Jin Shu Zai Sheng Co., Ltd.	China	
Tin	Shen zhen qi xiang da hua gong gong si	China	
Tin	Shen Zhen Rui Yun Feng Industry Co.,Ltd	China	
Tin	Shenzhen Anchen Solder Tin Product Co., Ltd.	China	
Tin	Shenzhen Hong Chang Metal Manufacturing Factory	China	
Tin	Shenzhen keaixin Technology	China	
Tin	Shenzhen Qi Xiang da Hua Gong Gong Si	China	
Tin	Shenzhen Red Cloud Crown Tin Ltd.	China	
Tin	Shenzhen Yi Cheng Industrial	China	
Tin	Sichuan Guanghan Jiangnan casting smelters	China	
Tin	Soft Metais Ltda.	Brazil	Y
Tin	Solnet Metal Industry Co., Ltd.	Malaysia	
Tin	Super Ligas	Brazil	
Tin	Suzhou Co. Ltd.	China	
Tin	Suzhou Nuonengda Chemical Co., Ltd.	China	
Tin	Taicang City Nancang Metal Material Co., Ltd.	China	
Tin	Taiwan high-tech Co., Ltd.	Taiwan, Province of China	
Tin	Taiwan Huanliang	Indonesia	
Tin	Taiwan qinggao qiye you xian gong si	Taiwan, Province of China	
Tin	Thaisarco	Thailand	Y
Tin	Three green surface technology limited company	China	
Tin	Tianshui Ling Bo Technology Co., Ltd.	China	
Tin	TIN PLATING GEJIU	China	
Tin	Top-Team Technology (Shenzhen) Ltd.	China	
Tin	Tuyen Quang Non-Ferrous Metals Joint Stock Company	Viet Nam	
Tin	UNIFORCE METAL INDUSTRIAL CORP.	Taiwan, Province of China	
Tin	Untracore Co., Ltd.	Singapore	
Tin	VQB Mineral and Trading Group JSC	Viet Nam	Y
Tin	Wang Yu Manufacturing Co., Ltd.	China	
Tin	Westmetall GmbH & Co. KG	Germany	
Tin	White Solder Metalurgia e Mineracao Ltda.	Brazil	Y
Tin	WONIL METAL Co., Ltd.	Korea, Republic of	
Tin	Wu Xi Shi Yi Zheng Ji Xie She Bei Company	China	
Tin	Wuxi Lantronic Electronic Co Ltd	China	
Tin	Xia Yi Metal Industries (shares) Co., Ltd.	China	
Tin	Xianghualing Tin Minerals	China	
Tin	Xin Furukawa Metal ( Wuxi ) Co., Ltd.	China	
Tin	Yao Zhang	China	
Tin	Yifeng Tin	China	
Tin	Yiquan Manufacturing	China	
Tin	Yunnan Chengfeng Non-ferrous Metals Co., Ltd.	China	5
Tin	Yunnan Chengo Electric Smelting Plant	China	
Tin	Yunnan Industrial Co., Ltd.	China	
Tin	Yunnan Tin Company Limited	China	Y
Tin	Yunnan Xi YE	China	
Tin	Zhangzhou Xiangcheng Hongyu Building	China	
Tin	ZHEJIANG HUANGYAN XINQIAN ELECTRICAL	China	
Tin	ZHEJIANG KEYU METAL MATERIAL CO.,LTD	China	
Tin	ZHEJIANG STRONG SOLDER MATERIALS	China	
Tin	Zhuhai Horyison Solder Co., Ltd.	China	

Tin		Zhuhai Quanjia	China	
Tin		Zu Hai Haiyuxin Tin Products Co., Ltd.	China	
<b>Tin</b>	<b>246</b>	<b>E-M Solutions Tin Source Smelters</b>		
Tungsten		A.L.M.T. TUNGSTEN Corp.	Japan	Y
Tungsten		ACL Metais Eireli	Brazil	Active
Tungsten		Asia Tungsten Products Vietnam Ltd.	Viet Nam	Y
Tungsten		ASSAB	Singapore	
Tungsten		Chenzhou Diamond Tungsten Products Co., Ltd.	China	Y
Tungsten		Chongyi Zhangyuan Tungsten Co., Ltd.	China	Y
Tungsten		Chunbao Carbide Science & Technology Co., Ltd.	Unknown	
Tungsten		DaeguTec Ltd.	Korea, Republic of	
Tungsten		DAIDO STEEL	Japan	
Tungsten		Dayu Jincheng Tungsten Industry Co., Ltd.	China	
Tungsten		Dayu Weiliang Tungsten Co., Ltd.	China	
Tungsten		Degutea	Korea, Republic of	
Tungsten		Fujian Jinxin Tungsten Co., Ltd.	China	Y
Tungsten		Ganxian Shirui New Material Co., Ltd.	China	
Tungsten		Ganzhou Grand Sea W & Mo Group Co., Ltd.	China	
Tungsten		Ganzhou Haichuang Tungsten Co., Ltd.	China	Active
Tungsten		Ganzhou Huaxing Tungsten Products Co., Ltd.	China	Y
Tungsten		Ganzhou Jiangwu Ferrotungsten Co., Ltd.	China	Y
Tungsten		Ganzhou Non-ferrous Metals Smelting Co., Ltd.	China	
Tungsten		Ganzhou Seadragon W & Mo Co., Ltd.	China	Y
Tungsten		Ganzhou Yatai Tungsten Co., Ltd.	China	
Tungsten		Global Tungsten & Powders Corp.	United States of America	Y
Tungsten		Guangdong Xianglu Tungsten Co., Ltd.	China	Y
Tungsten		H.C. Starck Group	Germany	
Tungsten		H.C. Starck Smelting GmbH & Co. KG	Germany	Y
Tungsten		H.C. Starck Tungsten GmbH	Germany	Y
Tungsten		Heyuan Carbide Co LTD	China	
Tungsten		Hunan Chenzhou Mining Co., Ltd.	China	Y
Tungsten		Hunan Chuangda Vanadium Tungsten Co., Ltd. Wuji	China	Y
Tungsten		Hunan Chuangda Vanadium Tungsten Co., Ltd. Yanglin	China	
Tungsten		Hunan Chunchang Nonferrous Metals Co., Ltd.	China	Y
Tungsten		Hydrometallurg, JSC	Russian Federation	Y
Tungsten		Japan New Metals Co., Ltd.	Japan	Y
Tungsten		Jiangsu Hetian Sci-Tech Material Co., Ltd.	China	
Tungsten		Jiangwu H.C. Starck Tungsten Products Co., Ltd.	China	Y
Tungsten		Jiangxi Dayu Longxintai Tungsten Co., Ltd.	China	
Tungsten		Jiangxi Gan Bei Tungsten Co., Ltd.	China	Y
Tungsten		Jiangxi Minmetals Gao'an Non-ferrous Metals Co., Ltd.	China	
Tungsten		Jiangxi Richsea New Materials Co., Ltd.	China	
Tungsten		Jiangxi Tonggu Non-ferrous Metallurgical & Chemical Co., Ltd.	China	Y
Tungsten		Jiangxi Xinsheng Tungsten Industry Co., Ltd.	China	Y
Tungsten		Jiangxi Xiushui Xianggan Nonferrous Metals Co., Ltd.	China	Y
Tungsten		Jiangxi Yaosheng Tungsten Co., Ltd.	China	Y
Tungsten		Kennametal Fallon	United States of America	Y
Tungsten		Kennametal Huntsville	United States of America	Y
Tungsten		Luoyang Mudu Tungsten & Molybdenum Technology Co., Ltd.	China	
Tungsten		Malipo Haiyu Tungsten Co., Ltd.	China	Y
Tungsten		Moliren Ltd.	Russian Federation	Y
Tungsten		Niagara Refining LLC	United States of America	Y
Tungsten		Nippon Tungsten Co., Ltd	Japan	
Tungsten		Nui Phao H.C. Starck Tungsten Chemicals Manufacturing LLC	Viet Nam	Y
Tungsten		Philippine Chuangxin Industrial Co., Inc.	Philippines	Y
Tungsten		Pobedit, JSC	Russian Federation	
Tungsten		Sanher Tungsten Vietnam Co., Ltd.	Viet Nam	
Tungsten		South-East Nonferrous Metal Company Limited of Hengyang City	China	Y
Tungsten		Taichang City Nancang Metal Material Co.,Ltd	China	
Tungsten		Tejing (Vietnam) Tungsten Co., Ltd.	Viet Nam	Y
Tungsten		Toshiba Material Co., Ltd.	China	
Tungsten		Unecha Refractory metals plant	Russian Federation	Y

Tungsten		Unknown	India	
Tungsten		Viet Nam Youngsun Tungsten Industry Co., Ltd.	Viet Nam	Y
Tungsten		Wolfram Bergbau und Hutten AG	Austria	Y
Tungsten		WOLFRAM Company CJSC	Russian Federation	
Tungsten		Woltech Korea Co., Ltd.	Korea, Republic of	Y
Tungsten		Xiamen Tungsten (H.C.) Co., Ltd.	China	Y
Tungsten		Xiamen Tungsten Co., Ltd.	China	Y
Tungsten		Xinfeng Huarui Tungsten & Molybdenum New Material Co., Ltd.	China	Y
Tungsten		Xinhai Rendan Shaoguan Tungsten Co., Ltd.	China	Y
Tungsten		Zhangzhou Chuen Bao Apt Smeltery Co., Ltd.	China	
Tungsten		Zhuzhou Cemented Carbide Group Co., Ltd.	China	
<b>Tungsten</b>	<b>70</b>	<b>E-M Solutions Tungsten Source Smelters</b>		
	<b>635</b>	<b>Total E-M Solutions Source Smelters</b>		

4 Elemetal Refining was CFSI Compliant during 2016, but withdrew from the audit program effective 4/13/2017.

5 Yunnan Chengfeng Non-ferrous Metals Co., Ltd was “Active” in the CFSI audit program in early 2016. The smelter was dropped from the CFSI program for failure to complete their scheduled audit in a timely manner.