ELECTRONIC MANUFACTURING SERVICES & ORIGINAL DESIGN MANUFACTURING
Sustainability Accounting Standard

Sustainable Industry Classification System™ (SICS™) #TC0101

Prepared by the Sustainability Accounting Standards Board®

April 2014
Provisional Standard
ELECTRONIC MANUFACTURING SERVICES & ORIGINAL DESIGN MANUFACTURING

Sustainability Accounting Standard

About SASB

The Sustainability Accounting Standards Board (SASB) provides sustainability accounting standards for use by publicly-listed corporations in the U.S. in disclosing material sustainability issues for the benefit of investors and the public. SASB standards are designed for disclosure in mandatory filings to the Securities and Exchange Commission (SEC), such as the Form 10-K and 20-F. SASB is an independent 501(c)3 non-profit organization and is accredited to set standards by the American National Standards Institute (ANSI).

SASB is developing standards for more than 80 industries in 10 sectors. SASB’s standards-setting process includes evidence-based analysis with in-depth industry research and engagement with a broad range of stakeholders. The end result of this process is the creation of a complete, industry-specific accounting standard which accurately reflects the material issues for each industry.

SUSTAINABILITY ACCOUNTING STANDARDS BOARD

75 Broadway, Suite 202
San Francisco, CA 94111
415.830.9220
info@sasb.org

www.sasb.org

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Table of Contents

**Introduction** .................................................................................................................. 1

- Purpose & Structure .................................................................................................................. 1
- Industry Description ................................................................................................................... 1
- Guidance for Disclosure of Material Sustainability Topics in SEC filings ................................. 2
- Guidance on Accounting of Material Sustainability Topics .................................................. 4
- Users of the SASB Standards .................................................................................................. 4
- Scope of Disclosure ................................................................................................................... 5
- Reporting Format ....................................................................................................................... 5
- Timing ........................................................................................................................................ 6
- Limitations ................................................................................................................................. 6
- Forward Looking Statements ..................................................................................................... 7
- Assurance ................................................................................................................................... 7

**Material Sustainability Topics & Accounting Metrics** ............................................................ 8

- Water & Waste Management in Manufacturing ....................................................................... 9
- Fair Labor Practices .................................................................................................................... 11
- Product Lifecycle Management .................................................................................................. 15
- Supply Chain Management & Materials Sourcing ...................................................................... 19
INTRODUCTION

Purpose & Structure

This document contains the SASB Sustainability Accounting Standard (SASB Standard) for Electronic Manufacturing Services & Original Design Manufacturing.

SASB Standards are comprised of (1) disclosure guidance and (2) accounting standards on sustainability topics for use by U.S. and foreign public companies in their annual filings (Form 10-K or 20-F) with the U.S. Securities and Exchange Commission (SEC). To the extent relevant, SASB Standards may also be applicable to other periodic mandatory filings with the SEC, such as the Form 10-Q, Form S-1, and Form 8-K.

SASB’s disclosure guidance identifies sustainability topics at an industry level, which may be material—depending on a company’s specific operating context—to a company within that industry.

Each company is ultimately responsible for determining which information is material and is therefore required to be included in its Form 10-K or 20-F and other periodic SEC filings.

SASB’s accounting standards provide companies with standardized accounting metrics to account for performance on industry-level sustainability topics. When making disclosure on sustainability topics, companies adopting SASB’s accounting standards will help to ensure that disclosure is standardized and therefore useful, relevant, comparable and auditable.

Industry Description

The Electronic Manufacturing Services (EMS) & Original Design Manufacturing (ODM) industry consists of two main segments. EMS companies provide assembly, logistics, and after-market services for original equipment manufacturers. The ODM segment of the industry provides engineering and design services for original equipment manufacturers and may own significant intellectual property. Companies typically operate and sell products globally. Although EMS & ODM companies produce equipment for a variety of sectors, the industry is closely associated with the Technology Hardware industry.
Guidance for Disclosure of Material Sustainability Topics in SEC filings

1. Industry-Level Material Sustainability Topics

For the Electronic Manufacturing Services & Original Design Manufacturing industry, SASB has identified the following material sustainability topics:

- Water & Waste Management in Manufacturing
- Fair Labor Practices
- Product Lifecycle Management
- Supply Chain Management & Materials Sourcing

2. Company-Level Determination and Disclosure of Material Sustainability Topics

Sustainability disclosures are governed by the same laws and regulations that govern disclosures by securities issuers generally. According to the U.S. Supreme Court, a fact is material if, in the event such fact is omitted from a particular disclosure, there is “a substantial likelihood that the disclosure of the omitted fact would have been viewed by the reasonable investor as having significantly altered the ‘total mix’ of the information made available”.¹,²

SASB has attempted to identify those sustainability topics that it believes may be material for all companies within each SICS industry. SASB recognizes, however, that each company is ultimately responsible for determining what is material to it.

Regulation S-K, which sets forth certain disclosure requirements associated with Form 10-K and other SEC filings, requires companies, among other things, to describe in the Management’s Discussion and Analysis of Financial Condition and Results of Operations (MD&A) section of Form 10-K “any known trends or uncertainties that have had or that the registrant reasonably expects will have a material favorable or unfavorable impact on net sales or revenues or income from continuing operations. If the registrant knows of events that will cause a material change in the relationship between costs and revenues (such as known future increases in costs of labor or materials or price increases or inventory adjustments), the change in the relationship shall be disclosed.”²

Furthermore, Instructions to Item 303 state that the MD&A “shall focus specifically on material events and uncertainties known to management that would cause reported financial information not to be necessarily indicative of future operating results or of future financial condition.”²

In determining whether a trend or uncertainty should be disclosed, the SEC has stated that management should use a two-part assessment based on probability and magnitude:

- First, a company is not required to make disclosure about a known trend or uncertainty if its management determines that such trend or uncertainty is not reasonably likely to occur.

- If a company's management cannot make a reasonable determination of the likelihood of an event or uncertainty, then disclosure is required unless management determines that a material effect on the registrant's financial condition or results of operation is not reasonably likely to occur.

3. Sustainability Accounting Standard Disclosures in Form 10-K

a. Management's Discussion and Analysis

Companies should consider making disclosure on sustainability topics as a complete set in the MD&A, in a sub-section titled "Sustainability Accounting Standards Disclosures."

b. Other Relevant Sections of Form 10-K

In addition to the MD&A section, companies should consider disclosing sustainability information in other sections of Form 10-K, as relevant, including:

• **Description of business**—Item 101 of Regulation S-K requires a company to provide a description of its business and its subsidiaries. Specifically Item 101(c)(1)(xii) expressly requires disclosure regarding certain costs of complying with environmental laws:

> Appropriate disclosure also shall be made as to the material effects that compliance with Federal, State and local provisions which have been enacted or adopted regulating the discharge of materials into the environment, or otherwise relating to the protection of the environment, may have upon the capital expenditures, earnings and competitive position of the registrant and its subsidiaries.

• **Legal proceedings**—Item 103 of Regulation S-K requires companies to describe briefly any material pending or contemplated legal proceedings. Instructions to Item 103 provide specific disclosure requirements for administrative or judicial proceedings arising from laws and regulations targeting discharge of materials into the environment or primarily for the purpose of protecting the environment.

• **Risk factors**—Item 503(c) of Regulation S-K requires filing companies to provide a discussion of the most significant factors that make an investment in the registrant speculative or risky, clearly stating the risk and specifying how a particular risk affects the particular filing company

c. **Rule 12b-20**

Securities Act Rule 408 and Exchange Act Rule 12b-20 require a registrant to disclose, in addition to the information expressly required by law or regulation, “such further material information, if any, as may be necessary to make the required statements, in light of the circumstances under which they are made, not misleading.”

More detailed guidance on disclosure of material sustainability topics can be found in the [SASB Conceptual Framework](http://www.sasb.org/approach/conceptual-framework/), available for download via http://www.sasb.org/approach/conceptual-framework/.

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3 SEC [Release Nos. 33-8056; 34-45321; FR-61] Commission Statement about Management's Discussion and Analysis of Financial Condition and Results of Operations: “We also want to remind registrants that disclosure must be both useful and understandable. That is, management should provide the most relevant information and provide it using language and formats that investors can be expected to understand. Registrants should be aware also that investors will often find information relating to a particular matter more meaningful if it is disclosed in a single location, rather than presented in a fragmented manner throughout the filing.”
Guidance on Accounting of Material Sustainability Topics

For material sustainability topics in the Electronic Manufacturing Services & Original Design Manufacturing industry, SASB identifies accounting metrics.

SASB recommends that each company consider using these sustainability accounting metrics when disclosing its performance with respect to each of the sustainability topics it has identified as material.

As appropriate—and consistent with Rule 12b-20⁴—for each sustainability topic, companies should consider including a narrative description of any material factors necessary to ensure completeness, accuracy and comparability of the data reported. Where not addressed by the specific accounting metrics, but relevant, the registrant should discuss the following related to the topic:

• the registrant’s **strategic approach** to managing performance on material sustainability issues;

• the registrant’s **competitive positioning**;

• the **degree of control** the registrant has;

• any **measures the registrant has undertaken** or **plans to undertake** to improve performance; and

• data for registrant’s **last three completed fiscal years** (when available).

SASB recommends that registrants use SASB Standards specific to their primary industry as identified in the Sustainable Industry Classification System (SiCSTM). If a registrant generates significant revenue from multiple industries, SASB recommends that it consider the materiality of the sustainability issues that SASB has identified for those industries and disclose the associated SASB accounting metrics.

Users of the SASB Standards

The SASB Standards are intended for companies that engage in public offerings of securities registered under the Securities Act of 1933 (the Securities Act) and those that issue securities registered under the Securities Exchange Act of 1934 (the Exchange Act)⁵, for use in SEC filings, including, without limitation, annual reports on Form 10-K (Form 20-F for foreign issuers), quarterly reports on Form 10-Q, current reports on Form 8-K, and registration statements on Forms S-1 and S-3. Nevertheless, disclosure with respect to the SASB Standards is not required or endorsed by the SEC or other entities governing financial reporting, such as FASB, GASB, or IASB

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⁴ SEC Rule 12b-20: “In addition to the information expressly required to be included in a statement or report, there shall be added such further material information, if any, as may be necessary to make the required statements, in the light of the circumstances under which they are made not misleading.”

⁵ Registration under the Securities Exchange Act of 1934 is required (1) for securities to be listed on a national securities exchange such as the New York Stock Exchange, the NYSE Amex and the NASDAQ Stock Market or (2) if (A) the securities are equity securities and are held by more than 2,000 persons (or 500 persons who are not accredited investors) and (B) the company has more than $10 million in assets.
Scope of Disclosure

Unless otherwise specified, SASB recommends:

• That a registrant disclose on sustainability issues and metrics for itself and for entities in which the registrant has a controlling interest and therefore are consolidated for financial reporting purposes (controlling interest is generally defined as ownership of 50% or more of voting shares);6

• That for consolidated entities, disclosures be made, and accounting metrics calculated, for the whole entity, regardless of the size of the minority interest; and

• That information from unconsolidated entities not be included in the computation of SASB accounting metrics. A registrant should disclose, however, information about unconsolidated entities to the extent that such registrant considers the information necessary for investors to understand its performance with respect to sustainability issues (typically this disclosure would be limited to risks and opportunities associated with these entities).

Reporting Format

Activity Metrics and Normalization

SASB recognizes that normalizing accounting metrics is important for the analysis of SASB disclosures.

SASB recommends that a registrant disclose any basic business data that may assist in the accurate evaluation and comparability of disclosure, to the extent that they are not already disclosed in the Form 10-K (e.g., revenue, EBITDA, etc.).

Such data – termed “activity metrics” – may include high-level business data such as total number of employees, quantity of products produced or services provided, number of facilities, or number of customers. It may also include industry-specific data such as plant capacity utilization (e.g., for specialty chemical companies), number of transactions (e.g., for internet media and services companies), hospital bed days (e.g., for health care delivery companies), or proven and probable reserves (e.g., for oil and gas exploration and production companies).

Activity metrics disclosed should:

• Convey contextual information that would not otherwise be apparent from SASB accounting metrics.

• Be deemed generally useful for users of SASB accounting metrics (e.g., investors) in performing their own calculations and creating their own ratios.

• Be explained and consistently disclosed from period to period to the extent they continue to be relevant – however, a decision to make a voluntary disclosure in one period does not obligate a continuation of that disclosure if it is no longer relevant or if a better metric becomes available.

6 See US GAAP consolidation rules (Section 810).
Where relevant, SASB recommends specific activity metrics that – at a minimum – should accompany SASB accounting metric disclosures.

<table>
<thead>
<tr>
<th>ACTIVITY METRIC</th>
<th>CATEGORY</th>
<th>UNIT OF MEASURE</th>
<th>CODE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of manufacturing facilities</td>
<td>Quantitative</td>
<td>Number</td>
<td>TC0101-A</td>
</tr>
<tr>
<td>Total square footage of manufacturing facilities</td>
<td>Quantitative</td>
<td>Square footage</td>
<td>TC0101-B</td>
</tr>
<tr>
<td>Number of employees</td>
<td>Quantitative</td>
<td>Number</td>
<td>TC0101-C</td>
</tr>
</tbody>
</table>

**Units of Measure**

Unless specified, disclosures should be reported in International System of Units (SI units).

**Uncertainty**

SASB recognizes that there may be inherent uncertainty when disclosing certain sustainability data and information. This may be related to variables like the imperfectness of third-party reporting systems or the unpredictable nature of climate events. Where uncertainty around a particular disclosure exists, SASB recommends that the registrant should consider discussing its nature and likelihood.

**Estimates**

SASB recognizes that scientifically-based estimates, such as the reliance on certain conversion factors or the exclusion of *de minimis* values, may be necessary for certain quantitative disclosures. Where appropriate, SASB does not discourage the use of such estimates. When using an estimate for a particular disclosure, SASB expects that the registrant discuss its nature and substantiate its basis.

**Timing**

Unless otherwise specified, disclosure shall be for the registrant’s fiscal year.

**Limitations**

There is no guarantee that SASB Standards address all sustainability impacts or opportunities associated with a sector, industry, or company and, therefore, a company must determine for itself the topics—sustainability-related or otherwise—that warrant discussion in its SEC filings.
Disclosure under SASB Standards is voluntary. It is not intended to replace any legal or regulatory requirements that may be applicable to user operations. Where such laws or regulations address legal or regulatory topics, disclosure under SASB Standards is not meant to supersede those requirements. Disclosure according to SASB Standards shall not be construed as demonstration of compliance with any law, regulation, or other requirement.

SASB Standards are intended to be aligned with the principles of materiality enforced by the SEC. However, SASB is not affiliated with or endorsed by the SEC or other entities governing financial reporting, such as FASB, GASB, or IASB.

Forward Looking Statements

Disclosures on sustainability topics can involve discussion of future trends and uncertainties related to the registrant’s operations and financial condition, including those influenced by external variables (e.g., environmental, social, regulatory and political). Companies making such disclosures should familiarize themselves with the safe harbor provisions of Section 27A of the Securities Act and Section 21E of the Exchange Act, which preclude civil liability for material misstatements or omissions in such statements if the registrant takes certain steps, including, among other things, identifying the disclosure as forward looking and accompanying such disclosure with “meaningful cautionary statements identifying important factors that could cause actual results to differ materially from those in the forward-looking statements.”

Assurance

In reporting on SASB Standards, it is expected that registrants report with the same level of rigor, accuracy, and responsibility as all other information contained in their SEC filings.

SASB encourages registrants to use independent assurance (attestation), for example, an Examination Engagement to AT Section 701.
### Table 1. Material Sustainability Topics & Accounting Metrics

<table>
<thead>
<tr>
<th>TOPIC</th>
<th>ACCOUNTING METRIC</th>
<th>CATEGORY</th>
<th>UNIT OF MEASURE</th>
<th>CODE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water &amp; Waste Management in Manufacturing</td>
<td>Total water withdrawn, percentage recycled, percentage in regions with High or Extremely High Baseline Water Stress</td>
<td>Quantitative</td>
<td>Cubic meters (m³), Percentage (%)</td>
<td>TC0101-01</td>
</tr>
<tr>
<td></td>
<td>Amount of hazardous waste from manufacturing, percentage recycled</td>
<td>Quantitative</td>
<td>Tons (t), Percentage (%)</td>
<td>TC0101-02</td>
</tr>
<tr>
<td>Fair Labor Practices</td>
<td>(1) Total Recordable Injury Rate and (2) Near Miss Frequency Rate for (a) full time employees and (b) contract employees</td>
<td>Quantitative</td>
<td>Rate</td>
<td>TC0101-03</td>
</tr>
<tr>
<td></td>
<td>Number and total duration of work stoppages(^7)</td>
<td>Quantitative</td>
<td>Number, Worker days</td>
<td>TC0101-04</td>
</tr>
<tr>
<td></td>
<td>Percentage of (a) facilities and (b) suppliers facilities audited in the EICC Validated Audit Process (VAP) or to an equivalent social and environmental responsibility code of conduct</td>
<td>Quantitative</td>
<td>Percentage (%) of facilities</td>
<td>TC0101-05</td>
</tr>
<tr>
<td></td>
<td>Social and environmental responsibility audit compliance for (a) registrant and (b) suppliers: (1) priority non-conformance rate and associated corrective action rate, and (2) other non-conformances rate and associated corrective action rate</td>
<td>Quantitative</td>
<td>Rate in number per facility</td>
<td>TC0101-06</td>
</tr>
<tr>
<td>Product Lifecycle Management</td>
<td>Percentage of products by revenue that contain IEC 62474 declarable substances(^8)</td>
<td>Quantitative</td>
<td>Percentage (%) by revenue ($)</td>
<td>TC0101-07</td>
</tr>
<tr>
<td></td>
<td>Percentage of eligible products by revenue meeting the requirements for EPEAT(^9) certification or equivalent</td>
<td>Quantitative</td>
<td>Percentage (%) by revenue ($)</td>
<td>TC0101-08</td>
</tr>
<tr>
<td></td>
<td>Weight of end-of-life materials recovered, percentage of recovered materials that are recycled</td>
<td>Quantitative</td>
<td>Tons (t), Percentage (%)</td>
<td>TC0101-09</td>
</tr>
<tr>
<td>Supply Chain Management &amp; Materials Sourcing</td>
<td>Percentage of products by revenue that contain critical materials</td>
<td>Quantitative</td>
<td>Percentage (%) by revenue ($)</td>
<td>TC0101-10</td>
</tr>
<tr>
<td></td>
<td>Percentage of tungsten, tin, tantalum, and gold smelters within the supply chain that are verified conflict-free</td>
<td>Quantitative</td>
<td>Percentage (%)</td>
<td>TC0101-11</td>
</tr>
<tr>
<td></td>
<td>Discussion of the management of risks associated with the use of critical materials and conflict minerals</td>
<td>Discussion and Analysis</td>
<td>n/a</td>
<td>TC0101-12</td>
</tr>
</tbody>
</table>

\(^7\) Note to **TC0101-04** – Disclosure shall include a description of the reason for the work stoppage, the impact on production, and any corrective actions taken.

\(^8\) Note to **TC0101-07** – Disclosure shall include a discussion of the approach to managing the use of IEC 62474 declarable substances.

\(^9\) Note to **TC0101-08** – Disclosure shall include a discussion of efforts to incorporate environmentally focused principles into product design.
Water & Waste Management in Manufacturing

Description
The manufacturing of computers, computer components, and other electronics is both water and chemical intensive and can generate significant releases to water and generate solid waste, including hazardous substances. Having access to sufficient water supply is critical to operations. Further, state, federal, and foreign environmental laws are placing increased emphasis on resource conservation and waste management and customer demand is increasing for stringent environmental standards during manufacturing. Therefore, EMS & ODM companies that are able to reduce their waste and the amount of water used during manufacturing while ensuring that waste that is generated is reused, recycled or disposed of appropriately will face lower regulatory risks and could benefit from cost savings.

Accounting Metrics
TC0101-01. Total water withdrawn, percentage recycled, percentage in regions with High or Extremely High Baseline Water Stress
.01 The registrant shall disclose the amount of water (in cubic meters) that was withdrawn from freshwater sources for use in operations.

- Fresh water may be defined according to the local statutes and regulations where the registrant operates. Where there is no regulatory definition, fresh water shall be considered to be water that has a total dissolved solids (TDS) concentration of less than 1000 mg/l per the Water Quality Association definition.
- Water obtained from a water utility, can be assumed to meet the definition of freshwater.9

.02 The registrant shall disclose the total amount of water by volume (in cubic meters) that was recycled during the fiscal year. This figure shall include the amount recycled in closed loop and open loop systems.

- Any volume of water reused multiple times shall be counted as recycled each time it is recycled and reused.

.03 Using the World Resources Institute’s (WRI) Water Risk Atlas tool, Aqueduct (publicly available online here), the registrant shall analyze all of its operations for water risks and identify facilities that are in a location with High (40–80%) or Extremely High (>80%) Baseline Water Stress. Water withdrawn in locations with High or Extremely High Baseline Water Stress shall be indicated as a percentage of the total water withdrawn.

TC0101-02. Amount of hazardous waste from manufacturing, percentage recycled
.04 The registrant shall calculate and disclose the amount of waste (in metric tons) that meets the definition of hazardous waste under Subtitle C of the U.S. Environmental Protection Agency’s (EPA) Resource Conservation and Recovery Act (RCRA).

- This includes wastes that display the following characteristics: ignitability, corrosivity, reactivity, or toxicity.

9 http://water.epa.gov/drink/contaminants/secondarystandards.cfm
.05 The percentage recycled shall be calculated as the weight of hazardous waste material that was reused plus the weight recycled or remanufactured (through treatment or processing) by the registrant plus the weight sent externally for further recycling divided by the total weight of hazardous material, where:

- Reused materials are defined as those recovered products or components of products that are used for the same purpose for which they were conceived.

- Recycled and remanufactured materials are defined as waste materials that have been reprocessed or treated by means of a production or manufacturing process and made into a final product or made into a component for incorporation into a product.

- The scope of recycled and remanufactured products includes primary recycled materials, co-products (outputs of equal value to primary recycled materials), and by-products (outputs of lesser value to primary recycled materials).

- Portions of products and materials that are disposed of in landfills are not considered recycled; only the portions of products that are directly incorporated into new products, co-products, or by-products shall be included in the percentage recycled.

- Materials sent for further recycling include those materials which are transferred to a third party for the expressed purpose of reuse, recycling, or refurbishment.

- Materials incinerated, including for energy recovery are not considered reused or recycled. Energy recovery is defined as the use of combustible waste as a means to generate energy through direct incineration with or without other waste but with recovery of the heat.

.06 Electronic waste material (e-waste) shall be considered recycled only if the registrant can demonstrate that this material was transferred to entities with third-party certification to a standard for e-waste recycling such as Basel Action Network’s e-Steward® standard or the U.S. EPA’s Responsible Recycling Practices (R2) standard.

- The registrant shall disclose the standard(s) to which the entities it has transferred e-waste are complaint.
Fair Labor Practices

Description

EMS & ODM companies operate in a highly competitive environment based on cost, and therefore they rely heavily on securing low-cost and contract labor. Furthermore, the industry faces increased scrutiny over labor standards after numerous highly publicized examples of poor working conditions and unrest at industry facilities. Labor agencies used to hire employees could influence compliance with labor laws and customer supplier standards. The use of hazardous materials in manufacturing processes also raises concerns about worker health and safety. Despite potential short-term cost challenges, EMS & ODM companies that are able to ensure fair working conditions and wages, protect worker health and safety, and eliminate the use of child or forced labor will be better positioned to retain customers with stricter supplier standards and will limit their regulatory liabilities.

Accounting Metrics

TC0101-03. (1) Total Recordable Injury Rate and (2) Near Miss Frequency Rate for (a) full time employees and (b) contract employees

.07 For registrants whose workforce is entirely U.S.-based, the registrant shall disclose its total recordable injury rate (TRIR), as calculated and reported in the Occupational Safety and Health Administration’s (OSHA) Form 300.

- OSHA guidelines provide details on determination of whether an event is a recordable occupational incident, and definitions for exemptions for incidents that occurred in the work environment but are not occupational.

.08 For registrants whose workforce includes non-U.S.-based employees, the registrant shall calculate its total recordable injury rate according to the U.S. Bureau of Labor Statistics guidance and/or using the U.S. Bureau of Labor Statistics calculator.

.09 The registrant shall disclose its near miss frequency rate (NMFR), where a near miss is defined as an incident where no property or environmental damage or personal injury occurred, but where damage or personal injury easily could have occurred but for a slight circumstantial shift.

- The registrant should refer to organizations such as the National Safety Council (NSC) for guidance on implementing near miss reporting.

- The registrant should disclose its process for classifying, identifying, and reporting near miss incidents.

.10 The registrant shall disclose its TRIR and NMFR separately for its full time employees and for contract employees, including independent contractors and those employed by third-parties (e.g., temp agencies, labor brokers, etc.).

.11 The scope includes all employees, domestic and foreign.

.12 Rates shall be calculated as: (statistic count / total hours worked)*200,000.

TC0101-04. Number and total duration of work stoppages

.13 The registrant shall disclose the total duration, in worker days idle, of work stoppages involving 1,000 or more workers lasting one full shift or longer.
• Worker days idle is calculated as the product of days idle and number of workers involved.

.14 The scope of disclosure includes any work stoppage including strikes and lockouts.

Note to TC0101-04

.15 The registrant shall describe the reason for each work stoppage (as stated by labor), the impact on production, and any corrective actions taken as a result.

TC0101-05. Percentage of (a) facilities and (b) supplier facilities audited in the EICC Validated Audit Process (VAP) or to an equivalent social and environmental responsibility code of conduct

.16 The registrant shall calculate and disclose the percentage of audit coverage as:

• (a) the total number of manufacturing facilities subject to an EICC Validated Audit Process (VAP) audit divided by the total number of manufacturing facilities; and

• (b) the total number of Tier 1 supplier facilities subject to an EICC VAP audit divided by the total number of Tier 1 supplier facilities.

.17 Tier 1 suppliers are defined as those that transact directly with the registrant for goods and services directly related to manufacturing.

• The registrant may limit its disclosure to those suppliers that in aggregate account for greater than, or equal to, 80% of its supplier spending directly related to manufacturing.

.18 The registrant may disclose its compliance with an audit recognized by the EICC Membership Compliance Program or an equivalent code of conduct if the standard and audit are sufficiently similar in scope and enforcement to the VAP.

.19 The registrant shall indicate how an alternative audit protocol is equivalent to the criteria of the EICC VAP. At a minimum, the criteria must include:

• Labor provisions, including criteria focused on freely chosen employment, child labor avoidance, working hours, wage & benefits, humane treatment, non-discrimination, and freedom of association.

• Health & Safety provisions, including criteria focused on occupational safety, emergency preparedness, occupational injury and illness, industrial hygiene, physically demanding work, and dormitory and canteen operations.

• Environment provisions, including criteria focused on environmental permits and reporting, pollution prevention and source reduction, hazardous substances, wastewater and solid waste, air emissions, and product content restrictions.

• Ethics provisions, including those focused on business Integrity, improper advantage, payments and gifts policy, disclosure of information, intellectual property, fair business, advertising, & competition, protection of identity, responsible sourcing of minerals, privacy, and non-retaliation.

• Management System provisions, including management system certification, management accountability for labor and ethics, worker feedback and participation mechanisms, and demonstration that the management system addresses the following as related to social and environmental responsibility: tracking of law
and regulations, tracking of customer requirements, risk assessments, measurement of objectives and implementation plans, training, and communication, audits and assessments, corrective action processes, and maintenance of documentation and records.

TC0101-06. Social and environmental responsibility audit compliance for (a) registrant and (b) suppliers: (1) priority non-conformance rate and associated corrective action rate, and (2) other non-conformances rate and associated corrective action rate

.20 The registrant shall disclose:

- (a) Its compliance with the EICC VAP based on the number of non-conformances identified.
- (b) Its Tier 1 suppliers’ compliance with the EICC VAP based on the number of non-conformances identified.

.21 Tier 1 suppliers are defined as those that transact directly with the registrant for goods and services directly related to manufacturing.

- The registrant may limit its disclosure to those suppliers that in aggregate account for greater than, or equal to, 80% of its supplier spending directly related to manufacturing.

.22 For (a) and (b) the registrant shall calculate and disclose the priority non-conformance rate as: total number of priority non-conformances identified divided by the number of facilities audited.

- Priority non-conformances are the highest severity non-conformance and require escalation by Auditors. Priority non-conformances confirm the presence of underage child workers (below the legal age for work or apprenticeship), forced labor, health and safety issues that can cause immediate danger to life or serious injury, and environmental practices that can cause serious and immediate harm to the community. Issues representing an immediate danger must be corrected as soon as practical but not longer than 30 days after discovery.
- In equivalent codes of conduct priority non-conformances may also be referred to as “zero tolerance” issues or “core violations.”

.23 For (a) and (b) the registrant shall calculate and disclose the other non-conformance rate as: total number of major and minor non-conformances identified divided by the number of facilities audited.

- A major non-conformance is seen as a significant failure in the management system – one that affects the ability of the system to produce the desired results. It may also be caused by failure to implement an established process or procedure or if the process or procedure is ineffective.
- A minor non-conformance by itself doesn’t indicate a systemic problem with the management system. It is typically an isolated or random incident.
.24 A corrective action is defined by the timely completion of a Corrective Action Plan (CAP), which describes how and when the facility will address each of the identified non-conformances, according to the following timelines:

- Priority non-conformance – submission of a CAP within one week of discovery and completion of a CAP within 30 days from discovery.

- Major non-conformance – submission of a CAP within two weeks from receipt of final Validated Audit Report (VAR) and completion of a CAP within 90 days from receipt of final VAR.

- Minor non-conformance – submission of a CAP within two weeks from receipt of final VAR and completion of a CAP within 270 days from receipt of final VAR.

.25 For (a) and (b) the registrant shall calculate and disclose its corrective action rate for priority non-conformances as: the number of corrective action plans completed within 30 days to address priority non-conformances divided by the total number of priority non-conformances that have been identified.

.26 For (a) and (b) the registrant shall calculate and disclose its corrective action rate for other non-conformances as: the number of corrective action plans completed within 90 days to address major non-conformances plus the number of corrective action plans completed within 270 days to address minor non-conformances divided by the total number of major and minor non-conformances that have been identified.

.27 The registrant may disclose its compliance with an audit recognized by the EICC Membership Compliance Program or an equivalent code of conduct if the standard and audit are sufficiently similar in scope and enforcement to the VAP.
Product Lifecycle Management

Description

EMS & ODM and Hardware companies face increasing challenges associated with environmental and social externalities attributed to product manufacturing, transport, use and disposal. Rapid obsolescence of hardware products exacerbates the externalities. For EMS & ODM companies, addressing product lifecycle concerns such as hazardous material inputs, energy efficiency during use, and electronic waste, particularly through product design and end-of-life services could increase shareholder value through improved competitive positioning, greater market share, and lower regulatory, demand, and supply chain risks.

Accounting Metrics

TC0101-07. Percentage of products by revenue that contain IEC 62474 declarable substances

.28 The registrant shall calculate the percentage as: the revenue, in U.S. dollars, from design and manufacturing services for electrical and electronic products that contain declarable substances according to International Electrotechnical Commission’s IEC 62474 - Material Declaration for Products of and for the Electrotechnical Industry divided by total revenue from design and manufacturing services for electrical, electronic, and related technology products.

.29 A product contains a declarable substance if, according to IEC 62474, it contains an amount of the substance above the “reporting threshold”, is within the scope of the “reporting application” identified, and for which the “reporting requirement” is mandatory.

.30 The IEC 62474 database of declarable substance groups and declarable substances may be interactively queried or the complete list may be downloaded as an Excel spreadsheet.

Note to TC0101-07

.31 The registrant shall discuss its approach to managing the use of substances that appear as declarable substance groups or declarable substances in IEC 62474, including specific operational processes which take these substances into consideration.

.32 Relevant operational processes may include, but are not limited to, product design, materials and parts procurement, product safety testing, product labeling, and product declarations (e.g. material safety data sheets).

.33 Relevant actions to discuss may include the exclusion of substances (e.g. banned substances lists), use of material substitution assessments, product labeling, or any other methods considering usage of substances from these lists.

.34 If the registrant assesses and manages the impact of known or potentially toxic substances with reference to other regulations, industry norms, or accepted chemical lists it may identify those practices, and it shall describe the degree of overlap with IEC 62474.
TC0101-08. Percentage of eligible products by revenue meeting the requirements for EPEAT® certification or equivalent

.35 The registrant shall calculate the percentage as: the revenue, in U.S. dollars, from design and manufacturing services for products meeting the requirements for EPEAT certification divided by total revenue from design and manufacturing services for products eligible for EPEAT certification.

- Eligible products are those in a product category for which EPEAT certification exists, which includes desktop computers, notebook computers, and computer displays.

- Product categories not currently within the scope of EPEAT certification – such as mobile phones – but for which there is an equivalent certification standard (e.g., Standard for Sustainability of Mobile Phones, UL 110) may be considered eligible products.

.36 A product meets the requirements of EPEAT if it has achieved third-party certification to the EPEAT standard or an equivalent certification, or the registrant can otherwise demonstrate that the product meets these requirements (in lieu of third-party certification).

.37 Standards that are equivalent to EPEAT include those that have criteria and requirements covering substantially similar topics, such as addressing:

- Reduction or elimination of environmentally sensitive materials

- Material selection and declaration

- Design for end-of-life

- Product longevity or lifecycle extension

- Energy conservation

- End-of-life management

- Corporate performance

- Packaging

.38 SASB identifies the TCO Development fourth generation family of standards as similar to EPEAT for the purposes of this disclosure.

Note to TC0101-08

.39 The registrant shall discuss its approach to incorporating environmentally focused principles into product design.
.40 Relevant considerations to discuss include elimination of toxic substances, use of recycled materials, reduction of packaging, design for consolidated shipping, design of low energy consumption products, design for product take-back, labeling for recycling, and the elimination or replacement of materials that are subject to resource scarcity (e.g., cobalt, rare earth elements, etc.), among others.

.41 Examples of environmentally focused principles or criteria include those outlined in Environmentally Conscious Design (IEC-62430 or IEC-62075) or U.S. EPA’s Design for Environment (DfE).

TC0101-09. Weight of end-of-life material recovered, percentage of recovered materials that are recycled

.42 The registrant shall disclose the weight, in tons, of materials recovered including through reverse logistics services, recycling services, product take-back programs, and refurbishment services.

- The scope of disclosure shall include products, materials, and parts that are at the end of their useful life and would have otherwise been disposed of as waste or used for energy recovery, but have instead been collected.

- The scope of disclosure shall include both materials physically handled by registrant and materials of which the registrant does not take physical possession, but for which it has contracted with a third party the task of collection for the expressed purpose of reuse, recycling, or refurbishment.

- The scope of disclosure excludes products and parts that are in-warranty and have been collected for repairs.

.43 The percentage recycled shall be calculated as the weight of incoming material that was reused plus the weight of material recycled or remanufactured (through treatment or processing) by the registrant plus the weight of material sent externally for further recycling divided by the total weight of incoming recovered material.

.44 Reused materials are defined as those recovered products or components of products that are used for the same purpose for which they were conceived.

- The scope of reused materials includes products donated and/or refurbished by the registrant or third parties.

- The scope of disclosure includes reuse by the registrant or by third parties through direct contract with the registrant.

.45 Recycled and remanufactured materials are defined as waste materials that have been reprocessed or treated by means of a production or manufacturing process and made into a final product or made into a component for incorporation into a product.

- The scope of recycled and remanufactured products includes primary recycled materials, co-products (outputs of equal value to primary recycled materials), and by-products (outputs of lesser value to primary recycled materials).
• The scope of disclosure includes recycling conducted by the registrant or by third parties through direct contract with the registrant.

• Portions of products and materials that are disposed of in landfills are not considered recycled; only the portions of products that are directly incorporated into new products, co-products, or by-products shall be included in the percentage recycled.

• Materials incinerated, including for energy recovery are not considered recycled. Energy recovery is defined as the use of combustible waste as a means to generate energy through direct incineration with or without other waste but with recovery of the heat.

46 Electronic waste material (e-waste) shall be considered recycled only if the registrant can demonstrate that this material was transferred to entities with third-party certification to a standard for e-waste recycling such as Basel Action Network’s e-Steward® standard or the U.S. EPA's Responsible Recycling Practices (R2) standard.

• The registrant shall disclose the standard(s) to which the entities it has transferred e-waste are compliant.

Additional references
International Electrotechnical Commission’s IEC 62474 - Material Declaration for Products of and for the Electrotechnical Industry
Supply Chain Management and Materials Sourcing

Description
The EMS & ODM industry’s reliance on critical and conflict minerals and metals has become a focus of attention due to associated supply constraints, resulting price volatility, and a low potential for materials substitution. Furthermore, companies face regulations related to their use of conflict minerals, which can lead to increased costs associated with new reporting requirements. EMS & ODM companies with strong supply chain management and materials sourcing practices and the ability to adapt to increased resource scarcity will be better positioned to protect shareholder value. Innovations at the product-design phase to reduce dependence on some of these materials may also lower risk.

Accounting Metrics
TC0101-10. Percentage of products by revenue that contain critical materials
.46 The registrant shall calculate the percentage as: the revenue, in U.S. dollars, from product design and manufacturing services for products that contain critical materials divided by total revenues from product design and manufacturing services for products.

.47 A critical material is defined as one that is both essential in use and subject to the risk of supply restriction.\textsuperscript{10}

.48 At a minimum, the scope of critical materials includes the following minerals and metals:

- Antimony, cobalt, fluorspar, gallium, germanium, graphite, indium, magnesium, niobium, tantalum, and tungsten;
- Platinum group metals (platinum, palladium, iridium, rhodium, ruthenium and osmium); and
- Rare earth elements, which include yttrium, scandium, lanthanum and the lanthanides (cerium, praseodymium, neodymium, promethium, samarium, europium, gadolinium, terbium, dysprosium, holmium, erbium, thulium, ytterbium and lutetium).

TC0101-11. Percentage of tungsten, tin, tantalum, and gold smelters within the supply chain that are verified conflict-free
.49 The registrant shall calculate the percentage as: the number of tungsten, tin, tantalum, and gold smelters and/or refineries within its supply chain that are verified to be conflict-free divided by the total number of tungsten, tin, tantalum, and gold smelters and/or refineries within its supply chain.

.50 A smelter or refiner is considered to be conflict-free if it can demonstrate compliance with:

- The Electronic Industry Citizenship Coalition (EICC) and Global e-Sustainability Initiatives (GeSI) Conflict-Free Smelter Program (CFSP) assessment protocols.

• The Responsible Jewellery Council's (RJC) Chain-of-Custody (CoC) Standard.

• Any other due diligence certification, audit, or program that meets the conflict mineral provisions of Dodd-Frank Section 1502.

.51 A smelter or refinery is considered to be within the registrant's supply chain if it supplies or is approved to supply tungsten, tin, tantalum, or gold that is contained in any products the registrant manufactures or contracts to be manufactured.

• The scope includes smelters or refineries that supply material directly to the registrant as well as those that supply material to any of its suppliers of raw materials, components, or subassemblies.

TC0101-12. Discussion of the management of risks associated with the use of critical materials and conflict minerals

.52 The registrant shall discuss its strategic approach to managing its risks associated with usage of critical materials and conflict minerals in its products, including physical limits on availability, access, price, and reputational risks.

.53 The registrant should identify which materials and minerals present a risk to its operations, which type of risk they represent, and the strategies the registrant uses to mitigate the risk.

.54 For critical materials, relevant strategies to discuss include diversification of suppliers, stockpiling of materials, expenditures in R&D for alternative and substitute materials, and investments in recycling technology for critical materials.

.55 For conflict minerals, relevant strategies to discuss include due diligence practices, supply chain auditing, supply chain engagement, and partnerships with industry groups or non-governmental development organizations.