The ASEAN+3 Bond Market Forum (ABMF) was established in May 2010 by the finance ministers of the Association of Southeast Asian Nations (ASEAN) plus the People’s Republic of China, Japan, and the Republic of Korea—collectively known as ASEAN+3—under the Asian Bond Markets Initiative (ABMI). The Forum is the only regional platform of which actions and recommendations are reported to the ASEAN+3 policy discussion. It functions to integrate the ASEAN+3 markets through standardization and harmonization of regulations and market practices as well as market infrastructures relating to cross-border bond transactions.

Since its establishment, the ABMF has produced various outputs and created impacts. In 2012, the ABMF released the ASEAN+3 Bond Market Guide, the first officially recognized publication of bond market regulations and settlement procedures in ASEAN+3 economies. The market guide helped narrow information gaps and increase market transparency, which was often regarded as the biggest barrier to market entry. In 2014, to provide policy recommendations to standardize securities transaction flows in the region, ABMF published the Sub-Forum 1 (SF1) Phase 2 Report: Proposal on ASEAN+3 Multi-Currency Bond Issuance Framework (AMBIF) as a regionally standardized bond issuance framework, and the Sub-Forum 2 (SF2) Phase 2 Report: ASEAN+3 Information on Transaction Flows and Settlement Infrastructures. After the endorsement of both reports by the ASEAN+3 finance ministers in 2015, ABMF released two Phase 3 reports: Implementation of the AMBIF: ABMF SF1 Phase 3 Report, and Harmonization and Standardization of Bond Market Infrastructures in ASEAN+3: ABMF SF2 Phase 3 Report. The SF1 Phase 3 report contained the Single Submission Form (SSF) to be utilized in the markets participating in AMBIF and explained the procedures for issuing an AMBIF bond. The SF2 Phase 3 report (i) identified and agreed upon key transactional financial messages to be harmonized and standardized to facilitate cross-border bond transactions, and (ii) successfully demonstrated the readiness of the region to implement key international standards such as ISO 20022 by 2025. As a result, implementation of ISO 20022 was included as one of the strategic measures for financial integration in the ASEAN Economic Community Blueprint 2025.

ABMF meetings are held three times a year, bringing together more than 100 experts from the ministries of finance, central banks, securities market regulators, central securities depositories, securities exchanges and market operators, financial market associations as well as major financial institutions and IT vendors in the region. The forum is open to experts who are interested in bond market developments and regional financial cooperation.

The 31st ABMF will be organized jointly by the APEC Business Advisory Council/Asia Pacific Financial Forum, XBRL International, and kindly hosted by Daito Bunka University. Tentatively, the Forum plans to discuss:

- the recent bond market developments in the region;
- good practices to develop a local currency bond market;
- regulatory issues such as the benchmark reform and its impact on Asia;
- technology to improve regulation and regulatory reporting;
- the account structure study to contribute to standardization of know-your-customer (KYC) procedures;
- other issues relevant to bond market development.
## Sub-Forum 1 Meeting

<table>
<thead>
<tr>
<th>TIME</th>
<th>PROGRAM</th>
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<tbody>
<tr>
<td></td>
<td><strong>ABMF Sub Forum 1 (SF1) Meeting</strong></td>
</tr>
<tr>
<td>09:00 – 09:30</td>
<td>Registration</td>
</tr>
<tr>
<td>09:30 – 09:40</td>
<td><strong>Welcome Remarks</strong> by Mr. Hirofumi Kadowaki, President, Daito Bunka University</td>
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<tr>
<td>09:40 – 09:50</td>
<td><strong>Opening Remarks</strong> by Mr. Toshio Oya, Deputy Director-General, International Bureau, Ministry of Finance of Japan</td>
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<tr>
<td>09:50 – 09:55</td>
<td>Photo Session</td>
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<tr>
<td>09:55 – 10:00</td>
<td><strong>Opening by</strong> Mr. Koji Ito, SF1 Chair</td>
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<tr>
<td>10:00 – 10:45</td>
<td><strong>Session 1: ABMI and Progress of Bond Market Development in Asia</strong></td>
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<tr>
<td></td>
<td>- Good Practices for Developing a Local Currency Bond Market by ADB secretariat</td>
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<td>- PRC Exchange Bond Market (30 min) by SSE and SZSE</td>
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<td>- Mongolia (15 min) by MMOF</td>
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<tr>
<td>10:45 – 11:00</td>
<td>Coffee Break</td>
</tr>
<tr>
<td>11:00 – 11:15</td>
<td><strong>Session 2: Update of Credit Guarantee and Investment Facility (CGIF)</strong> by Mr. Kiyoshi Nishimura, CGIF</td>
</tr>
<tr>
<td>11:15 – 12:00</td>
<td><strong>Session 3: Update on Bond Market Development Support by Technical Assistance and Coordination Team (TACT)</strong> by TACT consultants (Daiwa Institute of Research and Nomura Research Institute)</td>
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<td></td>
<td>- Viet Nam (NRI)</td>
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<td>- Myanmar (DIR)</td>
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<td>- Philippines (DIR)</td>
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<tr>
<td>12:00 – 12:30</td>
<td><strong>Session 4: Recent Developments in Asian bond markets</strong> by ABO team</td>
</tr>
<tr>
<td>12:30 – 12:40</td>
<td><strong>Session 5: Bond market-related macroeconomic updates</strong> by Mr. Yasuto Watanabe, Deputy-Director, ASEAN+3 Macroeconomic Research Office (AMRO)</td>
</tr>
<tr>
<td>12:40 – 14:00</td>
<td>Lunch</td>
</tr>
<tr>
<td>14:00 – 15:00</td>
<td><strong>Session 6: Benchmark Reform and its Impact on Asia</strong></td>
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<tr>
<td></td>
<td>- What is the Benchmark reform? – regulator’s perspective by Ms. Simonetta Iannotti, FSB (20 min)</td>
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<td>- What is the Benchmark reform? – market’s view by Ms. Tomoko Morita, ISDA (20 min)</td>
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<td>- Possible impact on emerging Asia by Mr. Edmund Lee and Nick Burrough, Bloomberg (20 min)</td>
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<tr>
<td>15:00 – 15:15</td>
<td>Coffee Break</td>
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<td><strong>ABMF Sub Forum 1 (SF1) Meeting</strong></td>
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<tr>
<td>15:15 – 16:20</td>
<td><strong>Session 7: Panel discussion - Benchmark Reform and its Impact on Asia</strong></td>
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<td></td>
<td>❖ Preparation and discussion in developed markets</td>
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<td></td>
<td>❖ Possible impacts on emerging Asia and potential risks and disruptions</td>
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<td></td>
<td>❖ what do we need to consider and prepare?</td>
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<td></td>
<td><strong>Panelists</strong></td>
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<tr>
<td></td>
<td>❖ Ms. Simonetta Iannotti, FSB</td>
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<td></td>
<td>❖ Ms. Tomoko Morita, ISDA</td>
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<td></td>
<td>❖ Mr. Taro Matsuura, MUFG</td>
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<td></td>
<td>❖ Mr. Matthew Chan, Executive Director, Head of Policy &amp; Regulatory Affairs</td>
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<td>❖ ASIFMA</td>
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<td>❖ Ms. Vicky Cheng, Bloomberg</td>
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<td><strong>Moderator</strong></td>
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<td>❖ Mr. Satoru Yamadera, Principal Financial Sector Specialist, ADB</td>
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<tr>
<td>16:20 – 16:30</td>
<td><strong>Closing Remarks by ADB and SF1 Chair</strong></td>
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### Sub-Forum 2 Meeting

<table>
<thead>
<tr>
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<tr>
<td><strong>ABMF Sub Forum 2 (SF2) Meeting</strong></td>
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<tr>
<td>09:00 – 09:30</td>
<td>Registration</td>
</tr>
<tr>
<td>09:30 – 09:35</td>
<td><strong>Opening Remarks by</strong> Mr. Seung-Kwon Lee, SF2 Chair</td>
</tr>
</tbody>
</table>
| 09:35 - 10:15 | **Session 8: Regional Financial Stability and Cross-Border Collateral**  
– Overview of regional safety-net by Mr. Namsung Kim, AMRO (20 min)  
– Regulatory risk mitigation and necessary consideration for more sound regional financial systems by Satoru Yamadera, ADB (20 min) |
| 10:15 - 11:10 | **Session 9: Technology to Improve Regulatory Reporting – RegTech**  
– Technological trend and evolution by Satoru Yamadera, ADB (10 min)  
– Use of Artificial Intelligence, Optical Character Recognition (OCR), and Robotics Process Automation (RPA) by Mr. Takuya Nakagawa, Manager, RPA Solution Group, NTT Data (45 min) |
| 11:10 – 11:30 | **Coffee Break** |
| 11:30 – 12:30 | **Session 10: Account Structure Study and Standardization of KYC** by ABMF international expert  
- Recommendation to ASEAN+3 (30 min)  
- Comments from international experts (30 min)  
  Mr. Masayuki Tagai, Network Management; Mr. Boon Hiong Chan, Deutsche Bank; Mr. Stephen Bruce, Ernst & Young |
| 12:30 – 14:00 | **Lunch, (name of function room)** |
| 14:00 – 15:00 | **Session 11: FinTech and RegTech**  
Each speaker presents potential use case of technology for finance, regulation, and supervision  
- RegTech case in Europe by John Turner, XBRL International (30 min)  
- Legal Entity Identifier (LEI) for FinTech and RegTech (30 min)  
  by Mr. Hiroshi Nakatake, Managing Director, Transaction Banking Division, MUFG Bank & Mr. Masayuki Tagai, Managing Director, Network Management |
| 15:00 – 15:20 | **Coffee Break** |
| 15:20 – 16:25 | **Session 12: Panel Discussion: How can technology improve the region’s regulatory environment and support market integration?**  
- Use of technology to improve finance  
- Recommendation for KYC process and use of LEI  
- Implication for regional market integration |
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<td>Panelist</td>
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<td></td>
<td>- Ms. Kaori Horaguchi, ISDA (Tokyo)</td>
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<td>- Mr. Julius Caesar Parrenas, APEC Business Advisory Council</td>
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<td>- Mr. Boon-Hiong Chan, Director, Global Head of Market Advocacy, Deutsche Bank</td>
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<td>- Ms. Meiko Morioka, Manager, SWIFT</td>
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<td>- Mr. Peter Mcmillan, Bloomberg</td>
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<td>- Mr. Yoshiaki Wada, Chair XBRL Asia Round Table</td>
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<td></td>
<td>Moderator</td>
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<td></td>
<td>- Satoru Yamadera, ADB</td>
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<tr>
<td>16:25 – 16:30</td>
<td><strong>Wrap-up by ADB and SF2 Chair</strong></td>
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### DAY 3 – 26 JUNE 2019

**Venue:** 1st Floor Hall, Daito Bunka kaikan of DBU  
2-4-21 Tokumaru, Itabashi-ku, Tokyo

**ABMF – XBRL JOINT ASIAN ROUNDTABLE (PART 1)**

**ASEAN+3 Bond Market Forum (ABMF) – eXtensible Business Reporting Language (XBRL) Joint Asian Roundtable**  
“Creating the Future: SupTech and RegTech powered by Standards and Structured data”

<table>
<thead>
<tr>
<th>TIME</th>
<th>PROGRAM</th>
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<tbody>
<tr>
<td>09:00 – 09:15</td>
<td>Registration</td>
</tr>
<tr>
<td>09:15 – 09:25</td>
<td>Welcome Remarks by Mr. Kyosuke Wagai, Chairman of XBRL Japan, Co-host</td>
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<tr>
<td>09:25 – 09:35</td>
<td>Remarks by Dean of Faculty of Business Administration, Daito Bunka University</td>
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<tr>
<td>09:35 – 10:05</td>
<td>Report from XII by Mr. John Turner, CEO XBRL International</td>
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#### Recent Trends in Automated Regulatory Reporting and Supervisory Information Collection

<table>
<thead>
<tr>
<th>TIME</th>
<th>PROGRAM</th>
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| 10:05 – 10:45 | Key note Session 1: Digital innovation and Regulation – US cases  
FDIC XBRL and Fintech Update (Mr. Mark Montoya, Webex 20 min)  
SEC (Mr. Mike Willis, Mr. Jonathan Ingram, Webex 20 min) |
| 10:45 – 11:00 | **Coffee break**                                         |
| 11:00-11:30 | Key note session 2: SupTech case in Japan by Mr. Daisuke Nakai, JFSA |
| 11:30-12:00 | Key note Session 3: Regulatory Modernization – India’s case by Mr. Prithwis Jana, Reserve Bank of India |

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<tr>
<th>TIME</th>
<th>PROGRAM</th>
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</table>
| 12:00 – 12:40 | **Wrap-up Panel 1: The Future of Regulation**             
- With technologies, what becomes possible?  
  Panelist  
  - Mr. Daisuke Nakai, JFSA  
  - Mr. Prithwis Jana, RBI  
  - Mr. Michal Piechocki, BR-AG  
  - Mr. Satoru Yamadera, ADB  
  Moderator  
  - Mr. Yoshiaki Wada, Chair XBRL Asia Round Table |
<p>| 12:40 – 13:40 | <strong>Lunch</strong>                                                 |
| 13:40 – 14:10 | Key note Session 4: XBRL and ESG reporting by Mr. Toshikazu Otsuka, NTT Data Institute of Management Consulting |
| 14:10 – 14:40 | Key note Session 5: XBRL and Artificial Intelligence by Mr. Shogo Oyama, XBRL |</p>
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<th>TIME</th>
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<td></td>
<td><strong>ASEAN+3 Bond Market Forum (ABMF) — eXtensible Business Reporting</strong></td>
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<td><strong>Language (XBRL)</strong></td>
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<td><strong>JOINT ASIAN ROUNDTABLE</strong></td>
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<td></td>
<td><strong>“Creating the Future: Suptech and Regtech powered by Standards and</strong></td>
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<tr>
<td></td>
<td><strong>structured data”</strong></td>
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<td>14:40 – 15:00</td>
<td><strong>Coffee break</strong></td>
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<tr>
<td>15:00 – 16:20</td>
<td><strong>Wrap-up Panel 2 : Text mining, Artificial Intelligence, and technology</strong></td>
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<td></td>
<td><strong>to overcome difference in languages</strong></td>
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<tr>
<td></td>
<td>- Technology trend</td>
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<td>- How we can integrate the markets with technologies</td>
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<td></td>
<td><strong>Presentation:</strong></td>
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<td></td>
<td>- The PRA’s approach to Regtech, Mr. Nick Vaughan, BOE, (Webex 15 min)</td>
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<td></td>
<td>- XBRL and the new approach to data collection in the Bank of Russia, Ms.</td>
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<td>Olga Goncharova, Central Bank of the Russian Federation(20 min)</td>
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<td></td>
<td>- Data and AI: how we can design trusted future, Mr. Masatomo Goto, Fujitsu</td>
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<td>(20 min)</td>
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<td><strong>Panelist</strong></td>
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<td></td>
<td>- Mr. Masatomo Goto, Fujitsu</td>
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<td>- Ms. Olga Goncharova, Central Bank of Russian Federation</td>
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<td></td>
<td>- Mr. Satoru Yamadera, ADB</td>
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<td></td>
<td>- Mr. John Turner, CEO XBRL International</td>
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<td><strong>Moderator</strong></td>
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<td></td>
<td>- Mr. Yoshiaki Wada, Chair XBRL Asia Round Table</td>
</tr>
<tr>
<td>16:20 – 16:30</td>
<td><strong>Wrap up</strong></td>
</tr>
<tr>
<td>18:30 –</td>
<td><strong>Welcome reception hosted by XBRL Japan</strong></td>
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<td><strong>AL TEATRO, Ikebukuro (<a href="https://alteatro.gorp.jp/">https://alteatro.gorp.jp/</a>) at Tokyo Metropolitan</strong></td>
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<td></td>
<td><strong>Theatre (<a href="https://www.geigeki.jp/english/access/index.html">https://www.geigeki.jp/english/access/index.html</a>)</strong></td>
</tr>
</tbody>
</table>
## ASEAN+3 Bond Market Forum (ABMF) – eXtensible Business Reporting Language (XBRL) Joint Asian Roundtable

**“Creating the Future: SupTech and RegTech powered by Standards and Structured data”**

<table>
<thead>
<tr>
<th>TIME</th>
<th>PROGRAM</th>
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<tbody>
<tr>
<td>09:00 – 09:15</td>
<td>Registration</td>
</tr>
<tr>
<td>09:30 – 10:30</td>
<td><strong>Update from members</strong>&lt;br&gt;Mr. Tom Leahy, Vizor, Implementing Structured Data Collections (20minutes)&lt;br&gt;Ms. Connie Chen, PwC China (20 minutes)&lt;br&gt;Mr. Alexander Panjaitan/Ms. Diandini Susalit, IDX (20 minutes)</td>
</tr>
<tr>
<td>10:30 – 10:50</td>
<td><strong>Coffee break</strong></td>
</tr>
<tr>
<td>10:50 – 11:30</td>
<td><strong>Update from members</strong>&lt;br&gt;Albert Chou, Taiwan Stock Exchange (20minutes)&lt;br&gt;Yongjune Chung, XBRL Korea (20minutes)</td>
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<tr>
<td>11:30 – 12:00</td>
<td><strong>Wrap-up panel</strong></td>
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<tr>
<td>12:00 – 12:30</td>
<td>Technical update from XII, by Mr. John Turner, CEO XBRL International</td>
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<tr>
<td>12:30 – 13:30</td>
<td><strong>Lunch</strong></td>
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<tr>
<td>13:30 – 14:00</td>
<td><strong>Vendor session</strong>&lt;br&gt;Ms. Avey Starr, Managing Director, Seating Inc.&lt;br&gt;Mr. K Balachandran, IRIS&lt;br&gt;Mr. Raymond Connolly, Vizor&lt;br&gt;Mr. Tadashi Okai, Fujitsu&lt;br&gt;Mr. Yuichiro Nakayama, NTT Data System Technologies&lt;br&gt;Mr. Michal Piechocki, BR-AG</td>
</tr>
<tr>
<td>14:00 – 14:45</td>
<td><strong>Wrap up</strong></td>
</tr>
<tr>
<td>15:00 – 16:00</td>
<td><strong>Campus Tour (Discover Daito Bunka University)</strong></td>
</tr>
</tbody>
</table>
DAY 5 – 28 JUNE 2019
(Restricted to Registered Participants for 28 June Only)

Future of Technology Day

The participants are cordially invited for a half-day NTT site visit.

NTT DATA Corporation
Toyosu Center Building, 3-3, Toyosu 3-chome
Koto-ku, Tokyo 135-6033, Japan

NTT DATA, one of the ABMF international experts, will provide ASEAN+3 policymakers and infrastructure operators with a half-day program titled “Future Technology Day” on the morning of Friday, June 28.

The program will provide a unique opportunity for them to know cutting-edge information and communications technologies (ICT) that may have the potential for solving a wide range of economic and social problems in their respective countries.

NTT DATA is part of the NTT Group, a world-leading ICT conglomerates that originates from a government-owned company called Nippon Telegraph and Telephone Public Corporation (privatized in 1985). The company specializes in data processing and communications in the Group and provides ICT services ranging from consulting and system development to outsourcing business.

Participants will be invited to the premises of NTT DATA. Several presentations and demonstrations will be done based on the latest technologies, not only those already adopted in commercial products/services but also those still in their infancy.
# NTT DATA Corporation Site Visit Schedule
*(Restricted to Registered Participants for 28 June Only)*

<table>
<thead>
<tr>
<th>TIME</th>
<th>PROGRAM</th>
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<tbody>
<tr>
<td>08:45 - 09:00</td>
<td>Roll call</td>
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<td>- Transportation by bus will be provided from two pick-up points:</td>
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<tr>
<td></td>
<td>- (1) Hotel Metropolitan Ikebukuro</td>
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<td></td>
<td>- (2) Sunshine City Prince Hotel</td>
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<td></td>
<td>- Bus assignment for participants staying at other hotels are as follows:</td>
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<tr>
<td></td>
<td>- (1) Hotel Metropolitan Ikebukuro: APA Hotel Ikebukuro-Eki-Kitaguchi and Super Hotel LOHAS Ikebukuro-Eki Kitaguchi</td>
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<td></td>
<td>- (2) Sunshine City Prince Hotel Bus: Centurion Hotel Ikebukuro</td>
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<td>- Participants who did not provide their hotel name should proceed to Hotel Metropolitan Ikebukuro (1)</td>
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<td><em>Note: Bus will leave the hotel at exactly 9:00AM</em></td>
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<td>09:00</td>
<td>Exact Time of Departure</td>
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<tr>
<td>09:00 - 10:00</td>
<td>Travel Time</td>
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<tr>
<td>10:00 - 10:15</td>
<td>Arrival</td>
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<td>- Conducts procedures for entering the building and moving to the meeting room.</td>
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<tr>
<td>10:15 – 11:45</td>
<td>Program</td>
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<td></td>
<td>- Welcome speech and introductory video</td>
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<td>- The four groups enjoy the same presentations and demonstrations but in different order.</td>
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<td>- Examples of demonstrations (subject to change): High-resolution digital 3D map, tactile technology for navigation, and virtual reality for working at dangerous high places.</td>
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<tr>
<td>11:45 – 12:00</td>
<td>Wrap up</td>
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<td>- Moving back to the building entrance.</td>
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<tr>
<td>12:00</td>
<td>Depart for Ikebukuro</td>
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<td>- The bus may stop by at several places to drop off participants (e.g., Ginza and JR Tokyo Station).</td>
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</table>
Vizor is the global leader in the provision of supervisory systems for financial regulators.
Global Trends – Based on Vizor Research

Moving Away From...

Manual, Forms-Based Data Entry
Low quality, late, erroneous, problematic data
Forms-centric data models with dependency on a single or custom file formats
Slow, rigid implementation of new collection requirements; long lag to data usage
Bespoke development; internal development; best-in-breed components

... And Moving Towards

Automated data capture via APIs and integration with RegTech offerings
High-quality, plausible, timely, reliable data
Format agnostic data that is big, granular, structured & unstructured, diverse and enriched
Agile tools and capabilities to rapidly launch and consume new data collections
Specialised platform and best-in-suite
Vizor Awards

Impact
Global RegTech Provider of the Year - 2018

Innovation
Entrepreneurship and Innovation demonstrating business leadership

Excellence
Consistent business performance with systems to support growth

Technology
Award winner 2 years in a row for outstanding performance

Data Service Provider of the Year
360° View of Regulated Entities

- Licensing & Authorisations
- Corporate Profile
- Reporting Requirements & Schedule
- Vizor Regulatory Returns
- Return Collection & Validation
- Complaints Processing
- Risk Profile & KRIs
- Assessment & Engagement
- Vizor Risk-Based Supervision
- Vizor Licensing & Regulatory Transactions

© 2019 Vizor | Proprietary | 19-Jun-19 Seamless data exchange
Thank you

raymond.connolly@vizorsoftware.com
Our update
27 JUN 2019
NTT DATA SYSTEM TECHNOLOGIES （NST）
Yuichiro Nakayama
This presentation's contents

Details of our strength related to XBRL

1. Taxonomy Development

2. XBRL Data Analysis Engine

3. Utilization of XBRL Data
1. Taxonomy Development

- Own know-how
- Enough experience

Taxonomy development
- Financial
- Non-Financial

Development standard documents
Systematized knowledge
1. Taxonomy Development

Own know-how

Enough experience

NST is a Specialist in Taxonomy

Financial
Non-Financial
Systematized knowledge
2. XBRL Data Analysis Engine

Analysis engine developed by NST

Various specifications
Table Linkbase
Inline XBRL
XBRLData

DB

© 2019 NTT DATA Corporation
2. XBRL Data Analysis Engine

Analysis engine developed by NST

Support various specifications!

Various specifications

XBRLData

Support various specifications!
3. Utilization of XBRL Data

DB

XBRL Data

Text mining

AI

Analyst etc.

Word Cloud

Similarity / Difference Analysis etc.

72%

<table>
<thead>
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<tr>
<td>XFFFFFFFFFFFFFFFFFFFFFFFF</td>
<td></td>
</tr>
</tbody>
</table>

72%
3. Utilization of XBRL Data

Investigating further utilization using AI
Please feel free to contact NST!

E-Mail: xbrl@nttdst.com
Granular Data Standard Solution with XBRL

Speaker: Connie Chen
What Does our IT system do to Data?

- Wipe out the business semantics completely
- Storing only pure data
- Lock data into proprietary databases and complex data structures
- Destroy the logical links that exist when extracting data from source systems
What problems Does Standard Solution solve?

- Preserve business semantics according to application scenarios
- Reduce barriers to entry based on standards
- Lower implementation costs in view of avoiding system rebuild
- Construct ecosystem of management accounting informationization
Framework

1. Applications Layer
   - Taxonomy: Management Accounting Application Oriented XBRL Taxonomy
   - Function:
     - Describe application scenarios with XBRL Taxonomy
     - Realize visual representations of data based on data interface

2. Index Layer
   - Taxonomy: Index Layer Oriented XBRL Taxonomy
   - Function:
     - Illustrate calculation logic between data and index
     - Generate indexes automatically via big data & parallel computing

3. Data Layer
   - Taxonomy: Underlying Data Source Oriented XBRL Taxonomy
   - Function:
     - Implement data standardization with XBRL Taxonomy
     - Extract and store data via ETL & data store technology

Business Scenario Sample

<table>
<thead>
<tr>
<th>Time: 2017-01</th>
<th>Time: 2017-02</th>
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<tbody>
<tr>
<td>Order No.</td>
<td>Order No.</td>
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<td>Price</td>
<td>Order ID</td>
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<tr>
<td>Amount</td>
<td>Price</td>
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<tr>
<td>Amount</td>
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</tbody>
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Material ID

<table>
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<tr>
<th>Standard Price</th>
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<tbody>
<tr>
<td>Standard consumption</td>
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<tr>
<td>Actual consumption</td>
</tr>
</tbody>
</table>

Transaction Data

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<th>Order No.</th>
<th>Time</th>
<th>Standard Price</th>
<th>Standard consumption</th>
<th>Actual price</th>
<th>Actual consumption</th>
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</thead>
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<td>2017-01</td>
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<td>4000</td>
<td>3.2</td>
<td>4100</td>
<td>3.5</td>
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<td></td>
<td>100103</td>
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<td></td>
<td></td>
<td></td>
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</tbody>
</table>

KPI Data

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<tr>
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<tr>
<td>----------</td>
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<tr>
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Direct material

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<th>Standard Price</th>
<th>Standard consumption</th>
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<td>4100</td>
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<td>100103</td>
<td>......</td>
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Standard Enterprise Reporting - Architecture

**Business Architecture**

- Business Analytics Taxonomy
  - Budget Management Taxonomy
  - Financial Management Taxonomy
  - Cost Management Taxonomy

- Granular Data Taxonomy
  - Master Data (Org Structure etc.)
  - KPI Data Taxonomy
  - Transactional Data Taxonomy

- Source Raw Data
  - Tagging for SAP
  - Tagging for Oracle
  - Tagging for Kingdee

**Technical Architecture**

- Data & Analytics
  - Analytics Model
  - Visualization Model
  - Forecasting Model

- Data Storage Model
  - SQL
  - NO-SQL
  - File
    - JSON
    - XML

- Data Processing
  - Open Formula (natural language)
  - Translator
    - SQL
    - Text
    - Script

- Source Data Interface API

- XDaaS API

- Data Storage Model
  - Source Data
    - Interface API
  - Translator
Value proposition

• Enable business driven D&A
• Vendor independent Open standard
• Data stored with its business meaning
• Much Lower implementation cost
• More flexible analytics
What will change?

• Technically, Specs, Taxonomy architecture, Open source coding..

• Eventually, our customers, community and competition landscape..
XBRL Specs

XBRL Technologies, which are existing or in development, should be involved in the framework, including:

• XBRL 2.1
Define XML elements and attributes that can be used to express information used in the creation, exchange, and comparison tasks of business reporting, as well as new elements and taxonomies of elements referred to in XBRL instances and express constraints among the contents of elements in those XBRL instances.

• XBRL Dimensions 1.0
Enable the reporting of multi-dimensional facts against dimensions defined in an XBRL taxonomy.

• Extensible Enumeration 1.0
Allow domain member networks, to constrain the allowed values for primary reporting concepts, enabling taxonomy authors to define extensible enumerations with multi-language labels.

• Text-based formula
With text-based formula, rules can be round-tripped between text syntax and linkbase syntax. It makes rules accessible to programmers and provide common representation for review and discussion of rules.
1. Granular Data Tagging Spec.

1 Scope

2 Normative references

3 Terms and definitions

4 Granular data standardization

4.1 Granular data classification

4.2.1. Dictionary data

4.2.2. Master data

4.2.3. Business Transaction data

4.2.4. System data

4.2 Underlying data tagging

4.2.1. Dictionary data

4.2.2. Master data

4.2.3. Business Transaction data

4.2.4. System data

5 Standardization of indicator (KPI) data

5.1 Building indicator data

5.2 Indicator data tag

6 Compliance evaluation

Appendix A
2. Granular Data Storage Spec.

1 Scope
2 Normative references
3 Terms and definitions
4 Data storage standardization
4.1 Granular data storage
4.1.1 Dictionary Data Storage
4.1.2 Master Data Storage
4.1.3 Business Transaction Data Storage
5 relational database standardized storage
5.1. X_TAXONOMY — Classification Table
5.2. X_TAXONOMY_FILE - Classification Standard Document Table
5.3. X_TAXONOMY_FILE_REF - classification standard file reference relationship table
5.4. X_TAXONOMY_LINK — Classification criteria link table
5.5. X_ROLE - Classification Criteria Role Table
5.6. X_ROLE_USED — Classification Criteria Role Application Table
5.7. X_ROLE_REF - taxonomy role reference table
5.8. X_LOCATOR — Classification Categorizer Table
5.55. B_BUSINESS_TABLENAME - Business Data Template Table
5.56. B_0001_300001_0001 — Daily transaction details (business data) table
5.57. X_INDEX_DATA - indicator data sheet
6 Compliance evaluation

1 Scope
2 Normative references
3 Terms and definitions
4 Granular data interface standard
4.1 Granular data classification
4.1.1 data-valve specification
4.1.2 Data Service
4.1.3 Data Input/Output
4.1.4 Data accuracy and unit
4.1.5 Data Context
4.1.6 Built-in variables
4.2 data-valve extension specification

5 General data interface standard
5.1 Taxonomy Standard Interface
5.1.1 Taxonomy criteria
5.1.2 Taxonomy Standard Document
5.1.3 Extended Link Role
5.1.4 Extended Links
5.1.5 elements
5.2 Instance Data Interface
5.2.1 instance document
5.2.2 Context entity
5.2.3 Context period
5.2.4 Unit
5.2.5 Dimensions (groups)
5.2.6 Instance data

6 Data-valve extension specification
6.1 data-valve-oracle specification
6.2 data-valve-mysql specification
6.3 data-valve-json specification
6.4 data-valve-csv specification
6.5 data-valve-excel specification
7 Compliance evaluation

1 range
2 normative references
3 terms and definitions
4 data processing specification data-process
4.1 variables
4.1.1 declaration and assignment of variables
4.1.2 the naming rules for variables
4.1.3 variable type - number Number
4.1.4 variable type - string String
4.1.5 variable type - list List
4.1.6 variable type - tuple Tuple
4.1.7 Variable Types - Collection Set
4.1.8 variable type - dictionary Dictionary
4.2 operator
4.2.1 assignment operator
4.2.2 arithmetic operators
4.2.3 comparison operators
4.2.4 logical operators
4.2.5 member operator
4.2.6 operator precedence
4.3 statement
4.3.1 function statement
4.3.2 expression statement
4.3.3 control statement

4.4, basic functions
4.4.1, general function
4.4.2, string function
4.4.3, list function
4.4.4, dictionary function
4.5, standard data set
4.5.1 Concept data set
4.5.2, extended link data set
4.5.3, entity data set
4.5.4, period data set
4.5.5, dimension data set
4.5.6, context data set
4.5.7, unit data set
4.5.8, instance data set
4.5.9, result data set
4.6, connector
4.6.1, straight connection
4.6.2, expression connection
4.6.3, formula connection
4.6.4, conditional connection
4.6.5, conceptual characteristics
4.7, filter
4.7.1, concept filter
4.7.2, extended link filter
4.7.3, Context Filter
4.7.4, dimension filter
4.7.5, Entity filter
4.7.6, period filter
4.7.7, unit filter
4.7.8, data filter

4.8, Data processing function
4.8.1, data routing
4.8.2, data grouping
4.8.3, data classification
4.8.4, data summary
4.8.5, data update
4.8.6, data deletion
4.9, data processing flow
5 data-process Tagging method under the taxonomy standard
5.1, specification ELR
6 Compliance evaluation
Thank you!
XBRL Implementation
For Listed Companies Financial Reporting

ABMF – XBRL Joint Asian Roundtable
June 26th - 28th, 2019
Tokyo, Japan
**XBRL Implementation Milestones**

**2014**
- Released first version of IDX Taxonomy in April 2014
- Public Review of IDX Taxonomy
- Started development of XBRL Reporting System

**2015**
- Launched XBRL Reporting System in June 2015
- Parallel filing of XBRL based Financial Reports in Q3 2015

**2016**
- First taxonomy maintenance in February 2016
- Parallel filing of XBRL extended until end of 2016
- Development of Evaluation and Monitoring Dashboard

**2017**
- Full implementation of XBRL filing
- Second taxonomy maintenance
- Implementation of Evaluation and Monitoring Dashboard

**2018**
- Third taxonomy maintenance
- Continuous improvements on surrounding applications to optimize filers experience

**2019**
- Notes to the Financial Statements
- MoU with Directorate General of Taxation
- Integration of IDX and FSA reporting system
- Earning Digest
FLOW OF XBRL REPORTING AT IDX
Client side XBRL application is not needed for ease of use
XBRL conversion process is done entirely in IDXnet
Methods of Input Available for Listed Companies and Publication on IDX Website

**INPUT**
- Excel Template
- XBRL Instance
- IDXNet Web Form

**OUTPUT**
- PDF Format
- Excel Format
- XBRL Instance
- Inline XBRL
- HTML

Auto Generate
UTILIZATION OF XBRL DATA AT IDX
What we are able to do with XBRL data so far?

- Financial summary report (horizontal, vertical, ratios)
- Industrial Benchmark
- Alerts and watchlist
- Earning Digest
Dashboard for Financial Reports

Dashboard Perusahaan Tercatat
Dir. Penilaian Perusahaan

Revenue - 2015
Operating Income - 2015
Profit For The Shareholder - 2015
Equity - 2015
Total Asset - 2015
Liabilities - 2015
CURRENT IMPLEMENTATION CHALLENGES
Current Implementation Challenges

- Quality of XBRL Data
- Limitation on available tools for analysis
- Optimization of XBRL data
- Taxonomy and formula maintenance
- Enhance surrounding applications to improve users experience
- Integration of IDX and FSA reporting system
- Notes to Financial Statement
- Earning Digest
Lessons learned

• Support and training
  – Routine training on a monthly basis
  – Helpdesks
  – User guides
  – List of FAQs

• Continuous communications and assistance to the Reporting Companies
  – Email and phone
  – One on one meetings
  – Company visit
Moving Forward

• **Taxonomy maintenance 2019**
  – Add necessary elements to accommodate Listed Companies Financial report;
  – Update according to the current Indonesia Accounting Standards; and
  – Optimizing validation formula to enhance accuracy.

• **To provide summary of financial analysis from XBRL filings for the listed companies and Investors** - using XBRL data received form Issuers as part of IDX’s listing services.

• **Expand IDX Taxonomy to include Notes to Financial Statements** *(priority based)*
THANK YOU

Indonesia Stock Exchange
Indonesia Stock Exchange Building, Tower I
Jl. Jend. Sudirman Kav. 52-53, Jakarta 12190
Tel. +62-21-515 0515
Fax. +62-21-515 4153/+62-21-515 4157
website: www.idx.co.id
email: xbrl@idx.co.id
XBRL IN TAIWAN CAPITAL MARKET

Dr. Albert Chou
CEO, Accounting R&D Foundation
Vice President, Taiwan Stock Exchange
Associate Professor, National Taipei Business University
June 27, 2019

Transparency • Fairness • Diversification
TXT Fixed Format Financial Reporting

A01 3999 098021XXX +000000212345677+000000003235435
A01 3999 098021000 +000000075465135+00000000433427
A02 3999 098024000 +000000212345677+000000003235435
A02 3999 098024100 +000000075465135+00000000433427
A03 3999 09802DDDD +000000043356757+00000000973533
A03 3999 09802EEEE +000000043576753+00000001233573

A01: Statement (3 bytes)
3999: Company code (6 Bytes)
09802: Year and Quarter (5 bytes)
1XXX: Accounting item code (6 bytes)
+000000212345677: current year amount (16 bytes, include sign)
+000000003235435: previous year amount (16 bytes, include sign)

Self-define Format, not applicable globally
**XBRL Milestone**

- **2010**
  - Mandatory Filing (GAAP)
  - 2010 Q2 F/S
  - 1,562 individual F/S
  - 1,384 consolidated F/S.

- **2013**
  - IFRS Adoption
  - 2010 IFRS taxonomy

- **2016**
  - E-Analysis Platform
  - Data used on this platform is from XBRL F/S.
  - An easy way to analyze F/S for investors.

- **2017 IFRS Taxonomy**
  - Taxonomy updated to 2017 IFRS Taxonomy,
  - Formula linkbase adopted.

- **2018**
  - 2017 IFRS Taxonomy

- **2019**
  - Inline XBRL
  - 2018 Q3 – Pilot
  - 2019 Q1 – mandatory filing of iXBRL
Extension Polices

**Companies request**
- Reflecting the business activities

**Committee reviewing**
- Public hearings: Taxonomy
- Questionnaires: Implementation schedule / Filing tools

**Publishing & education**
- Seminars, E-learning systems
- Training sessions, Demo site

**Universal applying**
- Over 2000 listing and public offering companies.
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<thead>
<tr>
<th>Version of IFRS Taxonomy</th>
<th>Elements used in Face Financials</th>
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<td>Increase % of elements used</td>
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IFRS+XBRL V.S. IFRS+\textit{i}XBRL

\begin{itemize}
  \item \textbf{Machine readable} \checkmark
  \item \textbf{Human-readable} ?
\end{itemize}

\begin{itemize}
  \item \textbf{Machine readable} \checkmark
  \item \textbf{Human-readable} \checkmark
\end{itemize}
Adoption of Inline XBRL

2018/9 Preparation Stage
• develop TWSE iXBRL preparation tool
• update TWSE electronic filing system (M.O.P.S)

2018/10 iXBRL Filing Training
• 10 Training sessions, more than 2,346 attendees from 1,797 companies
• provides understanding and background on iXBRL
• explain making iXBRL filings and the entire filing process
Adoption of Inline XBRL

2018/11~2019/3 Pilot Stage

- 2018 Q3 F/S and 2018 Q4 F/S
- filing the dual formats of XBRL and iXBRL
- TWSE matches data accuracy and modifies the iXBRL tool

2019/5 Mandatory Filing iXBRL F/S

- phase-in schedule
  - listed companies-2019 Q1 F/S
  - public companies-2019 Q2 F/S
- submission of 2019Q1 F/S
  - 146 individual F/S
  - 1,554 consolidated F/S
User-friendly, GUI-based, fully functional iXBRL tool
## BALANCE SHEET

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**** 以上各項申報會計項目，金額單位為仟元，每股盈餘除以100後輸入，股份單位為股。 ****
INDEPENDENT AUDITORS’ REVIEW REPORT

The Board of Directors and Shareholders
Taiwan Semiconductor Manufacturing Company Limited

Introduction
DATA IMPORT & EXPORT

Import from Excel or iXBRL report file

Download template file (Excel format)

Export (generate) report file in either Excel (*.xls) or iXBRL (*.html) form
XBRL financial report

Require specialized software to view XBRL filings

Investors
XBRL Filing in Taiwan (Past)

1. Preparing Financial Reports

2. Preview in HTML

3. Export to XBRL

4. Filing (Upload)

Before 2018Q3

HTML

M.O.P.S.

XBRL

Preview in HTML

TWSE XBRL TOOL

Export to XBRL

Filing (Upload)

M.O.P.S.

XBRL

Preparing Financial Reports

Before 2018Q3

Preview in HTML

TWSE XBRL TOOL

Export to XBRL

Filing (Upload)

M.O.P.S.

XBRL
iXBRL Filing in Taiwan (Pilot)

1. Import from XBRL (New iXBRL version)
2. Input company name
3. Export to iXBRL
4. Filing (Upload)

2018Q3 & 2018Q4

Only XBRL files are accessible
iXBRL Filing in Taiwan (Mandatory)

Since 2019Q1

1. Preparing Financial Reports

2. Export to iXBRL
   - TWSE XBRL TOOL
     - (New iXBRL version)

   New version has the same functions as the old one

3. Filing (Upload)
   - M.O.P.S.

New version has the same functions as the old one
XBRL Financial Report Query

http://mopsfin.twse.com.tw/
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- 显示产业平均数
- 显示所选公司平均数

清空选  開始比較
## Figure 4

STANDARD FORM TO CONFIRM ACCOUNT BALANCE INFORMATION WITH FINANCIAL INSTITUTIONS

**YOUR COMPANY NAME HERE**

**CUSTOMER NAME**

**Financial Institution’s**
Name and Address:

We have provided to our accountants the following information as of the close of business on DECEMBER 31, 2007, regarding our deposit and loan balances. Please confirm the accuracy of the information, noting any exceptions to the information provided. (... additional instructions omitted ...)

1. At the close of business on the date listed above, our records indicated the following deposit balance(s):

<table>
<thead>
<tr>
<th>ACCOUNT NAME</th>
<th>ACCOUNT NO.</th>
<th>INTEREST RATE</th>
<th>BALANCE*</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Account</td>
<td>000123456</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

2. We were directly liable to the financial institution for loans at the close of business on the date listed above as follows:

<table>
<thead>
<tr>
<th>ACCOUNT NO./DESCRIPTION</th>
<th>BALANCE*</th>
<th>DATE DUE</th>
<th>INTEREST RATE</th>
<th>DATE THROUGH WHICH INTEREST IS PAID</th>
<th>DESCRIPTION OF COLLATERAL</th>
</tr>
</thead>
</table>

   (Customer’s Authorized Signature)   (Date)

The information presented above by the customer is in agreement with our records. Although we have not conducted a comprehensive, detailed search of our records, no other deposit or loan accounts have come to our attention except as noted below.

   (Financial Institution Authorized Signature)   (Date)

   (Title)

EXCEPTIONS AND OR COMMENTS

Please fax and mail this confirm directly to our accountants:

Accountant’s Address Here
e.g. A company with bank accounts at 20 branches across 5 banks:

**Traditional**

1. Fill in letter of request (x20)
2. Send to Audited Company by post/in person (x20)
3. Affix company seals (x20)
4. Send sealed request by post/pick-up by Auditing Agency (x20)
5. Archive confirmation (x20)
6. Send by post to Branches (x20)
7. Branches verify seals
8. Branches review/copy/enter/respond to request (x20)
9. Each branch sends by post to Auditing Agency (x20)
10. Follow up/archive all confirmations
11. Enter/verify info received

**eForm**

1-1 Apply for corporate authorization (x1)
1-2 Authorize via e-signature (x1)
1-3 Request confirmation (x1)
2-1 Request confirmation (x1)
2-2 Archive confirmation (x5)
2-3 Bank fills request form/upload file or auto-system registration (x5)
2-4 System monitors/auto downloads files/triggers verification (x5 max.)

PDF/Jason files provided & accessible via online connection

**Time saving**
3 weeks → 1 day

**Cost saving**
Reduce 5 million
# E-form Bank Confirmation

![E-form Bank Confirmation Image](image-url)

## Table

<table>
<thead>
<tr>
<th>Column 1</th>
<th>Column 2</th>
<th>Column 3</th>
<th>Column 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Data 1</td>
<td>Data 2</td>
<td>Data 3</td>
<td>Data 4</td>
</tr>
</tbody>
</table>

## Diagram

![Diagram Image](image-url)
In The Future

- Inline XBRL Application
  - Insurance Companies
  - Government NGO
  - Bank confirmation

beyond
Thank You for Your Listening!
Blockchain Enabled Integrity and Prosperity in Procurement Supply Chain Eco-System

Avery Starr
Managing Director, Seatig Inc.
What Problems Do We Solve?

• **Continuity and sustainability**
  – The money from the World Bank should only serve as a catalyst
  – How does the eco-system continuously attract capital from the community
  – How to build a post-funding self-sustainable supply chain finance eco-system

• Project risk management
  – **Who**: 2+ level suppliers, legitimate suppliers, official corruption
  – **What**: real vs. fake projects, project details and participants
  – **How much**: straw-man project (cents on the dollar)
  – **When**: project completion, time/budget

• **Transparency** for shareholders and the people of the world
SUPPLY CHAIN ACCOUNTS RECEIVABLE TOKENIZATION AND TRADING NETWORK
Project Name: Dar es Salaam Maritime Gateway Project
Region: Africa
Country: Tanzania
Industry: Transportation
Sector: Ports/Waterways
Approval Date: June 30th, 2017
Close Date: June 30th, 2024
Project Amount: 421m
Quanaxy Receivables Management

My Accounts Receivable

<table>
<thead>
<tr>
<th>Time</th>
<th>Client</th>
<th>Contract Description</th>
<th>Amount</th>
<th>Due Date</th>
<th>Status</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>2017.06.30</td>
<td>ESTIM Construction Co. Ltd</td>
<td>Port Engineering Construction Contract</td>
<td>$200,000,000</td>
<td>2019.06.05</td>
<td>Off the Books</td>
<td></td>
</tr>
</tbody>
</table>

My Watchlist

- Walmart
  - Receivable Financing
    - Contracts receivable for 6 months
    - Due Date: 2019.03.06
    - Sell

- Walgreen
  - Receivable Financing
    - Contracts receivable for 4 months
    - Due Date: 2019.12.31
    - Buy

- Simon Property Group
  - Receivable Financing
    - Contracts receivable for 6 months
    - Due Date: 2020.01.09
    - Sell

- Sears Holdings
  - Receivable Financing
    - Contracts receivable for 6 months
    - Due Date: 2020.01.09
    - Sell

The Market

<table>
<thead>
<tr>
<th>Company</th>
<th>Contract Description</th>
<th>Amount</th>
<th>Buy/Sell</th>
<th>Term</th>
<th>Maturity</th>
</tr>
</thead>
<tbody>
<tr>
<td>State Farm Insurance Co</td>
<td>Contracts receivable for 6 months</td>
<td>$21,000</td>
<td>Buy/Sell</td>
<td>6 Months</td>
<td>2019.11.06</td>
</tr>
</tbody>
</table>
## Construction of the Sino–Russian Railway

**Project:** Construction of the Sino–Russian Railway  
**Capital:** the World Bank Group, Asian Infrastructure Investment Bank  
**Prime Contractors:** Russian Railways, Raven, Microsoft China, CRCC

### Capital flow record:

<table>
<thead>
<tr>
<th>Date</th>
<th>Event Description</th>
<th>Contract Amount</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>2019.02.12</td>
<td>World Bank Group – Russia Railways – Directional</td>
<td>$1,364,105</td>
<td>Procurement contract</td>
</tr>
<tr>
<td>2019.02.13</td>
<td>World Bank Group – CRCC – Directional</td>
<td>$1,364,105</td>
<td>Procurement contract</td>
</tr>
<tr>
<td>2019.02.14</td>
<td>Russia Railways – Pilgrim’s – Directional</td>
<td>$1,364,105</td>
<td>Procurement contract</td>
</tr>
<tr>
<td>2019.02.15</td>
<td>Russia Railways – Nutlán – Railway Channel Signal</td>
<td>$1,364,105</td>
<td>Procurement contract</td>
</tr>
<tr>
<td>2019.02.15</td>
<td>Russia Railways – Massey Ferguson – Railway Channel</td>
<td>$1,364,105</td>
<td>Procurement contract</td>
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<tr>
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<td>Russia Railways – Massey Ferguson – Procurement</td>
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<td>2019.02.15</td>
<td>Flavia – Sile – Procurement</td>
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**Total Project Cost:** $90,000,000

**Prime Contractors:** Russian Railways, CRCC

**Sector:** Urban and Rural Development

**Theme:** Transportation

**Approval Date:** March 26, 2019
Construction of the Sino–Russian Railway

Prime Contractors: China Railway Construction Corporation (CRCC), Pilgrim Constructions

Funding Recipient: CRCC

Inflow: $5,362,898
Outflow: $3,021,988

CRCC Capital flow record:
1. 2019.02.14 15:11:51 Russia Railways -> CRCC $1,364,105 "Procurement contract"
3. 2019.02.12 13:56:11 CRCC -> Cargill $1,027,441 "Directional investment contract"
4. 2019.02.13 09:32:33 CRCC -> Terex $1,966,155 "Directional investment contract"
How We Solve These Problems?

• Continuity and sustainability
  – The money from the World Bank should only serve as a catalyst
    • It will never be sustainable if SMBs won’t benefit along with the prime contractors of the funding
    • With Quanaxy, SMBs gets benefit of fast working capital turn-around by “Payment” and “Financing” function.
  – How does the eco-system continuously attract capital from the community
    • By using token QX, we can bring retail investors in addition to institutional investors into the eco-system
    • Market place: investors shop for best quality asset; SMBs shop for low cost capital
  – How to build a post-funding self-sustainable supply chain finance eco-system
    • Integrated – all levels of participants on the supply chain
    • Standardized – business bill payment protocols, technical protocol, tokens
    • Structurally open – easy growth of the network
    • Learned maturity – once practice is established then it can sustain after the first project
How We Solve These Problems?

• Project risk management
  – **Who:**
    • All Suppliers (2+ levels) are in network with verified credentials and business registration. We know who they are!
    • We have their banking accounts too
    • Fake suppliers or personal corruption cannot live with this level of transparency
  – **What:**
    • It’s hard to fake a project if all its suppliers and signed contracts have to be made transparent
    • It’s impossible to hide from legal consequences if all payments are traced
  – **How much:** straw-man project (cents on the dollar)
    • Money circulating in the system is only virtual. The World Bank pay the end level suppliers directly. It’s meaningless and impossible for the mid-layer players to cut corners.
  – **When:** project completion, time/budget
    • It’s possible and easy to deny payment with Quanaxy if the project is incomplete, over time, or with poor quality if The World Bank chooses to do so.
Avery Starr
Seatig Inc.
32 Broadway, Suite 1701, New York, NY 10004
Tel: (914) 584-0979
avery.starr@seatig.com
www.seatig.com
IRIS
Leading the Structured Data Revolution

Balachandran
Co Founder
About IRIS

22 Countries

Over 30 XBRL Implementations

+Million Filings

**Leading Regtech Firm** Solutions for regulators, filers and users of data

**Global XBRL Evangelists** Inline XBRL, Use of XBRL for Non-financial data

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Regulators & Filers across the globe

**Deep Market Expertise**
Experience of over 14 years in the XBRL/iXBRL space

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RBI (10 Yrs+), ESCA, UAE 8+ years), ACRA (7+ years)

**Compliance solutions beyond XBRL**
IR and Analyst solutions that leverage data

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Regulators & Filers across the globe
Our Offerings...
...Straddling the Information Reporting Supply Chain

Structured Data

COLLECT
Reporting platform with over 22 deployments globally. Helps regulators collect submissions. Taxonomy development is included.

CREATE
Offerings ranging from enterprise software to Cloud / SAAS to create documents ready to be filed with regulators.

CONSUME
World’s first and most comprehensive database of financial data culled from XBRL filings, normalized across geographies.
Select Global Clients

- AFP (USA)
- Business Online (Thailand)
- CrimsonLogic Pte Limited (Singapore)
- Deloitte Touche Tohmatsu (India, Singapore, Italy, South Africa, Thailand, UAE, UK)
- Ernst and Young (Russia, Saudi Arabia)
- ERS (across Europe)
- FAPCO (Kuwait)
- FIT Technologies (Turkey)

Select Global Partnerships over the years

- Fintellix (India, Mauritius)
- HCL Infosystems (India)
- HP (India)
- PT Infogram Telemedia (Indonesia)
- Infosys (OEM Finacle)
- KPMG (India, Italy)
- L & T Intotech (Cayman islands)
- Merrill Corp (USA)
- MNS (Mauritius)
- Omesti (Malaysia)
- Prognoz (Russia, Saudi Arabia)
- Re-aktiv (Macedonia)
- TCS (India)
- Tech Mahindra (Mauritius)
- Wipro (India)
- Zensar Technologies (UK)
Our Offerings for Regulators

Data Modelling
- Develop Taxonomies and reporting forms

Filer Tools
- Get Clean Data from the regulated Entities
  - iFile Excel
  - iFile Web
  - IDEAL API

Data Collection
- Collect Data through a Work Flow from the regulated entities

Supervision
- Analyse data for both Offshore and Onsite Supervision

- NOAH
- IRIS iFile
- IDEAL, WEB FORMS
- IRIS Supervise
Our Offerings for Filers - IRIS CARBON®

Cloud-based disclosure management platform that streamlines compliance reporting for companies, banks and mutual funds

- SaaS platform hosted on Microsoft Azure
- SSAE 18 audited for security
- Leveraged by companies and accounting firms in USA, UK, Europe and South Africa

IRIS CARBON® Successfully Completed ESEF Field Tests in 2017
A Collaborative Taxonomy development & maintenance tool

CREATE / EDIT
Online / Offline Modules
Import/Export to MS Excel
Import base taxonomies

VIEW
Collaborate with others
Maintain Multiple Version Hierarchal View

VALIDATE
Inbuilt validator

MAINTAIN
Scalable
SAAS/On Premise Options
IRIS iFILE
A Collection Solution for the Regulator

- XBRL Authoring Tool
- Validation Engine
- Rendering Engine
- User Management
- Submission Gateway
- Workflow Engine
- Filing Calendar
- Notification Engine
- Version Management
- Reporting Analytics
- Compliance Module
Map, Create
- Link to Internal Central Data Warehouse.
- Map to Taxonomy
- Schedule Instance Creation

Connect & Submit
- Validate on Test Server
- Review the Filing
- Fulfil Compliance

Central Bank
Thank you

To know more, visit www.irisbusiness.com
k.balachandran@irisbusiness.com
Fujitsu and XBRL

- Fujitsu Limited – Major global ICT services provider

- Fujitsu’s XBRL Solutions
  - Interstage XWand
    - Toolkit (GUI Tools)
    - Runtime (XBRL Processing library – API)
  - RAPORTADO
    - Reporting platform
    - Powered by Interstage XWand Runtime
  - Consulting services
Overview of Disclosure Systems

XBRL Data Supply Chain

Report
- Listed Companies
- Commercial Banks
- Accounts

Collect / Disclose
- Stock Exchanges
- FSA
- Central Bank
- Tax Office

Utilise
- Investors
- Analysts
- Information Brokers

Fujitsu’s XBRL Solutions

Copyright 2019 Fujitsu Limited
XWand Toolkit (GUI Tools)

- **Taxonomy Editor**
  De facto standard in regulators’ taxonomy development

- **Reporter**
  Intuitive input sheets / views

- **XWand Query**
  Powerful search capability
RAPORTADO – reporting platform

Company

On-line/Off-line upload

Excel CSV XML

Monitoring

BAM BI

Workflow

(Enterprise Service Bus)

Real-time messaging

Regulator

On-line inspection

Analysis

XBRL

Store

auto-notification

Search

External system

Existing Systems

user

On-line Search

user

user

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Wrap-up

- Since 2003, Fujitsu has been with XBRL
- Contributors to XBRL Specs (XBRL Formula / Table Linkbase ...)
- XWand / RAPORTADO customers – more than 300 in 52 countries
- XBRL Certified Software™ by XII
- Evaluation copy available (search: “XWand evaluation” or mailto: contact-xwand-eval@cs.jp.fujitsu.com)
shaping tomorrow with you