Annex: Survey questions posed to WCO members in 2021

The WCO and the WTO jointly designed questions on advanced technologies to enhance the 2021 WCO Annual Consolidated Survey (ACS), which was distributed to 183 WCO members to provide a snapshot of the level of implementation by customs authorities of advanced technologies. This annex contains the eighteen questions which formed chapter 4 of the 2021 ACS.
<table>
<thead>
<tr>
<th>Question</th>
<th>Response</th>
<th>Guidance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Is there a strategy on adoption of IT tools and information management in place?</td>
<td>□ Yes □ No</td>
<td>Tick the appropriate answer.</td>
</tr>
<tr>
<td>Is your administration testing or using blockchain and distributed ledger technology?</td>
<td>□ Yes, pilot project □ Yes, proof of concept □ Yes, full deployment □ No, but it is planned in the next three years □ There is no plan</td>
<td>Please indicate whether there is/was a pilot project, proof of concept or a plan for (or realization of) full deployment of blockchain and distributed ledger technology.</td>
</tr>
<tr>
<td>If yes, do you use a permissioned (private), permissionless (public), or hybrid (combination of private and public) blockchain?</td>
<td>□ Permissioned (private) □ Permissionless (public) □ Hybrid</td>
<td>Tick the appropriate answer.</td>
</tr>
<tr>
<td>Please provide a short summary of the blockchain and distributed ledger technology project(s) and planned activities (up to 250 words per project).</td>
<td></td>
<td>Additional documents and links are welcomed.</td>
</tr>
<tr>
<td>What is the area of the project?</td>
<td>□ Automated customs declaration (e.g. import, export, manifest reporting, etc.) □ Single window environment □ Electronic certifications, permits or licensing □ e-Commerce □ Intergovernmental exchange of information at international level (e.g. transit interconnectivity, AEO MRA, advance electronic information, etc.) □ End-to-end supply chain interconnectivity □ Risk management/targeting □ Other. Please indicate: Please elaborate:</td>
<td>Tick all applicable answers.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>You may elaborate on any of the points selected above.</td>
</tr>
<tr>
<td>Question</td>
<td>Response</td>
<td>Guidance</td>
</tr>
<tr>
<td>--------------------------------------------------------------------------</td>
<td>---------------------------------------------------------------------------------------------------</td>
<td>------------------------------------------------------------------------------------------------</td>
</tr>
</tbody>
</table>
| What is/could, for your administration, be the main benefits of introducing blockchain and distributed ledger technology? | □ Transparency, immutability and accessibility of information  
□ Increased availability of information from different sources  
□ Increased data quality  
□ Sharing of information amongst all relevant stakeholders in real time  
□ Data privacy  
□ Easy to use technology  
□ Secure IT environment  
□ Automation through smart contracts  
□ Lower verification and transaction costs  
□ Other. Please indicate: Please elaborate: | Tick all applicable answers.                                                                 |
<table>
<thead>
<tr>
<th>Question</th>
<th>Response</th>
<th>Guidance</th>
</tr>
</thead>
</table>
| What could be the challenges for a blockchain system to function efficiently? | □ Lack of standardized dataset used by government agencies  
□ Lack of a standardized dataset used by economic operators within the supply chain  
□ The use of different types of blockchain technology and the lack of interoperability between them  
□ The proliferation of different blockchain solutions that are not interconnected one to another  
□ The complexity in establishing an inclusive but efficient governance mechanism  
□ Incompatible legal requirements in different countries  
□ Lack of harmonized regulatory procedures in different countries  
□ Other. Please indicate:   
Please elaborate:                                                                                                               | Tick all applicable answers. |
| Is your administration using IoT? If yes or planned, please provide a short summary of IoT uses (up to 250 words per project). | □ Yes  
□ No  
□ Planned                                                                                                                        | Additional documents and links are welcomed. |
| Summary of the project:                                                                                                         |                                                                                                                                                |          |
| If yes, what smart devices and other equipment is your administration using to collect information on the goods moving across borders? | □ X-ray or CT scanners  
□ Electronic seals  
□ QR code and barcode readers  
□ Automated licence plate readers or cameras  
□ Other. Please indicate:   
Please elaborate:                                                                                                               | Tick all applicable answers. |
<table>
<thead>
<tr>
<th>Question</th>
<th>Response</th>
<th>Guidance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Is this information shared with other stakeholders?</td>
<td>□ Yes, with other customs authorities □ Yes, with other government agencies □ Yes, with the private sector □ Yes, through a data-sharing platform □ No □ Other. Please indicate:</td>
<td>Tick all applicable answers.</td>
</tr>
<tr>
<td>Please elaborate:</td>
<td></td>
<td>You may elaborate on any of the points selected above.</td>
</tr>
<tr>
<td>What is/could, for your administration, be the main benefits of IoT?</td>
<td>□ Lower labour costs □ Greater efficiency of customs clearance processes □ Enables better analytics □ Better risk management □ Help prioritize customs clearance □ Other. Please indicate:</td>
<td>Tick all applicable answers.</td>
</tr>
<tr>
<td>Please elaborate:</td>
<td></td>
<td>You may elaborate on any of the points selected above.</td>
</tr>
<tr>
<td>Are there specific difficulties associated with the use of IoT?</td>
<td>□ Cost □ Legal issues (please elaborate) □ Lack of expertise □ Lack of government strategy □ Lack of traction on the use of the technology by other stakeholders □ Existing legacy systems □ Lack of good practices □ Compatibility and interoperability of different IoT systems □ Integration of IoT solutions with customs processes □ Handling of IoT unstructured data and the ability to transform the information collected from various sources in a format that can be analysed and automated □ Data security and privacy issues □ Other. Please indicate:</td>
<td>Tick all applicable answers.</td>
</tr>
<tr>
<td>Please elaborate:</td>
<td></td>
<td>You may elaborate on any of the points selected above.</td>
</tr>
<tr>
<td>Question</td>
<td>Response</td>
<td>Guidance</td>
</tr>
<tr>
<td>-------------------------------------------------------------------------</td>
<td>--------------------------------------------------------------------------</td>
<td>---------------------------------------------------</td>
</tr>
</tbody>
</table>
| Is your administration using big data analytics, artificial intelligence and machine learning? If yes or planned, please provide a short summary of how you use/intend to use big data analytics, artificial intelligence and machine learning (up to 250 words per project). | □ Big data analytics  
□ Artificial intelligence and machine learning  
□ Both  
□ None  
□ Planned for big data analytics  
□ Planned for artificial intelligence and machine learning  
□ Planned for both | Additional documents and links are welcomed. |
| What is/could be for your administration the main benefits of big data analytics, artificial intelligence and machine learning? | □ Better risk management and profiling, fraud detection, greater compliance  
□ Improve revenue collection  
□ Facilitates customs audits and identification of anomalies  
□ Improve facilitation  
□ Improve imaging (e.g. container images) and visual search  
□ Predict future trends  
□ Other. Please indicate: | Tick all applicable answers. |
| What is/could be for your administration the biggest obstacles in implementing big data analytics, artificial intelligence and machine learning technology? | □ Costs  
□ Legal issues (please elaborate)  
□ Lack of expertise  
□ Lack of government strategy  
□ Lack of traction on the use of the technology by other stakeholders  
□ Existing legacy systems  
□ Lack of good practices  
□ Other. Please indicate: | Tick all applicable answers. |

You may elaborate on any of the points selected above.
<table>
<thead>
<tr>
<th>Question</th>
<th>Response</th>
<th>Guidance</th>
</tr>
</thead>
</table>
| What is/could be for your administration the biggest obstacles in implementing big data analytics, artificial intelligence and machine learning technology? | □ Costs  
□ Legal issues (please elaborate)  
□ Lack of expertise  
□ Lack of government strategy  
□ Lack of traction on the use of the technology by other stakeholders  
□ Existing legacy systems  
□ Lack of good practices  
□ Other. Please indicate: Please elaborate: | Tick all applicable answers. You may elaborate on any of the points selected above. |
| What do you think the impact of these technologies will have on customs operations (0 is very low impact, 10 is very high impact)? | □ Blockchain and distributed ledger technology  
□ IoT  
□ Big data analytics, artificial intelligence and machine learning | Rate each one from 0 to 10; 0 is very low impact, 10 is very high impact. |
| How easy/difficult will it be to adopt and implement these technologies in your administration (0 is very easy, 10 is very hard)? | □ Blockchain and distributed ledger technology  
□ IoT  
□ Big data analytics, artificial intelligence and machine learning | Rate each one from 0 to 10; 0 is very easy, 10 is very hard. |